

SURMOUNTING BOUNDARIES: CLOSING THE GOVERNANCE GAP  
GOVERNANCE ARRANGEMENTS IN PUBLIC SECTOR ICT SHARED SERVICES

BY

RICHARD WILLIAMS

A thesis

submitted to the Victoria University of Wellington  
in fulfilment of the requirements for the degree of  
Doctor of Government

Victoria University of Wellington

2020

## Abstract

Hundreds of millions of dollars of public money have been spent creating Public Sector ICT Shared Services (PSISS) based on expectations of improved customer service and cost reduction. Unfortunately, the promised benefits have often failed to materialise and governance has been identified as a barrier to PSISS success.

The research first locates the concerns that governance, and in particular arrangements for governing PSISS, is contributing to PSISS failure in the academic and practice literatures on PSISS governance. Our current knowledge of PSISS governance is principally informed by literature from three domains: management, public administration and information systems. These domains, to an extent, exist in silos with unique traditions, perspectives and knowledge claims. As a result, how it informs the governance of PSISS could be at best unhelpful and even confusing to practitioners. This state of knowledge is not assisted by “how to govern” guides that obscure their different theoretical origins and do not appear to address the complexity of PSISS governance.

Despite this apparent lack of coherent frameworks in the academic and practice literatures, practitioners are expected to use this literature to develop governance arrangements and perform effective PSISS governance. This lack of coherence led me to ask my first research question: *How do practitioners perceive PSISS governance in practice?*

Exploring how PSISS governance occurs in practice through the lived experience of PSISS governance practitioners led me to select grounded theory as an appropriate methodology and research design to examine 20 years of governance practice for an electronic identity (E-ID) PSISS in New Zealand. My grounded theory of practice enabled construction of a public sector governance model to explore vertical and collaborative governance arrangements through three perspectives: system strategy, delivery and assurance. The model has been extended to provide a system-wide public sector governance lens, which was used to reflexively explore current academic literature and seven practitioner informed critical public sector governance issues to answer my refined secondary research question: *How have governance arrangements addressed critical issues in public sector governance?*

## Acknowledgements

Thank you to my supervisors A/Prof Dr Karl Lofgren and Dr Elizabeth Eppel, and to Dr Miriam Lips, for their academic insight, support and encouragement through this challenging, and ultimately rewarding endeavour.

Thank you to my examiners Dr Carla Wilkin, Dr Colin Smith and in particular Dr Mary Tate, my internal examiner, for their insights and rigor.

A special thank you to my wife Tania, to my kids Grace, Jacob and Amelia, my little stars and to my mum and dad.

## Contents

Abstract .....	2
Acknowledgements .....	3
Chapter One. Introduction .....	9
Chapter Two. Literature Review .....	18
PSISS .....	18
Electronic Identity .....	23
International Examples .....	24
E-ID Research .....	33
Governance .....	42
Corporate Governance .....	42
Information Technology Governance .....	46
Public Administration .....	54
Bureaucracy as a Public Sector Governance Form .....	55
NPM Reforms and the Introduction of Corporate Governance .....	57
Post-NPM Reforms and the Introduction of Collaborative Governance .....	58
IT Governance in Public Administration .....	63
Industry Governance Models .....	64
Closing the Governance Gap by Exploring Practice .....	66
Multidisciplinary Approaches from Literature .....	67
Researching Practitioner Perspectives .....	72
Sensitising Concepts .....	73
Authority and Autonomy .....	78
Responsibility, Accountability and Performance .....	79
Formal and Informal Roles and Relationships .....	82
Legislation and Regulation .....	83
Other Informal Sub-elements .....	84
Governance Elements and Definitions .....	86
Governance Characteristics .....	88
Recent Literature .....	94
Chapter Three. New Zealand Context .....	102
Public Sector Governance in New Zealand .....	102
ICT in the Public Sector .....	106
Pilot Study – Government Shared Network .....	108
Chapter Four. Research Design .....	113

Paradigm and Method Decisions.....	113
Research Problem .....	113
Research Questions.....	113
Research Paradigm .....	114
Research Approach.....	115
Research Methodology .....	116
Data Collection .....	118
Data Analysis.....	119
Theoretical Integration .....	119
Quality .....	121
Research Conduct.....	122
Framework and Characteristics Models .....	123
Interview Protocol .....	126
Ethical Approval and Consent.....	127
PSISS Selection .....	127
Data Collection .....	128
Analysis .....	129
Theoretical Integration .....	138
Risks and Mitigations.....	140
Chapter Five. An Official Narrative of PSISS Governance.....	142
The PSISS ‘Official’ Narrative .....	143
Time Series.....	159
PSISS Performance Information .....	166
Chapter Six. Analysis: A Grounded Practitioner Narrative .....	169
Categories.....	169
Central Category .....	172
Concept.....	174
Implementation.....	178
Client .....	190
Customer .....	226
Chapter Seven. Discussion: A Governance Practice Narrative .....	246
Theme One: Conflicting Ideas of Governance.....	246
Theme Two: Fluid Governance Boundaries .....	251
Theme Three: Protecting Our Privacy .....	254
Theme Four: Implementing Systems or Outcomes? .....	256

Theme Five: Accountability Deficits .....	259
Theme Six: Mandating Collaboration .....	262
Theme Seven: Is Technology Different? .....	265
Theme Eight: Collaborative Governance, the Art of the State .....	268
Chapter Eight. Theoretical Integration: Refining the Theory .....	272
Public Sector Governance .....	273
Conflicting Interests .....	275
Coverage of Cabinet Direction.....	280
Accountability .....	283
Misaligned Expectations Impacting Collaboration .....	289
Is ICT Different? .....	291
Privacy and Security.....	294
Integrated Theory .....	296
Chapter Nine. Conclusions, Contributions and Limitations .....	303
Contributions .....	307
Limitations .....	308
Future research .....	308
Concluding Statement .....	309
Appendices.....	310
Appendix A: Glossary .....	310
Appendix B: Interview Schedule .....	313
Appendix C: Respondents.....	314
Appendix D Codebook.....	315
Coding for Grounded Theory .....	315
Coding for Theoretical Integration .....	315
Sensitising Concepts.....	316
Grounded Theory Concepts, Categories and Central Category .....	319
Concepts, Categories and Themes for Theoretical Integration .....	328
Appendix E: Memo Examples .....	357
Example Memo One: Governance Focus for Implementation .....	357
Example Memo Two: Client Accountability.....	358
References.....	360

## List of Figures

Figure One: Governance Domain, Form and Practice.....	12
Figure Two: Governance Forms in the Public Sector.....	14
Figure Three: Thesis Overview .....	17
Figure Four: Generic PSISS.....	19
Figure Five: E-ID Implementation.....	25
Figure Six: Industry Governance Models .....	66
Figure Seven: Governance Element Framework .....	75
Figure Eight: Governance Elements .....	76
Figure Nine: Identifying Governance Elements in Practice .....	77
Figure Ten: Characteristics to Explore Governance Forms in Practice.....	88
Figure Eleven: Government Shared Network.....	111
Figure Twelve: One.Govt .....	111
Figure Thirteen: Governance Characteristics .....	126
Figure Fourteen: The Conditional and Consequential Matrix .....	131
Figure Fifteen: Process .....	132
Figure Sixteen: Matrix .....	133
Figure Seventeen: Key Parties.....	133
Figure Eighteen: Central Category.....	136
Figure Nineteen: Grounded Theory .....	137
Figure Twenty: Grounded Practitioner Theory.....	174
Figure Twenty One: Three Perspectives Governance Model .....	272
Figure Twenty Two: Governance Timeframes.....	276
Figure Twenty Three: Sector ICT.....	277
Figure Twenty Four: Extended model construction .....	279
Figure Twenty Five: Extended model tensions .....	279
Figure Twenty Six: Public Sector .....	281
Figure Twenty Seven: Inconsistent Governance .....	283
Figure Twenty Eight: Accountability Deficits.....	289
Figure Twenty Nine: Misaligned Expectations .....	290
Figure Thirty: Technology or Outcomes .....	294
Figure Thirty One: Tensions.....	295
Figure Thirty Two: Privacy and Security Tensions.....	296
Figure Thirty Three: Grounded Practitioner Theory .....	304
Figure Thirty Four: Coding for Grounded Theory .....	315

## List of Tables

Table One: Domains, Forms and Practice Areas .....	11
Table Two: Design Considerations from Gregor.....	68
Table Three: Design Considerations from Davenport and Markus .....	69
Table Four: Design Considerations from Raadschelders.....	72
Table Five: Governance Framework Definitions .....	87
Table Six: Governance Form Characteristics .....	93
Table Seven: Research Quality .....	122
Table Eight: Research Conduct Overview.....	123
Table Nine: Risks and Mitigations .....	141
Table Ten: Time Series .....	165
Table Eleven: Performance Information 2001-2006 .....	166
Table Twelve: Performance Targets and Results 2007-2018 .....	167
Table Thirteen: Governance Coverage .....	281
Table Fourteen: Contributions to Knowledge.....	302



## Chapter One. Introduction

Governments have invested hundreds of millions of dollars creating public sector ICT shared services (PSISS) based on expectations of improved customer service and cost reduction. Unfortunately, the promised benefits have often failed to materialise (Walter, 2009; Chesterman, 2013; Hillier, 2019). Governance and governance arrangements have been identified as a barrier to PSISS success and a reason PSISS failed to deliver benefits (National Audit Office, 2012; Hillier, 2019).

As a public servant I have observed the opportunities and challenges posed by PSISS first hand. I have worked on successful shared services and observed others failing. On numerous occasions I have been frustrated to hear “it is a governance issue”, without more specific explanation forthcoming, as a reason to give up or avoid further participation. My experiences in the public sector operational world motivated this research to improve the understanding and practice of PSISS governance.

So, what exactly are PSISS? According to the academic literature public sector ICT shared services is a combination of three areas: public sector services, shared services, and information and communications technology (ICT) services. Public sector services are services provided on behalf of the government, either by public sector agencies or external providers (Norman, 2003).

PSISS have been developing over the past two decades through ICT based initiatives (Gershon, 2004; Stephen et al., 2011). Shared services began by consolidating and standardising specialist functions into a provider that could support an organisation or group of organisations (Walsh, McGregor-Lowndes, & Newton, 2008). A single unit provides a function for the wider organisation, or extending the model, a single organisation provides that function for multiple organisations. Shared services are generally applied in large multi-part organisations like multinational corporations or the public sector (Janssen & Joha, 2006; Walsh et al., 2008).

The use of the term shared services has mushroomed in literature and practice (Borman, 2010; Paagman, Tate, Furtmueller, & de Bloom, 2015). Common examples of public sector shared services identified in academic literature include

payroll, content management and hosting ICT systems (Janssen, Kamal, Weerakoddy, & Joha, 2012; Chesterman, 2013).

Having researched the literature for the three areas of public sector services, shared services and ICT services I have defined PSISS as an example of shared services provision where an ICT function is standardised and provided by one organisation to multiple public sector clients (Grant, McKnight, Uruthirapathy, & Brown, 2007; Wang & Wang, 2007) and potentially to citizen and non-citizen customers as well as private sector clients (Senyucel, 2007; Eaton, Hedman, & Medaglia, 2017).

Shared services provide an opportunity to reduce expenditure. Annually New Zealand spent an estimated \$2 billion on public sector ICT (Cabinet Office, 2010b), with international investment in public sector ICT in the hundreds of billions of dollars (National Audit Office, 2007; Gardiner, 2015; Office of the President, 2019). Shared services offer financial and customer benefits but also introduce several risks to the Executive, PSISS providers and clients including service disruption, reputational damage and additional costs (Chesterman, 2013; Hillier, 2019). Realising benefits and mitigating risks is further complicated by the inter-organisational nature of shared services (Wang & Wang, 2007; Walsh et al., 2008). Scholars have identified that inter-organisational steering and control are required to deliver shared services to clients and customers, prompting debate about governance for PSISS (Grant et al., 2007; Janssen et al., 2012).

As a starting point, I sought to understand how academic literature theorises PSISS governance and its practice. To this end I conducted a literature review to investigate the concerns that governance, and in particular arrangements for governing PSISS initiatives, were contributing to PSISS failure. I found that governance is not a single clearly defined concept and was theorised in multiple domains (Frederickson, 2005; Pollitt & Hupe, 2009). Our current knowledge of PSISS governance is principally informed by literature from three academic domains: management, public administration and information systems. These domains are to an extent siloed as each has a worldview consisting of traditions, perspectives and knowledge claims arising from each specific domain and the purpose of governance within that domain (Crotty, 1998; Van Gigch, 2002).

Working across domains is challenging, particularly when worldviews do not align (Alasuutari, Bickman, & Brannen, 2008). Areas of specific focus, which differ across the domains, are mirrored in the practical guidance on governance forms that emerge from each of the domains. The management domain has focussed primarily upon governance within the private sector and the development of a corporate governance literature and practices (Bevir, 2007). The public administration domain focus is upon the public sector which initially resulted in the creation of the bureaucratic form for the efficient delivery of services (Wilson, 1989). More recently this domain has been heavily influenced first by the New Public Management (NPM) administration reforms, introduced at the end of the 1980s, and later by post-NPM governance approaches (Pollitt, 2017; Reiter & Klenk, 2019). The information systems domain has focussed upon the use of information and communications technology as an alternative means of service delivery to be integrated into existing business processes and systems of delivery, and has led to a further set of information technology (IT) governance theories and practices (Huff, Maher, & Munro, 2006). These three domains, forms and main practice areas are shown in Table one.

Domain	Governance Form	Main Practice Area
Management	Corporate Governance	Private Sector
Public Administration	Bureaucracy	Public Sector
Information Systems	IT Governance	Information and Communications Technology

Table One: Domains, Forms and Practice Areas

The academic domains and focus areas are wider than governance, although governance literature has increased in significance in the past 20 years (Bevir, 2007). The academic literature has increasingly begun to acknowledge emerging new governance forms and this knowledge, in its turn, is influencing governance practice. Essentially the primary focus of each domain has influenced the practice literature emerging from that domain and these practice literatures are neither well integrated or aligned in the forms they take or their practice focus.

Over time governance forms developed for both private and public sectors and later for information and communications technology (Hilmer, 1993; Weill & Ross,

2004; Ansell & Gash, 2008). As a result corporate governance, bureaucracy and IT governance emerged as governance practice forms with their own academic literature and practice (Bevir, 2007). The siloed focus of governance literature across these three domains is shown in Figure one.

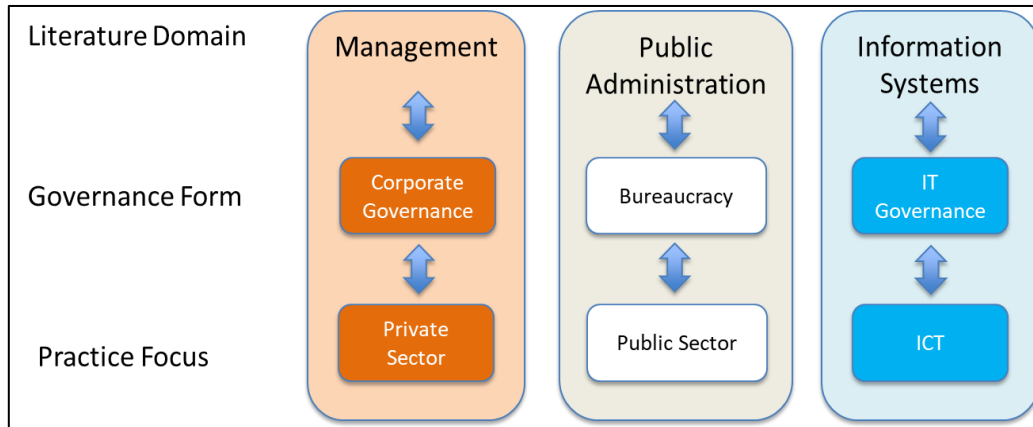


Figure One: Governance Domain, Form and Practice

Delving deeper I identified two groupings of governance knowledge indicative of limited use of academic literature in practice. The first grouping from academic literature, predominantly in the information systems domain, indicated practitioners were using industry derived models to perform governance (Guldentops, 2004; Von Solms & Von Solms, 2005; Ali & Green, 2007). The second were models which showed practitioners “how to govern” (Cadbury, 1992; ITGI, 2005a). Both of these groupings were developed based on a combination of academic literature and practical experience (Brotby, 2008; Lainhart, 2012). Reflecting upon my own experience I had seen little use of academic theory in PSISS governance, however I had observed the common usage of industry models in practice. This led me to question whether practitioners were in fact using academic theory, or simply consuming it second hand through these models, potentially contributing to a disconnect between the domains of governance theory and PSISS governance practice. My curiosity was reinforced in the information systems literature where academic literature was criticised for lacking relevance and lagging behind industry publications (Davenport & Markus, 1999).

It seems that practitioners develop governance arrangements to perform PSISS governance. These governance arrangements are patterns of governance elements e.g. structures, roles and relationships; put in place to set direction and enable

delivery of objectives (Sambamurthy & Zmud, 1999; Oliveira & Hersperger, 2018). If, as indicated, practitioners are not drawing directly from a sufficiently inclusive academic literature, reflective of all the domains affecting PSISS governance, this may be a contributing factor to PSISS failure.

In addition, the use of industry models holds the promise of ‘best practice’, however some scholars raise concerns about their applicability, for example: stating “best practiciness is the errant belief that there are certain practices that are truly ‘best’ and that replicating another organization’s processes, strategies and ideas within your organization will somehow miraculously yield a better reality” (Sanwal, 2008, p. 1).

The use of industry models is criticised for failing to meet local conditions (Brickley & Zimmerman, 2010). Many industry models are developed overseas in the US or Europe which can differ from local conditions, in this case New Zealand, limiting their applicability (Brotby, 2008; Lainhart, 2012). For example: corporate governance arrangements contributed to the failure of Enron Corporation, which was a driver for the introduction of US legislation called the Sarbanes-Oxley Act. This Act contributed to the creation of best practice corporate and IT governance guidelines to meet the new legislative requirements (Damianides, 2005). Whilst considered best practice, it is questionable whether these guidelines, influenced as they were by US legislation, would be applicable to other constituencies; particularly as in this case compliance with the foreign Sarbanes-Oxley legislation was found to result in large costs to organisations which outweighed benefits (Boyle & Grace-Webb, 2007).

Industry models add another layer of complexity to the practice of PSISS governance. It appears that practitioners attempting to perform PSISS governance through the creation of governance arrangements are faced with siloed academic governance literature that originates in three domains, each with different focus areas. Practitioners appear to have an alternative to academic theory with the introduction of industry models, which introduces another potential disconnect between literature and practice.

My literature review identified that practitioners are attempting to create governance arrangements and perform governance using literature from all three domains I have described here, whether that be through industry models or through creation of their own governance arrangements (Ali & Green, 2007). Further, each of the domains has created its own governance forms, with specific focus areas of governance practice. The initial public administration governance form, bureaucracy, has been over written by three governance forms: corporate governance, collaborative governance and IT governance; which were observed through public sector reforms of the late 1980s and introduction of e-government (Weill & Ross, 2004; Bevir, 2007; Torfing, 2016a). Practitioners are now expected to use a combination of these three governance forms to develop their governance arrangements to perform public sector governance, as shown in Figure two.

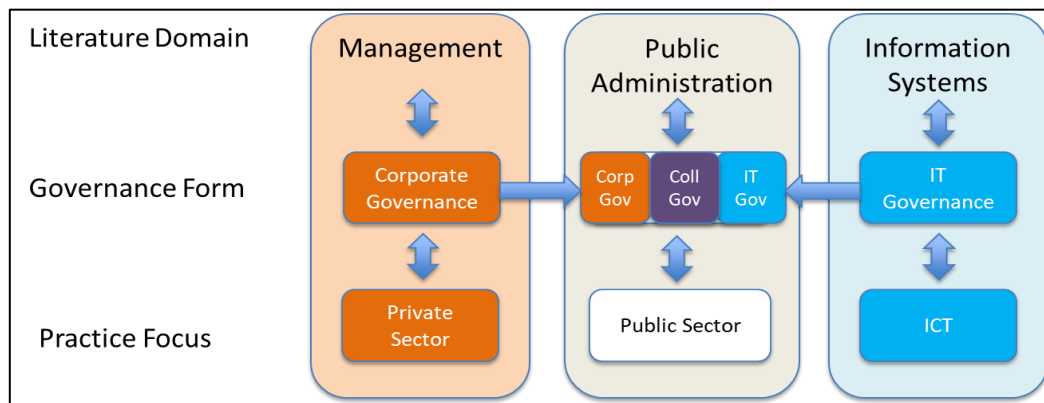


Figure Two: Governance Forms in the Public Sector

These factors led me to focus my research on the lived experience of PSISS governance practitioners to contribute to our theory of PSISS governance and its practice. The following sections detail the steps I took to answer my research questions and provide a reader’s guide to the thesis.

Chapter two defines public sector ICT shared services before introducing the reader to international practice for PSISS and E-ID. I present selected academic theory in two phases: firstly to provide an understanding of governance and sensitise my fieldwork; and secondly to review my findings against current literature. As explained above, extant theory is informed by three domains which do not appear to be explicitly integrated at either the theoretical or the practice level. The need to identify governance in practice is established and my literature-informed

governance framework is presented for use as sensitising concepts. The different characteristics inherent in governance forms are discussed and used to develop a model for analysis of practitioner responses.

Chapter three introduces the New Zealand public sector and provides insights into how the environment, particularly institutions and actors, influence the governance of the PSISS. I also present the results of a pilot study exploring use of my framework through a PSISS in the New Zealand public sector to refine my research design and provide confidence in the suitability of my framework for this research (Blumer, 1969; Corbin & Strauss, 2008).

Chapter four presents my research design. It introduces the overall strategy I selected to integrate the different components of my research in a coherent and logical way, to address my research problem and answer my research questions. I conducted empirical research into PSISS governance taking a constructivist approach to understanding practice, viewing PSISS governance as a socially constructed reality (Mills, Bonner, & Francis, 2006; Timmermans & Tavory, 2012). I selected grounded theory based on Corbin and Strauss (2008) to conduct my research using semi-structured interviews to solicit practitioner perspectives to gain evidence of practice. Grounded theory was used to analyse practitioner interviews to answer my first research question: *How do practitioners perceive PSISS governance in practice?* This resulted in construction of a theory supported by a grounded practitioner narrative as a rich description of PSISS governance in practice. To answer my second research question: *How have governance arrangements addressed critical issues in public sector governance?* I conducted theoretical integration for the development of a middle range theory to reduce the gap between literature and practice (Corbin & Strauss, 2008; Charmaz, 2014). This involved construction of an official narrative through qualitative document analysis, to enable reflexive integration of official narrative, grounded practitioner narrative and academic theory (Denzin & Lincoln, 2005; Charmaz, 2014).

In Chapter five I present changes to PSISS governance arrangements and instruments through a 20-year time series covering the period 1999 to 2019 as evidenced from document analysis. This narrative serves two purposes. First, deriving as it does from official, documented accounts of PSISS governance, it

represents one perspective on PSISS governance: what I have called an official narrative. This official narrative also serves a second purpose of showing how governance arrangements and the mechanisms that influence these arrangements have changed over time. Particular attention is paid to who is performing governance and the interaction between parties.

Chapter six presents the results of my grounded theory analysis. Practitioner perspectives were analysed using the governance framework and governance characteristics model, developed from my literature review in Chapter two, as sensitising concepts. This resulted in the creation of my grounded theory supported by a rich practitioner narrative on PSISS governance. This practitioner narrative provided an input for theoretical integration with the official narrative and existing theory to construct a mid-range theory as an answer to my research questions (Corbin & Strauss, 2008; Tavory & Timmermans, 2014).

Chapter seven presents a governance narrative, which was the result of a first iteration of theoretical integration, conducted through abductive reflection of the practitioner narrative, the official narrative and existing literature. This reflection resulted in the identification of eight grounded theory themes constructed from practitioner perspectives on PSISS governance, which are unpacked in this chapter.

In Chapter eight I reflexively explore the eight themes from my mid-range theory against current academic literature, providing insights into seven critical governance issues for theoretical attention.

Chapter nine concludes the thesis and includes identification of contributions of the research and limitations. Reflexive analysis of practice against current literature has helped to refine my grounded theory, and allowed construction of a public sector governance model as my initial contribution to the body of knowledge. Using this model as a lens for further reflexive analysis enabled identification and exploration of governance in practice for comparison with current literature to provide additional contributions to knowledge. To aid future researchers, I identify the limitations of my research and present future opportunities for research that could leverage this study. Figure three provides a pictorial overview of the research process laid out in the preceding chapters.



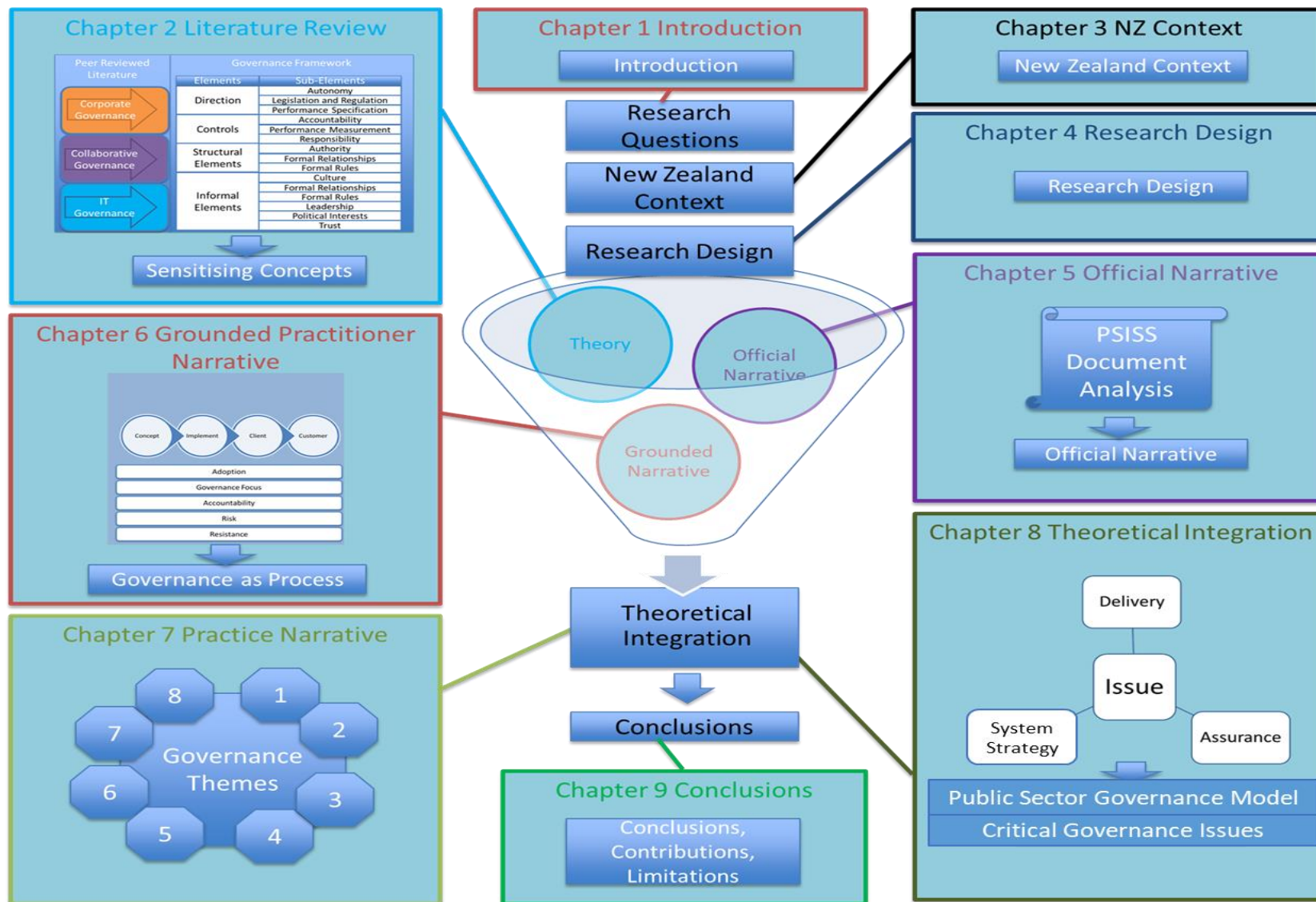


Figure Three: Thesis Overview

## Chapter Two. Literature Review

This literature review provides a synthesis of the key components of my research, including PSISS governance, drawn from academic literature and how they relate to the public sector. It shows a disconnect between academic theory and practice, establishing the need to research governance in practice. I then discuss how I turned to the literature to develop sensitising concept tools to take into the field to aid with analysis. This approach is consistent with grounded theory, incorporating information from multiple sources to enable richness of explanation (Corbin & Strauss, 2008; Charmaz, 2014).

My literature review was done in two main time spaces: firstly, to understand governance in the academic domains and then sensitise my fieldwork; and second to review my findings in the light of recent literature. For completeness both passes are covered in this chapter.

### PSISS

Public sector ICT shared services is a combination of three areas: public sector services, shared services and ICT services. Public sector services are services provided on behalf of the government, either by public sector agencies or external providers (Norman, 2003). Shared services involve standardisation and provision of common functions (Young & Tavares, 2004; Walsh et al., 2008).

PSISS are an example of shared services provision where an ICT function is standardised and provided to multiple public sector agencies (Grant et al., 2007; Wang & Wang, 2007). Some academic literature extends this definition to include services which can be provided to citizen and non-citizen customers as well as private sector clients (Senyucel, 2007; Suomi, 2008; Eaton et al., 2017).

PSISS involve multiple participants and cut across organisational boundaries. PSISS are often researched from a technical perspective, which has been criticised for ignoring the horizontal aspects of governance in favour of technical integration (Sorensen & Lofgren, 2009). PSISS research can also focus upon interactions between organisations and participants (Ansell, Trondal, & Ogard, 2016). This research focusses upon the interactions rather than the technical perspective for an

operational PSISS through perspectives of participants involved in the governance of the PSISS (Seawright & Gerring, 2008).

To clarify what PSISS are I have presented an illustrative example in Figure four of a generic PSISS. An agency becomes a PSISS provider to other agencies (A to D). In this example the provider agency has contracted an outsourced vendor to host the service, whilst still maintaining the contractual relationship for providing services to client agencies.

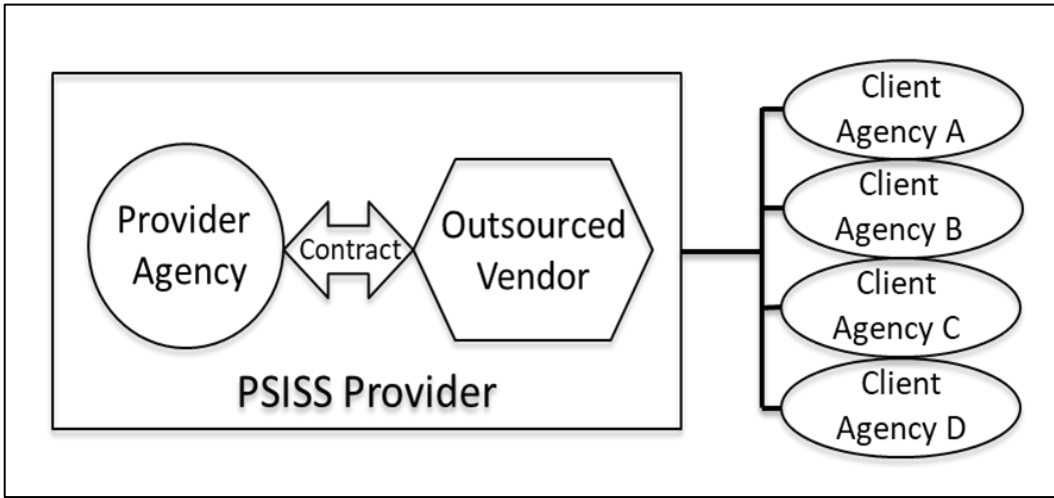


Figure Four: Generic PSISS

In some cases, ICT service vendors have attempted to leverage terms like cloud computing and shared services to rebadge existing services offerings as shared services because they share infrastructure (Marshall, 2010). These are commodity offerings that could be consumed by any organisation, raising questions about the authority and ability for the public sector to have an active role in governance. Therefore, these services have not been included in the scope of this research.

The term provider in Figure four is used to refer to the agency providing the PSISS (Walsh et al., 2008); and the term client denotes a public or private sector organisation who could use the PSISS; and customer denotes citizen and non-citizens using the PSISS. These terms were chosen as they were used in practice by PSISS documentation and research participants (State Services Commission, 2019b). Public sector in the research is the collective of all public sector agencies (Bevir, Rhodes, & Weller, 2003; Norman, 2003).

Academic literature provides examples of early shared services in both the public and private sector. Public sector organisations used shared computing services in the 1970s and early 1980s to maximise the use of expensive resources (Toland, 2010). Private sector organisations used shared services in the 1980s to drive efficiencies by consolidating support functions across corporations into one group to provide centralised services (Ulrich, 1992; Lacity & Fox, 2008). Later shared services were promoted as an extension of business process reengineering to drive efficiencies by removing duplicate functions (Hammer & Champy, 1994; Ulbrich, 2006).

In the 1980s and 1990s public sector reform, combined with the introduction of distributed computing and the personal computer, contributed to agencies purchasing and running their own, or contracting out the management of, information systems and back office functions (Paagman et al., 2015), and in turn criticisms of fragmentation and inefficiency (Dunleavy, Margetts, Bastow, & Tinkler, 2005).

Public sector reviews and efficiency drives identified opportunities for shared services (Gershon, 2004, 2008). The most common motives for PSISS were cost reduction and improved quality of service (Borman, 2010; Paagman et al., 2015). Early optimism about the ability to deliver these benefits appear to have been tempered by difficulties in practice (Gill & MacCormack, 1999; Hillier, 2019). Other motives identified in literature included reduction of risk, access to external resources, organisational redesign and business process improvement (Ulbrich, 2006; Wang & Wang, 2007; Paagman et al., 2015).

Moves to join up government services across the public sector through electronic government, or e-government, followed public management reforms of the 1980s. Provision of digital services, which was enabled by the diffusion of internet and web based technology, was becoming more common (Calista & Melitski, 2007). Digital services provided from government to government, government to business and government to citizens earned the name e-government (Silcock, 2001; Margetts, 2006) and the beginnings of some sector wide e-services led to an increasing use of the term shared services (Janssen & Wagenaar, 2004; Grant et al., 2007).

E-government is sometimes seen as a partnership between government and citizens (Silcock, 2001). Others saw e-government from a technical perspective where technology could drive change through process digitisation (Dunleavy et al., 2005).

The transformational potential of e-government was connected to public value (Cordella & Bonina, 2012; Bannister & Connolly, 2014). Researchers investigated implementation of single services, or in some cases groups of services, reviewing the nature of the transformation from several perspectives, focussing upon process change, management and results (Weerakkody & Dhillon, 2008); change management processes employed to deliver a new service and how the change was managed (Nograsedk, 2011); and service performance and usage of new services (Margetts, 2006). Other scholars focussed upon the softer aspects of implementation such as the diffusion of e-government and stakeholder requirements, and the results of the transformation on stakeholders over time (Senyucel, 2007; Carter, 2008).

Grand claims were made about what could be achieved through e-government and introduction of e-governance (Bovaird, 2003). E-government was to deliver public value through ICT enabled reforms, freeing up resources to perform high value tasks (Cordella & Bonina, 2012), and fundamentally altering the way services were provided. NPM was pronounced dead with technology leading public sector transformation, which led to calls for specific governance arrangements (Dunleavy et al., 2005). In this aspirational mood different approaches to the governance of shared services emerged.

One view was e-governance as a means of innovation across the public sector, however scholars found the technical nature of innovation projects indicated a focus on delivery over public value (Potnis, 2009). The reduction of outcomes to measurable project outputs has been criticised for not considering public sector constraints (Lofgren & Allen, 2019), which has led to wider criticism of the 'projectification of the public sector' (Hodgson, Fred, Bailey, & Hall, 2019).

Some information systems literature attributed success and failure of shared services to implementation and management. Success was seen to require strong technical skills, change management and process standardisation. Management

were required to provide top cover to technical resources, approve funding, mandate adoption and resettle staff whose functions were replaced by technology improvements. Social and organisational challenges could be governed through hierarchical direction and control (Miskon, Bandara, Gable, & Fielt, 2011).

Regardless of the governance employed many e-government programmes failed to deliver expected benefits; be they e-democracy, sector transformation or increased efficiencies (Heeks, 2006; Lips, 2011). Shared services programmes were commonly part of the e-government offerings (Janssen & Wagenaar, 2004; Weerakkody & Reddick, 2012). Various shared services initiatives were created internationally. Governments set up shared services functions for all-of-government services, sectors collaborated and clusters of organisations came together to develop shared services (Janssen & Wagenaar, 2004; Dollery & Akimov, 2008).

According to Paagman et al (2015) the most common rationale for shared services were increased efficiency and improved customer services. Others included access to external resources, ability to focus on core activities, risk mitigation, process standardisation and the ability to concentrate on innovation (Joha & Janssen, 2010; Miskon et al., 2011; Janssen et al., 2012).

Some research identified examples of smaller organisations working in clusters to gain access to resources they would not have on their own. They found moving to shared service arrangements could be problematic due to a lack of inter-organisational controls, which could delay realisation of expected benefits. As a result shared service providers and public sector organisations came under pressure from the Executive to reduce costs (Janssen & Wagenaar, 2004). The motives of different parties involved in shared services were questioned and tensions identified between cost reduction and provision of improved customer services (Paagman et al., 2015).

Researchers investigated relationships between organisations involved in shared services to understand their effect on performance and perceived success of the PSISS (Janssen & Joha, 2006).

Shared services required trusted information sharing and access mechanisms, leading to the introduction of electronic identity PSISS (Kubicek & Noack, 2010). Concerns about malicious actors, fraud and service failure led to criticism about governments entering E-ID programmes with a limited understanding of the principles of identity management (Collings, 2008). As my research investigates the governance of PSISS the following section uses academic literature to provide the reader an understanding of E-ID PSISS and their governance.

### Electronic Identity

I selected the New Zealand E-ID PSISS, which is currently called RealMe, to investigate PSISS governance. It has been known by several different names over the past 20 years, including: Government Logon Service (GLS), Igovt logon (Igovt), Identity Verification Service (IVS), Data Verification Service (DVS) and RealMe. To make it easier for the reader I have referred to the service as the PSISS in this research, although quotes may refer to the service by a name used by respondents.

The party providing the PSISS, hereafter referred to as the provider, has changed over time from the State Services Commission (SSC) to the Department of Internal Affairs (DIA). The provider has entered numerous contractual relationships with vendors and partners for provision of the PSISS. Changes of provider and contractual relationships enable comparison throughout analysis, providing richness however they can be confusing for readers. Where possible I indicate changes to names, roles and relationships throughout the thesis and in the glossary in Appendix A.

Scholars have used the term E-ID to describe an electronic form of identification which could be provided digitally as an online service or through identification cards (Melin, Axelsson, & Soderstrom, 2016; Eaton et al., 2017; Göransson, 2018). The E-ID PSISS in my research is a digital identity so I use the term E-ID to mean an online service, unless stated otherwise.

Initial investigations identified two approaches to governing electronic identity: centralised and decentralised. Centralised E-ID were designed and controlled by a central governance function overseeing design and delivery of electronic identity

solutions. The selected PSISS is a centralised solution (State Services Commission, 2006b). Decentralised E-ID left selection of E-ID to agencies implementing solutions. Decentralised governance arrangements, like those in Australia, have been excluded from scope to enable consistent comparison of governance arrangements (Lips & Pang, 2008).

International examples are drawn from the European Union (EU) and the United Kingdom (UK). The EU provided a rich source of academic E-ID literature into the use of regulations, early adoption and working with external vendors, particularly the Scandinavian peninsular countries' relationships with banks. The United Kingdom enabled comparison with another country with a Westminster tradition and a centrally governed PSISS. The UK case uses academic and grey literature to provide richness.

### International Examples

E-ID design began in the 1990s with Finland and Denmark, followed by Estonia. In 1999 the European Union issued a directive promoting use of electronic signatures. The directive set the expectation electronic signatures should be secure enough to admit as legal evidence (European Parliament, 1999; Polanski, 2015). By 2010 eight EU countries had implemented E-ID PSISS and as a rule adoption of the E-ID by customers and clients was reported as slower than anticipated (Kubicek & Noack, 2010).

Estonia and Finland implemented services early. Denmark began design early however it was interrupted leading to a delay in implementation. Other countries including Norway, Spain and Germany also faced delays as service design was interrupted. Some countries including Finland, Sweden and Denmark redesigned and renewed their offerings to meet changing requirements (Kubicek & Noack, 2010; Eaton et al., 2017). The design, interruptions and delivery of E-ID identified in the European Union are shown, with the United Kingdom and New Zealand examples for context, in Figure five.



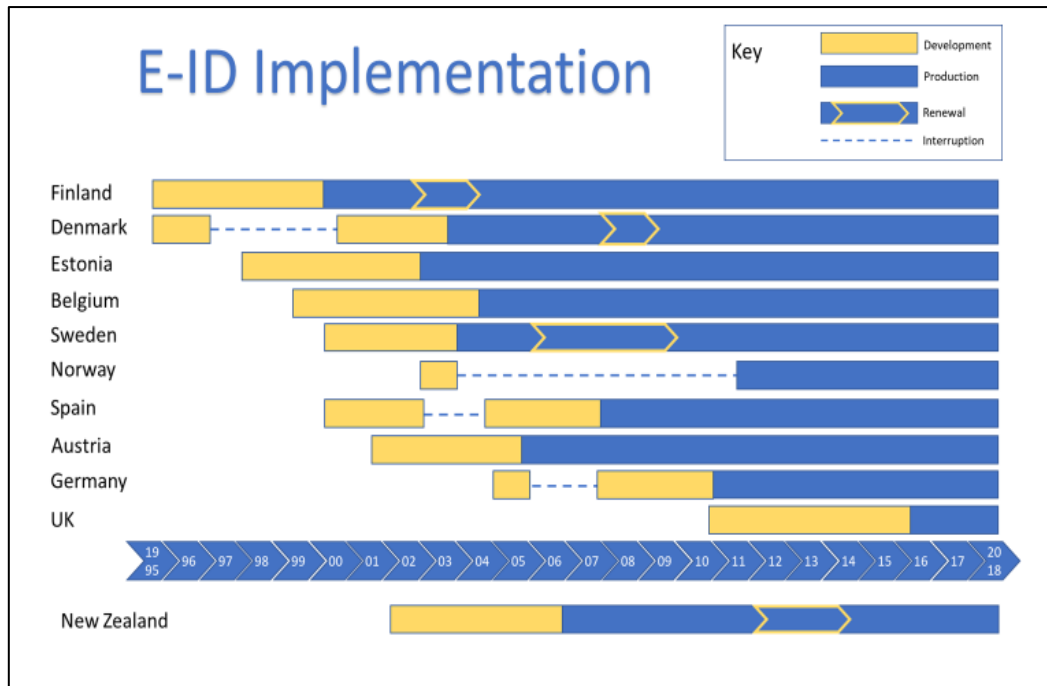


Figure Five: E-ID Implementation

Sources: (Kubicek & Noack, 2010; Eaton et al., 2017; Hillier, 2019)

**Finland.** In 1999 Finland introduced national E-ID cards, called FINED, which had machine-readable smartcard chips. These cards replaced older national identity cards and were one of three electronic identity solutions in use in Finland at the time. A consortium of banks ran a system called TUPAS and mobile technology operators ran their own systems. The FINED system was criticised for the installation costs of card readers, training time required to operate the system and poor user experience. FINED struggled to make ground on the existing TUPAS system which was commonly used (Bazarhanova, Yli-Huumo, & Smolander, 2019). Ten years after implementation only 10% of adults had FINED cards, whereas almost all adults in Finland had a TUPAS identity. More strikingly 99.9% of ecommerce and e-government transactions used TUPAS compared to 0.1% using FINED (Rissanen, 2010).

The dominance continued until introduction of new European Union and Finnish regulations for electronic identification and trust services (EIDAS) in 2015 (Bazarhanova et al., 2019). EIDAS was an EU initiative for the development of a common electronic identity framework (Cuijpers & Schroers, 2014). The framework was intended to facilitate a single digital market for electronic identity

beyond national solutions (Polanski, 2015). Finnish regulation was amended to align with EIDAS (Bazarhanova et al., 2019).

The regulations impacted the TUDAS monopoly introducing new service providers, reducing the cost of customer transactions from 0.5 Euro to 0.1 Euro and enabling service brokers to consume the TUDAS service to interact directly with customers, reducing reliance on banks (Bazarhanova et al., 2019). This example indicates regulations can have significant influence for E-ID governance and highlights the poor performance of a public sector E-ID (FINED) occurring over an extended period.

**Estonia** introduced an electronic identification card which was mandated for all citizens above 15 years old. The cards provided access to government and private sector services including education, banking and health care. The mandate saw adoption grow to 98% of Estonians (Anthes, 2015).

Building on adoption Estonia developed a shared service platform for digital services eventually providing 600 electronic services to citizens and 2,400 services to companies (Anthes, 2015; e-estonia, 2019). As a result, 99% of public services are reported as being available online 24/7. Use of digital services has saved Estonia a reported 1407 years of working time annually, resulting in Estonia being promoted as a leader in governance for E-ID and shared services (Vassil, 2015; Jaffe, 2016; e-estonia, 2019).

Estonia developed a plan to leverage the EIDAS regulation to provide electronic identities to e-residents. The number of e-cards was scheduled to grow from 1.3 million Estonians to 10 million e-residents by 2025. Signing up as an e-resident was envisioned to provide access to Estonian, and wider European Union electronic services and databases. This would enable people from outside Estonia to invest in Estonia, create businesses and trade with the wider European Union (Anthes, 2015, p. 18).

The Estonian example presents E-ID as an enabler for providing public and private sector services internationally. Estonia has high levels of customer adoption which was attributed to the mandate. The large number of services and ability to develop an eco-system appears linked to customer adoption and mandate. Interestingly

Estonia saw the EIDAS regulations as an opportunity to increase their services internationally.

**Denmark's** early attempts to design an E-ID were interrupted by government delays and poor adoption (Hoff & Hoff, 2010). Denmark began investigating a citizen smartcard ID in 1992, however after reviews and parliamentary debates the smartcard initiative was stopped due to privacy concerns. Optional cards were proposed in 1996, however debates about technology options and doubts about benefit realisation resulted in the proposal being stopped (Hoff & Hoff, 2010). The 1999 EU Directive prompted further investigation (European Parliament, 1999).

The Danish government established a digital task force in 2001 to develop requirements and issue a tender for a digital signature service. Two vendors responded, a banking consortium and a telecommunications company. The telecommunications company was selected and awarded a contract to provide the E-ID. The new E-ID went up against the existing banking ID solution, called NEMID. After five years the E-ID had 250,000 users compared to 2.2 million users of NEMID. The E-ID was criticised as difficult to install, not providing useful services and not meeting the 1999 regulations, limiting development of online offerings. When the contract expired in 2008 the government went to market and selected NemID (Hoff & Hoff, 2010), which was mandated as the national E-ID (Eaton et al., 2017; Medaglia, Hedman, & Eaton, 2017). NemID allowed the Danish government to meet the requirements of the EU directive and provide a single identity service for both public and private sector services (Hoff & Hoff, 2010).

The Danish case shows the challenges getting agreement to proceed with a PSISS. The use of contractual mechanisms for vendor provision enabled vendor transition, as opposed to having to write off investment in a PSISS.

**Sweden** ratified the 1999 EU directive although there was little interest in E-ID. In 2001 Sweden developed a framework for digital identity provision. The government purchased identity services from vendors who were responsible for issuing E-ID, managing technical infrastructure and contact with citizens. An agency called VERVA was formed to oversee E-ID vendors. The Swedish

government allowed multiple providers, however Swedish BankID built the largest market share (Eaton et al., 2017). VERVA was disbanded in 2008 and the e-Government Delegation was created in 2009, followed by the E-ID Board in 2011 (Gronlund, 2010; Göransson, 2018). The E-ID Board centrally co-ordinated E-ID provision and developed trust frameworks requiring E-ID vendor compliance (Göransson, 2018). BankID became the most common E-ID service, processing 1.2 billion transactions in 2015. The influence of BankID has extended to involvement in the design of citizen ID cards (Eaton et al., 2017; Göransson, 2018). Citizens have expressed security and privacy concerns about who can see their identity information and where it is shared (Göransson, 2018).

Swedish E-ID governance was criticised as *laissez-faire* and contributing to a technical focus on service delivery (Gronlund, 2010; Eaton et al., 2017). The changes to governance arrangements through the introduction and replacement of governance groups appear to have contributed to the limited outcome focus.

**Norway.** In 2003 the Norwegian government developed a specification to meet the 1999 EU directive and went to the market. Eight years of government debate followed about whether to build an E-ID or pursue commercial offerings. In the interim various identity solutions were created.

In 2005 Norwegian banks released BankID which grew to over 3 million users and was adopted by local government, health and postal services (Eaton et al., 2017). The government set up their own E-ID service called MinID to provide access to public sector services. The MinID service provided less security than commercial offerings, limiting customer services it could access (Agency for Public Management and e-Government, 2019).

In April 2012 the Norwegian government issued a new E-ID tender resulting in three successful vendors, including BankID. Norwegian citizens could use three E-ID services or the legacy MinID service to access government services (Eaton et al., 2017). The delays caused by debate identifies a potential governance issue. The Norwegian example also raises questions about the development and ongoing support of a public sector E-ID that is built to a lower specification than commercial offerings.

Norway spent a long-time debating E-ID options, set up their own central E-ID system and then opened out the market to include commercial vendors. Norway, like other Scandinavian countries, found adoption of bank identity solutions was often quicker than public sector E-ID services. In all cases banks were the largest E-ID vendors in terms of customers and transactions. Although all four countries ended up working with banks they set up different governance arrangements indicating the diversity of E-ID governance arrangements in practice.

**New Zealand.** The e-Government Unit and strategy were established in 2000 and Managing for Outcomes guided joining up government services towards the joint goals of improved customer services and reduced costs (MFO Steering Group, 2003; Cook, 2004). Shared services were centrally coordinated by SSC who oversaw identity, security and network services (Gill & MacCormack, 1999; State Services Commission, 2006b). The identity service was approved in 2003 and released into production in 2007 (State Services Commission, 2003a, 2007). New Zealand PSISS are presented in Chapter five.

**Australia.** Rather than develop centralised E-ID services Australia set non-obligatory guidelines and delegated EID selection to agencies (Lips & Pang, 2008). This does not enable direct comparison of governance arrangements for the PSISS researched, so Australia has not been included, although they could be explored by future research.

**United Kingdom.** In 2004 the Gershon review identified £20 billion savings a year by 2007/8 and the reduction of 84,000 civil servant positions (Gershon, 2004; Scrutiny Unit, 2005). These savings were expected to be made from improved processes and freeing up staff to perform high value activities (Dollery & Grant, 2010). The potential for savings and improved customer services inspired the United Kingdom to undertake shared services initiatives (National Audit Office, 2007).

The UK was a late adopter and initially undertook shared services without an E-ID, and did not commence development of their authentication strategy and framework until April 2011 (Hillier, 2019). By this time the UK shared services programme, and government ICT in general, had been unfavourably reviewed.

A 2007 National Audit Office (NAO) review found shared services “savings to date are relatively small” (National Audit Office, 2007, p. 7). In a 2011 review NAO raised governance concerns within the shared services programme. Service benefits were not routinely measured, there were no specific adoption targets for shared services and stakeholder satisfaction levels were falling. Concerns were raised about technology selection processes as “the technology that underpins the services is becoming obsolete and is unlikely to be appropriate for new digital services” (National Audit Office, 2011, p. 9).

NAO reviews occurred against a backdrop of criticism about IT governance across the UK government with services failing to deliver expected benefits, and governance structures criticised as unclear (Stephen et al., 2011). The shared services programme was offered an opportunity with calls to “standardise and simplify core elements of government ICT in order to bear down on costs and reduce duplication across the system” (Stephen et al., 2011, p. 58). The Cabinet Office released a new shared services strategy in July 2011 to overcome criticism of the programme (National Audit Office, 2012).

A NAO value for money review highlighted governance concerns the new strategy would have to overcome. In the seven years since the Gershon Review shared services were expected to cost £0.9 billion, they cost £1.4 billion representing a half a billion pound overspend. Savings of £159 million were forecast by 2011, whereas only one service had broken even. These figures led to the conclusion the programme had failed to deliver value for money (National Audit Office, 2012).

Governance arrangements were failing to provide value for money or standardised services as “by creating complex services that are overly tailored to individual departments, government has increased costs and reduced flexibility. In addition, it has failed to develop the necessary benchmarks against which it could measure performance” (National Audit Office, 2012, p. 7). Other criticisms included “slow decision-making and the lack of a clear vision” (National Audit Office, 2012, p. 20).

The shared services programme was reprioritised with the Cabinet Office accountable for delivering £400 million to £600 million savings per year and was

charged to work closely with clients to ensure benefits realisation (National Audit Office, 2014b). The E-ID was identified as an enabler for the delivery of the Government Digital Strategy through planned delivery of government services as digital offerings by default, which would enable government services to “generate cost savings of between £1.7 billion and £1.8 billion per year” (National Audit Office, 2014a, p. 1).

The E-ID was designed to provide a common identity service to enable identity assurance for clients and customers (National Audit Office, 2014a). Five service vendors, including Barclays bank, were selected to provide identity services with funding based on customer adoption. The E-ID was released in May 2016 under the collective name Verify (Hillier, 2019).

Two years later NAO reviewed the shared services programme against the dual expectations of value for money and working with clients, finding it had “failed to deliver the planned benefits” (National Audit Office, 2016, p. 29). Concerns were raised about the provider’s ability to work with clients as “no organisations met their target date for adopting single operating platforms for their shared services” (National Audit Office, 2016, p. 4). The review was critical of the new governance arrangements stating “there was a failure in leadership, governance and accountability” (National Audit Office, 2016, p. 34).

The programme struggled to build relationships with suppliers and clients. Clients raised concerns about a conflict of interest with the Cabinet Office who was the provider handling contracts with identity vendors, delivering an identity service as a joint venture and acting as a client consuming identity services. An assurance review by the Major Projects Authority identified a lack of role clarity, however reported no evidence of improper conduct (National Audit Office, 2016). The need for a review indicates limited trust of the new governance arrangements. The E-ID was an enabler of the shared services programme, the perceived failure of the programme did not bode well for the E-ID performance or governance arrangements. These concerns were realised when E-ID services, then called Verify, were reviewed in 2019.

The review found Verify failed to meet performance targets and vastly overestimated expected benefits. The forecast adoption target was 25 million customers by 2020, however only 3.9 million customers were using the service by March 2019, less than a sixth of the target. Similarly, 46 government client services were forecast by March 2018, whereas only 19 client services were verifying customer identities through Verify by March 2019. In financial terms the estimated benefits were £2.5 billion over 10 years, the provider attempted to reset the expectation to £366 million. The review cast doubts on the validity of the benefits that had been reported as realised by the provider as the “National Audit Office could not replicate the benefits using data supplied” (Hillier, 2019, p. 5). This finding was compounded by a belief the provider had shifted additional costs to clients, particularly for integration and additional manual processing required to use Verify. Poor client experience impacted the ability to gain client adoption for an “onerous system that is not fit for purpose” (Hillier, 2019, p. 5).

The governance of Verify was criticised for “lacking strong leadership and oversight, despite being subjected to over 20 internal and external reviews” (Hillier, 2019, p. 6). Specific governance issues included poor decision making compounded by a lack of accountability, a lack of strategic direction and poor intellectual property protection. The government decided not to renew the existing funding or contracts post 2020, with private sector providers expected to take over responsibility for Verify (Hillier, 2019).

The United Kingdom used a framework and contracted out the Verify E-ID service to five vendors. The E-ID was introduced as part of a shared service programme that was already perceived as failing. The slow adoption of the E-ID reflected the poor performance of the shared services programme. Governance arrangements were criticised for providing poor strategic direction, a lack of accountability and unrealistic performance targets.

Exploring international E-ID practice has provided insights for comparison with E-ID in New Zealand. There appear to be many different arrangements for the governance of E-ID PSISS and numerous examples of services failing to deliver expected benefits. It appears common for adoption to be slow, particularly for E-ID that only provide access to public sector services.



There appears to be tension between public and private sector E-ID and access to services. Involvement of private sector vendors with existing solutions appeared to offer increased access to customers, as shown in Scandinavian examples, although this may increase privacy and security concerns. Adopting commercial solutions may impact the control the government has over changes to the E-ID. Frameworks, contractual mechanisms and regulation appear to be commonly used to manage external vendors and define services. Other options identified include using multiple vendors.

The international examples identified factors that appear to impact the service boundary of the E-ID, and therefore governance arrangements, including whether the E-ID:

- is built and supported by the government, bought commercially or both options are undertaken,
- is provided by one or multiple vendors,
- provides access to public and/or private sector services,
- meets specific privacy and security requirements,
- is mandated for usage by customers and the public sector,
- is subject to regulation from the country or external bodies,
- has a central body accountable for governance, and
- is supported by the government and wanted by other agencies and customers.

The range of these factors indicates PSISS governance is challenging, especially given the reported failure of many of these services. These factors indicate a gap in practical knowledge. The next step is to explore and present the academic E-ID literature in relation to this knowledge gap.

### E-ID Research

Requiring a person to provide proof of identity to gain access to services has been in place for centuries e.g. passports or bank accounts. The methods used to prove identity to gain access can occur through various channels including digital, telephone, by post or physical access (Gronlund, 2010). Governments have commonly provided authorised forms of citizen identity to provide access to

services, secure borders and show proof of ability to operate motor vehicles or own firearms (Lips, Taylor, & Organ, 2009; Eaton et al., 2017).

Countries need to identify their citizens and to manage entitlement to services. The introduction of new technologies, including the internet, enabled the digitisation of national identity solutions (Melin et al., 2016). Information systems that hold information about citizens, particularly those used to manage entitlements, require up-to-date information about the individual (Lips & Pang, 2008; Polanski, 2015).

Authorised forms of identity can be used to provide access to services, however this access requires management to avoid fraud, which has led to the creation of Identity and Access Management (IAM) solutions to ensure the right people have access to the right services for the right reasons (Göransson, 2018; Gartner, 2019). There are multiple technical functions required for the provision of identity and access to information services. These functions have changed over time, as have the names used to describe them (Gronlund, 2010; Grassi, Garcia, & Fenton, 2017; Medaglia et al., 2017). Technical functions are important for design and operation of E-ID, so I will provide an overview, however as my research investigates PSISS governance my focus will be upon how identity and access contribute to PSISS governance and provision, which includes addressing security and privacy concerns.

An identity is a set of attributes that provides the information required to uniquely describe a person or device to enable recognition (Ng-Kruelle, Swatman, Hampe, & Rebne, 2006). Access is the ability to make use of a system or service (Kissel, 2013). Access is granted to systems or services when authorised identity and access rights for the scenario are accepted (Göransson, 2018). A centralised access method, like an E-ID PSISS, provides the ability to access multiple services through a single authorised identity. This removes the requirement for multiple digital identities which would require a customer to remember multiple user names and passwords (Kubicek, 2010).

Traditional identity and access solutions were paper based. These solutions were criticised as time consuming, inaccurate and expensive to maintain (Sullivan & Burger, 2019). Since the 1990s governments have increasingly promoted digital

channels to improve services to customers and reduce costs, leading to the promotion of digital first initiatives and strategies (Maude, 2013; Stalla-Bourdillon, Pearce, & Tsakalakis, 2018). These digital channels have required the public sector to rethink information sharing and particularly privacy and security implications (Lips & Pang, 2008; Göransson, 2018).

Some countries started with a national identity system or identifier, others did not (Arora, 2008). Prior to the introduction of E-ID many governments were reliant upon identity information from multiple digital and paper based systems, which could be out-of-date or time consuming to access and verify (Arora, 2008; Goede, 2019). Even with E-ID many governments found there was limited adoption, which did little to improve data quality (Collings, 2008). Electronic identity was required to connect systems, and by connecting systems to enable delivery of digital channels through e-government programmes (Lips & Pang, 2008).

Digital channels connect government services and require identity and access provision across organisational and information system boundaries (Melin et al., 2016). In information systems literature this is commonly known as federation, “a process that allows the conveyance of identity and authentication information across systems”, where authentication is the process of verifying the identity before access can be provided (Grassi et al., 2017, p. 46). Federated identity services emerged as information systems began to share information across both system and organisational boundaries. Concerns over privacy and security were weighed against the ability to access information and the associated systems (Fonstad & Subramani, 2009).

Federation is challenging for shared services as security was traditionally located at the organisational boundary through firewalls and security appliances to keep external people out of information systems (Lindup, 1996; Moulton & Coles, 2003). Federation relies on trust between organisations and customers for identity credentials to be passed to enable access to services (Bjorner, Prasad, & Parida, 2016). E-ID PSISS can be used to provide identity and potentially access to services, or passing of credentials that enable clients to grant access to services (Kubicek & Noack, 2010; Schweighofer & Hötendorfer, 2013; Hedstrom, Karlsson, & Soderstrom, 2016).

Whether a secure credential or actual client service access is provided by the PSISS has become an issue internationally, with the introduction of privacy legislation like the Global Data Protection Regulation (GDPR) in Europe impacting international providers (Bennett, 2018; Stalla-Bourdillon et al., 2018). With large fines for breach of privacy many commercial and government identity services require redesign to ensure compliance (Houser & Voss, 2018). It increasingly appears the role of E-ID PSISS will be to pass secure credentials to enable access rather than provide access per-se. Accordingly I have tightened my research focus on E-ID PSISS as federated identity services that enable secure access to services across the public sector (Melin, Axelsson, & Soderstrom, 2013; Göransson, 2018).

Electronic identity PSISS appear to be a conundrum as they have been considered a part of national infrastructure, yet have no value in and of themselves (Lips et al., 2009; Eaton et al., 2017). Clients can use the E-ID to create digital services and provide them securely to customers, however, if customers do not adopt the E-ID it has no value beyond being a technology front end (Lips et al., 2009; Melin et al., 2016).

Although technology is only the mechanism that connects customers to client services there is a risk the technology used to deliver E-ID PSISS can become the focus (Rose & Grant, 2010). This risk is echoed in much of the academic literature which focuses upon the technical aspects of the E-ID PSISS rather than the access to services and benefits provided to clients and customers (Melin et al., 2016; Göransson, 2018). One example was a tendency to refer to the token or card used to pass the identity information rather than the benefits accrued by providing and accessing client services (Soderstrom, 2016). As a result of the technical focus there have been calls for research into the organisational and inter-organisational aspects of E-ID PSISS to increase contextual understanding of practice beyond technology (Melin et al., 2016).

Customer convenience was identified as a key driver for adoption. Federated E-ID was promoted as a single service where users would only need one identity and password, meaning the benefit to customers was they would not need to remember multiple logins and passwords. Researchers found limited client services meant

citizens were only using their E-ID sparingly meaning it was just another user name and password to remember (Kubicek & Noack, 2010).

Client adoption was commonly identified as a success factor for E-ID (Zefferer & Teufl, 2015). Moving beyond an organisational boundary led to the identification of integration challenges and as clients struggled to connect their resistance grew (Melin et al., 2013). Other implementation issues included new equipment costs and difficulty getting the new technology to work for customers. Mandates were explored with customers issued E-ID and clients compelled to adopt the E-ID. Even with mandates adoption was reported as slow which was taken as an indication that many E-ID programmes were not initially successful (Kubicek & Noack, 2010; Bazarhanova et al., 2019).

European studies identified government directives as significant forms of regulation for the introduction and progress of E-ID. The introduction of EU Directive 1999/93/EC for digital signatures was identified as a driver the creation of E-ID across the EU. This directive also set the level of security required for legally admissible agreements and enabled the sharing of biometric information for EU passports (Ng-Kruelle et al., 2006; Polanski, 2015). Another later directive issued in 2015 provided leverage to control banks who were monopolising E-ID in Finland, leading to cost reduction and the ability to consume bank identity services through service brokers (Bazarhanova et al., 2019).

As E-ID were released and involved parties across the public and private sectors literature indicated the requirement of a centralised body to oversee the operation and any changes to E-ID services (Bazarhanova et al., 2019). Governance arrangements were observed as centralised registration or decentralisation of E-ID (Lips & Pang, 2008). Some scholars found the use of centralised or decentralised governance influenced decisions about the provision of services, which in turn led to discussions about privacy and security (De Hert, 2008; Polanski, 2015).

Government issued identity documents are valuable, making them targets for fraud, which is also the case for digital versions of these identities. Providing the identity credentials required to access multiple client services increases the potential impact on customer rights including security and privacy (Lips et al., 2009). Privacy needs

to be considered from an inter-government and intra-government perspective. The provider holds personally identifiable information in the E-ID with the intention of providing services. Holding personal information places a duty of care on the provider and clients to protect the privacy and security of customer information. Protection needs to ensure proper use and sharing of information by the public sector and with clients, as well as ensuring no unauthorised access occurs (Collings, 2008; Lips et al., 2009).

The introduction of electronic identity services were expected to provide convenience however they introduced security risks (Arora, 2008). Some research took a narrow focus upon the introduction of E-ID as technology, developing technical solutions to security concerns (Melin et al., 2013). Examples of these solutions include smart card technology, biometrics, tokens for digital identity and mobile device solutions (Lips et al., 2009; Zefferer & Teufl, 2015).

Privacy enhancing services were promoted by some scholars (Ng-Kruelle et al., 2006; Melin et al., 2016). Examples were provided where users had to agree to personal information being passed to client service providers. The intention of privacy enhancing services is to ensure only enough information, like a token, is passed to authenticate the user without passing personally identifiable information. In some cases this was reinforced by legislation or regulations, for example: EU regulations required that only the personal information required for a transaction should be passed and stored (Kubicek, 2010). It also means customer identity needs only be changed once rather than by every client meaning the E-ID could provide the most up-to-date identity information about a customer, who only has to update their information once for multiple client services (Lips & Pang, 2008).

Tensions were identified between privacy and national security where providers needed to ensure a balance between privacy and the state role of national security and law enforcement (De Hert, 2008). As well as privacy and security issues, providers have been faced with challenges to deliver their E-ID PSISS.

In the 1990s there were limited federated identity offerings, so providers built their own solutions or bought in vendors to build a solution for them. As more commercial identity offerings began to emerge governments were provided with

additional vendor options, leading to the introduction of a variety of hosting models, including outsourcing (Eaton et al., 2017). The relationship between banks and providers emerged in several articles, particularly in the Scandinavian peninsula. In these cases banks had their own E-ID solutions with larger footprints than public sector E-ID. As a result, Scandinavian countries were faced with a choice, either compete or work with the banks. Four countries faced this challenge and all of them developed different vendor relationships. These ranged from outsourcing, selecting the bank as the sole or one of multiple vendors, or competition and eventual encapsulation of the banking solution (Kubicek & Noack, 2010; Eaton et al., 2017). The use of outsourcing options was observed as introducing capability challenges for E-ID providers (Collings, 2008).

A reliance on contractors and outsourcing of specialist information technology functions limited the ICT capability of the public sector (Gauld, 2006; Fishenden & Thompson, 2013). In many countries the public sector found they did not have the capability or specialist skills to develop and deliver large information systems, like E-ID (Hippold, 2019). The relationship between E-ID and the private sector was explored in literature including vendor relationships and provision to private sector clients.

Researchers investigated E-ID lifecycle management for service improvement. In one interesting case the full lifecycle was presented as developing, implementing and managing the E-ID (Melin et al., 2016). This left questions about retiring the E-ID or moving to a new solution. Using traditional methods of running ICT the provider would have to write off the investment in the existing service before investing in new infrastructure and a new service. An example of outsourced governance arrangements from Denmark showed how a provider could use contractual mechanisms to transition service vendors without having to write off costs. This indicates governance arrangements can influence the ability to retire a solution or make modifications (Hoff & Hoff, 2010).

Whilst outsourcing can provide benefits, governance arrangements need to meet other challenges posed by outsourcing E-ID. If delivery is outsourced the provider is still accountable for privacy as personal information is an asset to be protected, which is reflected in privacy legislation (Hedstrom et al., 2016). Outsourcing does

not mean outsourcing your brain, or the provider relinquishing their accountability to govern the PSISS (Blount & Zanella, 2010). The potential impact when outsourcing agreements fail to protect national identity information was highlighted in Sweden where disclosure of driver licence, vehicle and military information damaged public confidence in the government (Anderson, 2017).

Partnering with banks brought privacy and security tensions to light. Online banking has high levels of security as the risk of fraud is high, however based on principal actor theory they have a need to maximise shareholder wealth which places pressure on the bank to monetise personal customer information (Linder & Foss, 2015).

As E-ID scope changes there is a requirement to manage additional security or privacy risks (Arora, 2008). Offering services to the private sector may increase adoption, however it raises security and privacy questions, placing additional accountabilities on the provider. Private sector organisations may be tempted to use the personal information for financial gain. Citizens may object to a private company holding their personal information, particularly if it contains sensitive information or reuse of information for a purpose the citizen had not agreed (De Hert, 2008; Kubicek, 2010).

Government service providers have been increasingly using cloud and commercial ICT solutions to provide their ICT services and interact with customers. This could include investigating or implementing commercial or cloud options for electronic identity provision (Houser & Voss, 2018; Jackson, 2019). Cloud services can introduce security and privacy issues. Providers need to be aware of where their information is stored and transmitted as it may be accessible by other governments under legislation like the Patriot Act (Stefanick, 2007).

Today one of the most common methods of federated authentication is present in social media. The suitability of these new methods for providing common identity were questioned, for example the use of social media as a form of E-ID to provide access to certain services (Parycek, Schossböck, & Rinnerbauer, 2015). There is a view that as customers currently consume identity services like Google or Facebook that these could be used to provide access to government services.



Integration with these services could also remove the requirement to develop and maintain costly E-ID solutions providing a low-cost option for E-ID. While these factors appear advantageous they raise concerns about data sovereignty, privacy and security (Knopper, 2016).

Scholars expressed concerns about the influence of large social media corporations which has been coined “government by google” (Knopper, 2016). Social media companies make money from advertising and selling data. Many do not charge for identity services leading to concerns “if the service is free then the product is your personal data” (Polykalas & Prezerakos, 2019, p. 1). Facebook hit the media when the company Cambridge Analytica harvested personal information from millions of users who were American voters and used the information to develop software to influence the results of the US election (Cadwalladr & Graham-Harris, 2018).

The security of commercial solutions is another concern. Scale makes them valuable targets as seen in a 2013 breach at Yahoo where up to one billion customer accounts were compromised (Thielman, 2018). Similarly in 2018 Google was forced to close their google+ offering when a breach resulted in up to 500,000 user accounts being compromised (Wong & Solon, 2018). Any government service relying upon google+ for identity would be left without a method to identify users, which would result in service disruptions.

PSISS governance is challenging. Optimism about opportunities for large savings and improved services have been dampened by reported governance failures (Stephen et al., 2011; Hillier, 2019). Academic research identified several PSISS governance challenges including security and privacy of customer information. New opportunities for cost reduction and improved service provision including outsourcing, cloud service provision and technology improvements appear to come with associated governance challenges. Investigating practice can provide insights into improving the understanding and practice of PSISS governance, and how these opportunities and challenges are addressed, providing rationale to conduct research.

## Governance

According to Rhodes (2007) governance was traditionally based around the exercise of power by royalty and later by the government. Over time other governance forms were introduced including corporate governance, IT governance and collaborative governance. The following section introduces the reader to these governance forms through selected academic literature before discussing the introduction of the governance forms to the public sector.

### Corporate Governance

Corporate governance defines the roles and responsibilities of participants involved in directing and controlling an organisation (Cadbury, 1992; Musson & Jordan, 2005). Two corporate governance models emerging from corporate governance literature are: the Principal-Agent model and the Stakeholder model (Kasey, Thompson, & Wright, 1997; Matei & Drumasu, 2015). These models debate whether an organisation is in business to satisfy the needs of shareholders or the interests of its stakeholders (Hilmer, 1993; Johnson & Scholes, 1999). This distinction is important, as it impacts which factors will be used to measure organisational performance (Kasey et al., 1997; Johnson & Scholes, 1999).

Governance arrangements differ across theorists, organisations and countries (Johnson & Scholes, 1999; Li & Harrison, 2007). There are many other grey areas when attempting to define corporate governance. Principal-agent arrangements focus on compliance and a prescriptive methodology, enforced by government direction like the Cadbury Report and Sarbanes-Oxley Act (Cadbury, 1992; Damianides, 2005). Stakeholder arrangements take a less prescriptive approach recognising there are different ways for corporate governance to operate in different contexts (Johnson & Scholes, 1999). What appears consistent is the focus upon the organisation boundary.

The most common approach to corporate governance identified in literature are principal-agent models, based on agency theory, so I have selected them to represent corporate governance for my research (Van Ees, Gabrielsson, & Huse, 2009; Subramaniam, Stewart, Ng, & Shulman, 2013). Agency theory has also

become common in the public sector through NPM reforms (Bovens, Goodin, Schillemans, & Gailmard, 2014).

Agency theory has been characterised as top down, command and control. A principal-agent relationship exists where one party, the principal, delegates tasks to another, the agent, who performs those tasks (Eisenhardt, 1989). In the private sector boards of directors act as the principal who contract management to deliver on behalf of shareholders. Vertical accountability is employed with the board accountable to shareholders and management accountable to the board (Hilmer, 1993; Woodward, Edwards, & Birkin, 2001).

Agency theory was developed to explain how private sector corporations could exist, based on an assumption of opportunistic managers seeking to satisfy their own interests (Jensen & Meckling, 1976; Van Ees et al., 2009), which is known as the agency problem, where managers will not always act to maximise shareholder value (Fama, 1980). Divergence between agent actions and principal interests result in agency costs, requiring the principal to put mechanisms in place to align agent actions with shareholder interests to ensure that agency costs are reduced to maximise shareholder value (Kulik, 2005). Agency costs are commonly reduced, rather than eliminated, as the cost and effort required to eliminate agency cost commonly outweighs benefits (Bovens, Goodin, Schillemans, & Gailmard, 2014).

According to Van Ees et al. (2009) agency costs are addressed through rules and hierarchical control. Prescriptive mechanisms including rules, policies and practices are created for management to follow, with the intention of maximising shareholder value and minimising agency cost (Kulik, 2005; Donaldson, 2012). Mechanisms for reducing agency cost include incentives, formal definition of roles and responsibilities and performance monitoring (Kulik, 2005; Van Ees et al., 2009). The board is accountable for answering questions that arise outside formally defined mechanisms, which reinforces the creation of formal controls (Hart, 1995). Previously undocumented roles are formalised or managed with board oversight (Hilmer, 1993).

Control mechanisms are in place to ensure roles and responsibilities are well defined, aligning processes with performance goals (Hilmer, 1993; Van Ees et al.,

2009). Contractual mechanisms enable the formalisation of controls and allocation of accountability, with incentives offered to encourage behaviour aligned with corporate strategy to enable the attainment of shareholder value (Van Ees et al., 2009; Kultys, 2016). Under agency theory the board and management are delegated authority within formally defined & prescribed limits (Linder & Foss, 2015). Managers are accountable to the board for decisions they make, similarly the board is accountable to shareholders (Hilmer, 1993). Shareholders expect the board to hold management accountable for unethical behaviour, particularly if they could damage shareholder value (Kulik, 2005).

According to Hilmer (1993) boards ensure formally defined roles are performed; and define the responsibilities of the parties for performing these functions. Performance specification is provided through contractual means including performance plans and job descriptions (Stremitzer, 2018). Formal definition is intended to provide management clarity for action and accountability (Bovens, Goodin, Schillemans, & Gailmard, 2014). Management are provided autonomy to act within delegations as defined in roles, responsibilities and organisational processes (Hilmer, 1993). Management performance is measured against contractually agreed performance targets by the board through the use of controls and performance monitoring (Stremitzer, 2018). Performance monitoring is conducted using contractual mechanisms with formally agreed performance levels, tied to incentives (Van Ees et al., 2009).

The use of incentives and controls has been questioned by some scholars pointing to corporate governance failures where agents have been seen as gaming the system (Cohan, 2002). These failures were identified as contributing to increased legislation and prescriptive guidance for corporate governance (Cadbury, 1992; Bevir, 2007).

Legislation and regulation require compliance, however, they have been observed as conflicting with the need to maximise shareholder value (Bryce, 2002; Elson & Gyves, 2003). This potential conflict has led to questions about the applicability of agency theory in the public sector where the government could be considered the principal, appointing public sector agents and the legislator (Boston, 2011; Schachter, 2014).

Corporate governance in the public sector differs across jurisdictions (Considine & Lewis, 2003; Bevir, 2007). The use of vertical governance, derived from agency theory, has been employed to provide alignment with strategic goals; however issues have arisen, particularly for the delivery of outcomes (Subramaniam et al., 2013).

Vertical accountability is also limited when working across the public sector, particularly where collaboration is required from multiple stakeholders with conflicting goals (Osborne, 2010; Schachter, 2014). Agency theory presents the relationship between principal and agent as a single relationship, but this is not always the case. Conflicting goals, often present when there are multiple principals, can lead to confusion for management (Segrestin & Hatchuel, 2011).

Much of the agency theory research has focussed upon finding the optimal mix of formal controls, incentives and monitoring mechanisms for delivering shareholder value (Van Ees et al., 2009). Formal controls have been criticised as normative definition of how organisations should be governed (Donaldson, 2012). It is argued that it is impossible for these formal controls to cover all eventualities or fully reflect the operating environment (Hart, 1995). Other scholars argued the use of formal mechanisms can be expensive (Segrestin & Hatchuel, 2011). The employment of formal controls in the public sector has raised concerns that informal elements, particularly those that are difficult to formally capture, will be ignored (Subramaniam et al., 2013). Some scholars promote agreement between parties use softer, subjective performance measurement to address these issues, however they appear incongruent with agency theory (Woodward et al., 2001; Stremitzer, 2018)

The critics of principal-agent theory argue formal controls are over simplistic methods for resolving real world problems. The use of monitoring systems and incentives may address gaps between shareholder and management interests, however they provide limited benefit for other organisational challenges. Oversimplified mechanisms can be easy to report and present, however, they do not represent the richness of human behaviour leading to impractical heavy-handed solutions to complex problems (Kultys, 2016).

Employment of multiple rules can introduce contradictions between rules, requiring additional work to interpret and update. Other issues have included the rigidity of rules and threat of punishment limiting the willingness to act, take risks or attempt innovative solutions to business problems (Kultys, 2016). Risk aversion is particularly relevant in situations where organisations are required to work across organisational boundaries to deliver an outcome (Bevir, 2007). ICT enabled shared services have introduced services that cut across organisational boundaries, challenging existing governance arrangements (Dunleavy et al., 2005).

Corporate governance is expected to enable delivery of shareholder value (Van Ees et al., 2009), as such, ICT should be employed in ways that will increase shareholder value without incurring agency cost (Jensen & Meckling, 1976; Kulik, 2005). Tensions arose with calls for a separate IT governance function and criticism of the limited ICT understanding of those performing corporate governance (Huff et al., 2006). The following section explores information technology governance literature, which will enable further comparison between the corporate governance and information technology forms.

### Information Technology Governance

The term IT governance was introduced in the early 1990s to describe arrangements required to ensure delivery of ICT capabilities required to support organisational goals (Brown & Grant, 2005). Weill and Ross conducted seminal research, conducting IT governance research projects with over 300 enterprises in over 20 countries. They defined IT governance as the decision-making ability and accountability framework that encourages the right sort of behaviour for the use of ICT (Weill & Ross, 2004).

IT governance aligns organisational ICT with wider organisational strategies (Weill & Ross, 2004; De Haes & Van Grembergen, 2009). Effective IT governance is expected to provide improved ICT performance for an organisation and it is asserted improved ICT performance provides improved efficiency and productivity (Guldentops, 2004; Ali & Green, 2012). Drawing from management literature, it is possible to infer IT governance seeks to ensure the interaction of technology and social systems will improve alignment with corporate goals. This

alignment is intended to enable corporate success, which can be translated as shareholder value (Weill & Ross, 2004; Kulik, 2005).

Before moving into a detailed description of IT governance I will present traditions of information systems research that informed IT governance, including some of the tensions experienced in information systems as a multidisciplinary domain informed by theories from other domains.

Information systems research investigates ICT and the relationship between ICT and society (Gregor, 2006; Kline, 2015). The role played by information systems has been expressed from an organisational perspective, where deployment of ICT can impact organisational processes and people, to wider investigations into the interaction between ICT and society (Lee, 2001; Benbasat & Zmud, 2003).

Information systems literature from the 1990s and 2000s included epistemological debates about the merits of positivism or interpretivism with a large skew towards positivist research (Ricciardi, 2010). A 1991 study found only 3.2% of a sample of 155 information systems research articles were interpretive studies (Orlikowski & Baroudi, 1991). A follow up study in 2004 saw interpretive studies increase to 19% which was seen as increased interest “in obtaining scientific knowledge in real world settings” (Chen & Hirschheim, 2004, p. 197), with information systems researchers seeking to understand the world from the experiences of people who are part of the phenomena (Schwandt, 1994; Gregor, 2006).

Other debates in information systems literature include the relationship between ICT and society. ICT was identified as a factor influencing societal change through processes, people, structure and culture (Nogrased & Vintar, 2011). Some theorists promoted technological determinism where ICT drove societal change, others promoted social enablement where ICT enabled societal change (Dafoe, 2015).

Kline (2015) identified two dimensions for exploring technological determinism, firstly system design and secondly the impact of the introduction of ICT on society. Investigating the reasons and methods employed to design and create systems provided insights into the intended purpose of the system, whether it is a technical initiative or socially influenced. The second dimension enables comparison of intent and whether ICT directly causes societal change.

Exploring technological determinism and social enablement through information systems literature I found technological determinism was commonly criticised, whereas the identification of ICT as an enabler was common (Cordella & Bonina, 2012; Dafoe, 2015). Although ICT was identified as an enabler there were tensions. Whereas stakeholder involvement was common in literature addressing the design and creation of systems (Langer, 2008), there were articles that identified management decisions based on the inevitability of technical change leading to organisational change (Leonardi, 2004). Debates raged within the information systems domain and across domains as highlighted in e-government literature.

E-government spawned a range of academic debates from technical approaches where e-government was electronic delivery of government information and services, to others aimed at improving the political process and social inclusion, which appear to echo the technological determinism vs social determinism debates in information systems literature (McCullagh, 2003; Dunleavy et al., 2005; Kline, 2015).

The multi-disciplinary nature of information systems has contributed to criticism of information systems research as being ontologically weak and lacking a common language, struggling to create a cohesive identity for the information systems discipline which was deemed an 'identity crisis' (Gregor, 2006). Researchers were criticised for moving beyond investigations of information systems into related fields (Benbasat & Zmud, 2003). Another criticism was information systems research was becoming increasingly distant from practice. Academics were viewed as attempting to publish in more prestigious journals building rigor, and their academic credentials, but losing relevance. Information systems practice was identified as fast changing and academic literature was struggling to keep up (Davenport & Markus, 1999).

It was argued the multi-disciplinary nature of information systems was not adequately reflected in literature, further limiting the relevance of research (Davenport & Markus, 1999; Gregor, 2006). Multi-disciplinary solutions were implemented in practice, but the academic literature was not keeping up (Drucker, 1994; Davenport & Markus, 1999).



Information systems research has struggled with overlapping domain boundaries, particularly with the introduction of people and theories from other domains. Information systems is a relatively new discipline where academics and practitioners come from a range of backgrounds and disciplines including management, physics and computer science. Each person brings their own experiences and language to the field. Given the multidisciplinary nature of information systems, Gregor (2006) argued for the use of a range of theory types in information systems research, going beyond arguments about positivist or interpretive studies, asserting as information systems research sat on the intersection of technology and social interaction both needed to be considered. Rather than attempting to copy other disciplines, she advocated knowledge drawing upon different traditions, which appears consistent with the introduction of management theory into information systems, and more specifically the alignment of IT governance with corporate governance.

She promoted contributions to the body of knowledge ranging from analysis and description to explicit prescriptions. Whilst acknowledging the benefit of testable propositions and prescriptive methods she asserted that description and explanation could improve understanding and thereby contribute to knowledge. Other multidisciplinary concerns included the ability to communicate across different domains using a common language and how to manage the introduction of theories from other domains (Davenport & Markus, 1999; Gregor, 2006). IT governance is a point in case, where tensions about the role of ICT and alignment of information systems influence governance arrangements.

IT governance can consist of centralised and decentralised arrangements (Weill & Ross, 2004; Brown & Grant, 2005). Centralised governance arrangements place ICT decision making within a central IT governance function, whereas decentralised arrangements place ICT decision making with business units (Brown & Grant, 2005). Centralised governance arrangements provide a single point of prioritisation and oversight of ICT decisions designed to enable tight control and alignment with corporate goals (De Haes & Van Grembergen, 2016; Benaroch & Chernobai, 2017). Conversely decentralised arrangements are advocated for responsiveness to business unit needs (Brown & Grant, 2005). Centralised

arrangements were identified in literature as the dominant approach so have been selected as representative of IT governance for this research (Sambamurthy & Zmud, 1999; Benaroch & Chernobai, 2017; Aasi, Rusu, Leidner, Perjons, & Corrales Estrada, 2018).

The corporate governance function delegates decision making authority to IT governance to ensure strategic alignment (Weill & Ross, 2004). Alignment of IT governance with corporate governance is provided through top down or vertical governance controls to provide accountability (Acar, Guo, & Yang, 2008; Gregory, 2009). These vertical controls can be observed as a response to legislative change and increased risk to directors, which have driven the uptake of IT governance particularly in the private sector.

Internationally the introduction of the Sarbanes-Oxley Act (2002) placed onerous control obligations on boards of directors, leading to tighter board controls over information and communication technology and an increased adoption of IT governance (Damianides, 2005; Ilott, 2016). More recently the risk of cyber security attacks and increased legislative liability has increased governance focus and controls upon ICT (Asgarkhani, Correia, & Sarkar, 2017).

Scholars have picked up on the increased significance of information systems for public sector transformation (Weill & Ross, 2004). This significance is increased when considering the history of high-profile ICT failure in the public sector (Agar, 2003; Gauld, 2006; Stephen et al., 2011).

Other scholars have focussed upon improved service provision to citizens, government and private sector clients (Bovaird, 2003; Chadwick, 2006; Gauld, 2006; Margetts, 2006) improved control and digitisation (Dunleavy et al., 2005; Dunleavy & Margetts, 2010) and changes to democracy and citizen participation (Gronlund, 2003; Kim, 2008).

The introduction of new technology including the internet and improved federated security have enabled increased information sharing and collaboration across organisational boundaries. This has led to some academic criticism of IT governance for stopping at the organisational boundary, however it is still common

in information systems literature and practice (Alreemy, Chang, Walters, & Wills, 2016; De Haes & Van Grembergen, 2016; Ilott, 2016)

Information systems, including shared services, work across organisational boundaries. Additionally information systems can introduce fast paced change to existing ways of working across organisational boundaries (Ansell et al., 2016). The use of vertical IT governance controls to reduce risk and enable legislative compliance may constrain the use of information systems for inter-organisational collaboration. This view was supported by Ilott (2016) who criticised the inadequacies of IT governance for collaborative initiatives, pointing to a limitation of vertical governance, and implying a need to explore the informal and collaborative aspects of IT governance for PSISS (Emerson, Nabatchi, & Balogh, 2011; Ansell et al., 2016).

IT governance focusses upon alignment of ICT activities with organisational goals. IT governance groups provide direction and controls to ensure alignment and compliance (Ali & Green, 2012). Autonomy is provided by delegation from the corporate governance function to the IT governance function. IT governance approval provides formal delegation for delivery by management (Weill & Ross, 2004). The IT governance function oversees management activities to ensure delivery of business objectives (Aasi et al., 2018). The alignment with corporate governance reinforces the vertical nature of IT governance (Weill & Ross, 2004). Much of the IT governance research sought to oversee an organisation's ICT services, reinforcing the organisational boundary as the scope of IT governance (De Haes & Van Grembergen, 2016).

Information technology governance has procedural characteristics giving the impression of a set of processes and controls reported to the board to assist in the delivery of organisational goals (ITGI, 2005a, 2008a). IT governance performs monitoring of ICT decision making as well as approving the policies and procedures for centrally controlling ICT resources (Benaroch & Chernobai, 2017). IT governance literature commonly states that ICT requires direction and control (Van Grembergen, 2004), however there is confusion about who performs IT governance (Lainhart, 2012; Benaroch & Chernobai, 2017). Empirical research

identified the need for IT governance to be performed at multiple levels in an organisation (Weill & Ross, 2004).

IT governance is commonly performed by a combination of executives and management (De Haes & Van Grembergen, 2016). This combination has led to confusion developing common definitions of accountability. This sentiment has been reflected in the design of industry governance models where IT governance has been identified as the responsibility of both boards of directors and senior management, where both groups are accountable for ensuring alignment of ICT capabilities with organisational goals (ITGI, 2008b; De Haes & Van Grembergen, 2016).

Governance groups are expected to ensure the formal documentation of governance roles and relationships between the parties performing the IT governance function and providing the authority they are delegated to act (Sambamurthy & Zmud, 1999; Grant et al., 2007). Industry models are commonly used and provide methods for mapping accountabilities and formally defining key roles and relationships, for example the responsibility assignment matrix commonly known as RACI (Guldentops, 2004; Lainhart, 2012).

There have been attempts to formally codify IT governance into a guidebook to follow, predominantly using vertical governance controls (Cilli, 2003; Guldentops, 2004; ITGI, 2006). These vertical controls have been presented as a response to legislative change and increased risk to directors, which have driven the uptake of IT governance particularly in the private sector.

Centralised IT governance seeks to minimise the influence of informal elements to enable control over ICT resources (Ferguson, Green, Vaswani, & Wu, 2013). Academic literature indicates common usage of industry models to define roles and relationships, with new relationships codified to enable centralised monitoring and control (Lainhart, 2012; De Haes & Van Grembergen, 2016). There appear to be a range of these industry IT governance models in common use. Parent and Reich (2009) identified fourteen models which they characterised as prescriptive and control focussed. Additionally, I found several examples where scholars have used

these models to conduct research, blurring the line between academia and practice (Guldentops, 2004; Von Solms & Von Solms, 2005; Ali & Green, 2007).

Formal IT governance has to be carefully designed, with that design implemented through managers making decisions based on that design (Weill & Ross, 2004). Ali and Green (2012) identified that an IT governance function, senior management involvement and alignment with corporate performance measurements were positive influences on the success of IT governance. Other scholars expressed concerns about the lack of ICT knowledge within IT governance groups leading to poor decision making or improper use of controls resulting in poor performance or financial losses (Huff et al., 2006; Benaroch & Chernobai, 2017). Weill and Ross stated only 38% of senior management knew their information and communication technology function was governed, suggesting there are gaps in the design and implementation of IT governance. Designing successful formal governance requires an understanding of the competing elements within and outside an organisation which is used to align the different goals, objectives and governance within the organisation.

Vertical accountability is common where the IT governance function is accountable to the corporate governance function. The IT governance function define agreed deliverables through formal contractual mechanisms (Sambamurthy & Zmud, 1999; De Haes & Van Grembergen, 2016). Contracts can be internal or with external vendors where outsourcing has been employed, often as an opportunity to reduce cost or improve organisational performance (Loh & Venkatraman, 1992; Ali & Green, 2012). Where direct relationships are not captured, softer measures have been used to monitor performance including customer and stakeholder satisfaction scores (De Haes & Van Grembergen, 2016).

IT governance promotes a culture of compliance. Vendors and ICT employees comply with contracts, organisations comply with policies and processes (Ali, Green, & Parent, 2009). Legislation and regulation require compliance, for example: information sharing and outsource agreements can require compliance with international regulations including the recent GDPR (Damianides, 2005; Higgins & Sinclair, 2008; Houser & Voss, 2018). Performance is commonly specified using contractual mechanisms. These include project business cases,

employment contracts, service level agreements and outsource contracts (De Haes & Van Grembergen, 2016). Performance measurement is conducted by the IT governance function based on agreed contractual mechanisms through periodic monitoring, project reporting and contract reviews (ITGI, 2005b). Contracted parties are responsible for advising the IT governance function on decisions outside their delegation. The IT governance function is responsible to the corporate governance function for action or inaction (ITGI, 2008b).

IT governance involves monitoring a range of contractual mechanisms, although some scholars cite trust relationships between senior management and the IT governance group as a significant factor for successful IT governance (Chin, Brown, & Hu, 2004). Others have called for board member and senior management representation on IT governance groups (Lainhart, 2012). This representation was identified as a requirement for alignment of corporate and ICT strategy and as providing the authority for ICT decision making and enforcement (Ali et al., 2009; Benaroch & Chernobai, 2017). Trust has been presented as dependent upon governance maturity. In low levels of governance maturity trust is low and controls used to reduce self-interest. Collaboration and co-production were identified as reliant upon the existence of high levels of IT governance maturity, as reflected in industry governance models which commonly promote process maturity models for assessing alignment and controls (Ali & Green, 2012; De Haes & Van Grembergen, 2016).

Centralised IT governance has developed from corporate governance literature, indicating it is more closely aligned to the private sector, suggesting a gap in public sector IT governance. IT governance is commonly presented as aligned to corporate governance principles to attain corporate goals, as ICT decisions should not be made in isolation of the wider context (Weill & Ross, 2004), however this does place a constraint upon applicability to the public sector where accountability can include the Executive, clients, central agencies and accountability to citizens (Damodaran, 2005; Rhodes, 2007).

### Public Administration

This section introduces bureaucracy discussing the introduction of corporate governance, collaborative governance and IT governance to the public sector.

Academic literature relating to public sector application of these governance forms is explored to provide the reader with an understanding of the alternatives facing practitioners who are attempting to design governance arrangements and perform governance in the public sector.

### Bureaucracy as a Public Sector Governance Form

Bureaucracy is traced back to the word bureau meaning a place where officials work and the Greek word for rule. From this perspective bureaucracy is considered a system of rule dominated by officials (Bevir, 2007).

Max Weber was credited with identifying the characteristics of bureaucracy (Ferlie, Lynn, Pollitt, Meier, & Hill, 2009). He presented bureaucracy as an alternative to charismatic or custom based authority. Rather than trust an individual or previous behaviour Weber promoted authority based upon reason, where rights and obligations are defined by rules and administered by an objective professional public service (Bevir, 2007).

Weber developed an analytic construct referred to as an ideal type to capture the essence of bureaucracy. Although Weber stated that the ideal type “cannot be found anywhere in reality” (Bartels, 2009, p. 450), as Weber expected deviation from the ideal type, he promoted the ideal type as a way to measure how far an organisation was from the ideal, to enable comparison (Bevir, 2007). Under the ideal type individual public servants followed general rules, worked in specific areas of hierarchical organisations, were impartial, had specialised training, were promoted based upon seniority or performance and were paid reasonable fixed salaries (Bartels, 2009). These characteristics were later used to define bureaucracy as procedural governance, legitimised through legislation where rules were developed to enable reliable treatment (Considine & Lewis, 2003).

In practice public servants were separated from the Executive to retain impartiality (Bevir, 2007). Public interest was defined by politicians and experts and the public were viewed as largely disinterested in political engagement and participation (Kelly, Mulgan, & Muers, 2002; Stoker, 2006). Elections provided the mandate for public political endorsement with political parties keeping the public interest as the Executive or in opposition (Stoker, 2006). Bureaucracies were hierarchical in

nature with clearly defined command and control structures (Ferlie et al., 2009). Public sector managers were responsible to ministers and had to respond to their political direction. The policy process involved formulation of prescriptive policy with managers implementing policy and accountable for managing inputs (Kelly et al., 2002; Bovens, Goodin, Schillemans, & Peters, 2014). Managing inputs was a technical approach for delivery of policy through implementation (Pressman & Wildavsky, 1973; Hupe & Hill, 2015).

The bureaucratic practice of applying rules to enable standardised, consistent, impartial actions opened up the public sector to automation through the introduction of ICT for improved efficiency and time saving (Agar, 2003; Ferlie et al., 2009). Early computing was expensive, bulky and there was limited supply of computing resources, be that equipment or specialist staff. The scarcity of resource led to the emergence of computer bureaus providing ICT services across the public sector. At that time IT governance was the management of scarce resources and access to processing time (Toland, 2010).

The public sector had a monopoly on provision of public services and was criticised as inefficient and cumbersome. Public officials were criticised as having too much power which became known as the ‘yes minister’ syndrome (Stoker, 2006). The bureaucratic form was challenged, based on dissatisfaction with the performance of the public sector and a perceived inability to respond to change or efficiently deliver services (Bevir, 2007; Ostrom, 2008). Theory began to emerge promoting introduction of performance management and treating public organisations like private sector corporations. In the 1970s tougher planning and accountability controls, based upon those in private sector corporations, were introduced to public sector organisations in the USA and the UK, which was identified as the introduction of corporate governance to the public sector (Considine & Lewis, 2003).

Bureaucracy was criticised as “systems designed by a genius to be run by idiots” (Osborne & Plastrik, 1997, p. 17). Bevir found “bureaucracy carries strong emotive overtones and elusive connotations that in everyday parlance evoke negative images of red tape, costly administrative inefficiencies, cumbersome



procedures, and unresponsive public officials who are oblivious and unresponsive to the needs and wants of citizens” (2007, p. 57).

### **NPM Reforms and the Introduction of Corporate Governance**

Academic debate ensued with some arguing for bureaucracy. Wilson (1989) believed the inflexibility and inefficiency of some government agencies arose from the political system rather than bureaucrats running agencies. Other scholars argued it was lazy to criticise bureaucrats as inherently inefficient and they criticised reformers for not undertaking serious assessments of bureaucracy compared with reform results (Goodsell, 1983; Gormley, 2016). Others argued reforms were a result of financial mismanagement by governments, whereby public sector reform was a method for balancing the books (Meier, 1997). Ultimately these arguments were dismissed and reforms proceeded in the 1980s and 1990s, influenced by private sector theories including agency theory (Boston, 1996; Pollitt, 2017).

The reforms were commonly called New Public Management and they introduced changes that can be observed as the introduction of corporate governance (Considine & Lewis, 2003; Bevir, 2007). Examples include the privatisation of departments and the introduction of boards for crown entities, which can be observed as the direct introduction of corporate governance to the public sector. Similarly agency theory can be observed in the introduction of contractual agreements between ministers and chief executives (Dormer & Ward, 2018).

As the public sector was being decentralised, through NPM, so was computing power. NPM reforms coincided with distributed computing and the introduction of the personal computer (Agar, 2003). ICT provision moved from talking about the computer singular to personal computers sitting on most desks (Mahoney, 1988). Corporatisation saw the sale of bureaus, which in some cases were then contracted back to the public sector as outsourced offerings (Bradbury, 1999). The NPM reforms, including the sale of bureaus, increased agency ability to source their own organisational ICT services through increased chief executive authority and autonomy (Jensen, 2003).

Automation promised cost reduction including reducing employee numbers (Agar, 2003). Contracting to outsourced ICT providers became commonplace (Currie, 1996; Lin, Pervan, & McDermid, 2007). IT governance became about driving value aligned to corporate goals and ensuring quality of service (ITGI, 2005a; De Haes & Van Grembergen, 2016). Public sector organisations commonly used industry models to develop their IT governance arrangements to ensure alignment with corporate goals (Ali & Green, 2012).

### Post-NPM Reforms and the Introduction of Collaborative Governance

The NPM reforms were criticised for contributing to public sector fragmentation (Reiter & Klenk, 2019). Agencies were seen to be acting independently, focussing upon their own outputs rather than wider sector outcomes (Schick, 1996). The drive for public sector efficiency meant services delivered to the public were becoming disconnected. Academic theories like public value raised questions about the value the public sector was providing to society (Moore, 1995). The public sector was faced with a challenge of delivering outcomes that required collaboration across agency boundaries (Cook, 2004; Boston & Gill, 2011).

The post-NPM reforms coincided with the diffusion of the internet, which enabled interconnected networks of computers to communicate across the public sector (Agar, 2003). Digital channels opened up new methods of service provision. New technology advances were identified as methods to increase public value through improved services including increased, faster access to public sector services and cost savings through automation. Scholars investigated improved service provision to citizens, government and private sector clients (Chadwick, 2006; Gauld, 2006), improved control and digitisation (Dunleavy et al., 2005) and changes to democracy and citizen participation (Kim, 2008).

E-government and shared services programmes were created to join up government and provide public value (Cordella & Bonina, 2012). Collaborative forms of governance were proposed to oversee the delivery of public value through joined-up-government (Stoker, 2006) although they appeared to struggle against existing governance arrangements (Boston & Gill, 2011; Ryan, 2011).

New forms of inter-organisational governance were proposed to increase public sector collaboration (Ansell & Gash, 2008; Reiter & Klenk, 2019). Labels were proposed in public administration literature for the new governance form. These included post-NPM (Reiter & Klenk, 2019), collaborative governance (Bevir, 2007) network governance (Stoker, 2006), digital-era governance (Dunleavy et al., 2005) and new public governance (Osborne, 2011). I have selected the label collaborative governance, based on the intention of increased inter-organisational collaboration (Provan & Kenis, 2007; Osborne, 2010; Reiter & Klenk, 2019).

Collaborative governance literature has increased the focus upon governance across organisational boundaries and interactions between the organisation, participants and the external environment (Ansell et al., 2016). The increased focus on horizontal inter-organisational governance has not removed vertical governance arrangements in the public sector, which is similar to how NPM, or corporate governance, did not fully replace bureaucracy (Dunleavy et al., 2005).

Collaboration is a term many in the public sector agree is positive, however there are differing views about what collaboration means and whether it is occurring (O'Flynn, 2009). Collaboration is working together to produce something, often beyond the ability of an individual agency to deliver (Morse, 2010; Emerson et al., 2011). Collaborative governance has been criticised for taking more time, energy and money than other governance forms due to the requirement to develop direction, controls and processes that satisfy the needs of many stakeholders (Bevir, 2007). Another challenge facing collaborative initiatives is separation from existing vertical accountabilities (Torfing, 2016a). Participants are commonly required to participate as members of a collaborative initiative and continue to deliver for their organisation. Similarly organisations are expected, and sometimes mandated, to participate whilst they continue to deliver vertically; impacting their autonomy (Emerson & Nabatchi, 2015).

Academic literature has contributed to the challenge of collaboratively governing horizontally across agencies to deliver outcomes. Much of the collaborative literature has focussed upon networks of agencies and other stakeholders attempting to add public value (Bovaird, 2005; Stoker, 2006). Networks do not have to operate within the formalised construct of an organisation, however they

still require governance to ensure participants engage collectively, resources are used effectively and conflict is resolved (Provan & Kenis, 2007).

Many issues dealt with by collaborative governance are presented as wicked problems (Klijn, 2010; Ansell et al., 2016). Collaborative governance direction is outcome focussed, often created by consensus and attempts to ensure the goals of the collaborative initiative reflect the needs of participants (Rogers & Weber, 2010).

Working horizontally across organisational boundaries has raised questions about how the public sector should be governed. Collaborative governance within the public sector can be policy driven and have specific regulatory and legislative obligations, raising questions about the role of the Executive (O'Flynn & Wanna, 2008). The Executive provide direction and oversee agency performance. Many existing public sector governance mechanisms were designed for vertical governance. Scholars proposed changes to these vertical governance arrangements ranging from changes to individual elements of governance e.g. accountability (Boston & Gill, 2011) to proposing new theories like New Public Governance or Digital Era Governance to replace NPM (Dunleavy et al., 2005; Osborne, 2010).

Interagency collaboration requires trust and commitment to accept joint risk and share resources to undertake change for mutual benefit (May & Winter, 2007; O'Flynn, 2009). Proposed benefits from collaboration include increased trust whilst reducing conflict and fragmentation, access to improved capability and transition to more effective services (Ezz, Papazafeiropoulou, & Serrano, 2009; O'Flynn, 2009). Collaboration is no guarantee of service improvement; particularly where relationships are unclearly defined, have limited trust or appetite for risk (May & Winter, 2007). Over time informal norms and methods need to be replaced by inter-organisational structures and processes for ongoing direction and management (Emerson et al., 2011).

Collaborative initiatives struggled with the residual NPM governance arrangements, particularly the reporting and compliance requirements which took time and valuable resources away from collaborative efforts (Ryan, 2011). Institutional constraints including siloed organisational structures and existing

agency deliverables coupled with minimal incentives and heavy penalties for failure discouraged collaborative effort (Plimmer, 2011).

Some scholars propose employment of alternate governance arrangements, selection of which depends upon maturity and the type of initiative (Donahue, 2011). Innovation is one area where alternate collaborative governance arrangements have been promoted. Heavy touch governance arrangements were seen as stifling innovation (Torfing, 2016a). Lighter touch accountabilities were proposed for exploratory or smaller initiatives, particularly in the early stages. In some cases minimal arrangements were proposed, which could be extended as the initiative matured.

Donahue (2011) proposed the use of consensus based patterns for performance and accountability, stating that at a minimum parties involved in initiatives should have agreed the proposed public value delivered by the initiative, aligned their interests and have readily measured performance criteria, which requires monitoring to occur. Other scholars believed that formalised accountability was required. Boston and Gill (2011) attempted to provide a pragmatic approach that balanced the need for hierarchical controls with the flexibility required for collaborative working. They identified the ability to sanction as a key requirement for any accountability relationship. The challenge as they saw it was collaborative initiatives introduce horizontal governance as opposed to the vertical, principal-agent relationship common in corporate governance. To overcome this challenge, they proposed two methods: enforceable agreements and external sources of authority which could ensure that someone could be held to account for a collaborative initiative.

Participation in collaborative initiatives can introduce activities not included in accountability arrangements. Collaborative governance arrangements exist of both formally defined roles and responsibilities and informal interactions between actors. Capturing and understanding informal roles and relationships requires interpretation of “everyday practices of network actors rather than being formally constructed and embodied in constitutional documentation” (Mathur & Skelcher, 2007, p. 233). Researchers are required to enter the field to capture the specific contextual values and beliefs of actors that reveal informal interactions (Hajer &

Wagenaar, 2003). Whilst these interactions may not be enforceable through accountability arrangements there is an ethical expectation that these responsibilities will be performed, however, in collaborative arrangements without an applicable enforcement mechanism these can be problematic (Gregory, 1995; Boston & Gill, 2011).

Some researchers found in the absence of formal decision-making authority participants relied upon influence to ensure their interests were considered (Thomson & Perry, 2006; Klijn, 2007). Participant autonomy was recognised in collaborative governance literature as provided through both formal and informal means. Tensions were identified between the collective interest represented by collaborative goals and the individual interests of organisations and individuals (Thomson & Perry, 2006). Concerns were raised that participants would withdraw from collaboration if they did not get their needs met (Bevir, 2007). The inability to rely solely upon enforcement through formal governance mechanisms like contracts and sanctions, and with participants moving to further their interests, raised questions about trust in collaborative accountability governance arrangements (Klijn, 2010).

Trust was identified as a requirement for generating mutual understanding and enabling shared participation (Emerson & Nabatchi, 2015). Researchers found trust building at early stages of collaborative initiatives contributed to building commitment and developing collaborative goals (Ansell & Gash, 2008; Emerson & Nabatchi, 2015). Maintenance of trust was identified as a challenge for collaborative governance arrangements. Trust levels were observed as decreasing when the number of participants increased, leading to questions of how trust levels could be maintained across all participants, rather than in small clusters (Provan & Kenis, 2007).

Emerson and Nabatchi (2015) claimed collaborative governance requires more leadership than other governance forms, thereby requiring leaders to exercise influence as well as authority. Leaders were required to undertake collaborative problem solving, incentivise participation and gain consensus (Getha-Taylor & Morse, 2012). The collaborative governance function is commonly required to establish governance arrangements which oversee the development of common

goals and agreement of performance measurement criteria (Morse & Stephens, 2012).

### IT Governance in Public Administration

Scholars have presented the purpose of IT governance as performing monitoring of ICT decision making as well as the policies and procedures for controlling ICT resources to encourage the right sort of behaviour for the use of ICT (Weill & Ross, 2004; Benaroch & Chernobai, 2017).

IT governance involves monitoring and evaluating performance against a range of contractual mechanisms (Benaroch & Chernobai, 2017). The IT governance function reports these to corporate governance, although decision rights can be delegated from the corporate governance function (Weill & Ross, 2004). Trust relationships between senior management and the IT governance function have been identified as a significant factor for successful IT governance (Chin et al., 2004). Others have called for senior leadership representation (i.e. board member or senior management) on IT governance groups (Lainhart, 2012), to improve alignment of corporate and ICT strategy, and provide authority for ICT decision making and enforcement (Ali et al., 2009; Benaroch & Chernobai, 2017). Whilst acknowledging the requirement for senior leader participation in IT governance, concerns have been raised about the lack of ICT knowledge among senior leaders contributing to poor decision making or improper use of controls resulting in poor performance or financial losses (Huff et al., 2006; Benaroch & Chernobai, 2017).

IT governance is commonly linked to corporate governance principles to attain corporate goals (Weill & Ross, 2004). Industry groups, including the Information Systems Audit and Control Association (ISACA) and IT Governance Institute (ITGI), have developed numerous prescriptive IT governance models to aid with practice (Parent & Reich, 2009; De Haes & Van Grembergen, 2016; Wilkin & Chenhall, 2019). Scholars have observed practitioners commonly following these prescriptive models designed to provide IT governance to support corporate strategies (Weill & Ross, 2004; Parent & Reich, 2009). Alignment to corporate goals appears to place a constraint upon the applicability to collaborative cross-sector initiatives (Damodaran, 2005; Rhodes, 2007). IT governance has developed

from corporate governance literature, meaning it is more closely aligned to the private sector, suggesting a gap in public sector IT governance literature.

With the public sector joined-up through collaborative initiatives and ICT connecting them across the internet, there appears to be another gap, this one between practice and industry IT governance models commonly used in practice. Corporate governance controls are designed to work in an organisational context where there is clear vertical accountability (Norman, 2003; Acar et al., 2008; Gregory, 2009). Information systems, including shared services, work across organisational boundaries. Additionally ICT can introduce fast paced change to existing ways of working across those organisational boundaries (Ansell et al., 2016). The use of corporate governance aligned IT governance controls may constrain the use of ICT to introduce new ways of collaborating across organisations.

After reviewing management and information systems literature it appears that the public administrative governance form bureaucracy has been overwritten numerous times by other governance forms in practice. An example of the introduction of governance forms can be observed in literature presenting changes to the policy process (Pressman & Wildavsky, 1973; Lipsky, 1993; Hupe & Hill, 2015). Rather than a technical, procedural approach to policy implementation, the reforms have highlighted a range of different approaches to policy and formulation including the use of vertical controls, mandates and horizontal deliverable measurement (Hupe & Hill, 2015). The adoption of governance forms designed for other areas of practice appears challenging for public sector governance as previously shown in Figure two, in Chapter one.

Practitioners developing and running PSISS governance arrangements have three governance forms to select from. It is perhaps little wonder that practitioners commonly choose to use normative industry models that provide 'how to govern guidance' (Ali & Green, 2007; De Haes & Van Grembergen, 2016).

### Industry Governance Models

The addition of industry governance models adds another layer of complexity to the practice of PSISS governance. It appears that practitioners attempting to



perform PSISS governance through the creation of governance arrangements are faced with siloed academic governance literature that originates in three domains, each with different focus areas. Practitioners appear to have an alternative to academic literature with the introduction of industry models, which introduces a potential disconnect between literature and practice (Weill & Ross, 2004; Higgins & Sinclair, 2008).

Industry groups have developed numerous prescriptive IT governance models to aid with practice (Parent & Reich, 2009; De Haes & Van Grembergen, 2016). Some scholars asserted that practitioners commonly follow these prescriptive models which are designed to provide governance to support corporate direction (Weill & Ross, 2004; Parent & Reich, 2009). Alignment to corporate direction appears to place a constraint upon the applicability to use these industry models to govern collaborative cross-sector initiatives (Damodaran, 2005; Rhodes, 2007).

Industry models appear to be based upon practice and academic literature (Brotby, 2008; Lainhart, 2012). The assertion these models were being used in place of literature in practice was consistent with my 25 years of practitioner experience. This led me to question whether practitioners were in fact using academic literature, or simply consuming it second hand through these industry models, potentially contributing to the disconnect between literature and PSISS governance practice. Reading wider led me to identify scholars researching the views of practitioners who had adopted these models (Ali & Green, 2007; De Haes & Van Grembergen, 2016), combined with other scholars criticising academic literature for not being as relevant to practice as industry publications (Davenport & Markus, 1999).

Industry models hold the promise of best practice, simplification and ease of implementation (Sanwal, 2008). Scholars have argued best practice is contextual, and in many cases these models are not applicable to local situations. Similarly the simplification afforded by these models has been criticised for lacking depth of response and for adding additional work where it is not required (Boyle & Grace-Webb, 2007; Brotby, 2008).

Governance arrangements are patterns of governance elements e.g. structures, roles and relationships; put in place to set direction and enable delivery of objectives

(Sambamurthy & Zmud, 1999; Oliveira & Hersperger, 2018). If, as indicated, practitioners are not drawing directly from academic literature this may be a contributing factor to PSISS failure.

It appears PSISS governance draws on multiple theories and governance forms, but there is no easy way to translate how this occurs in practice. This translation is made more challenging through the introduction of industry models which could be drawing upon academic literature across three domains and presented in several different ways across multiple models (Higgins & Sinclair, 2008). The added complexity is shown in Figure six.

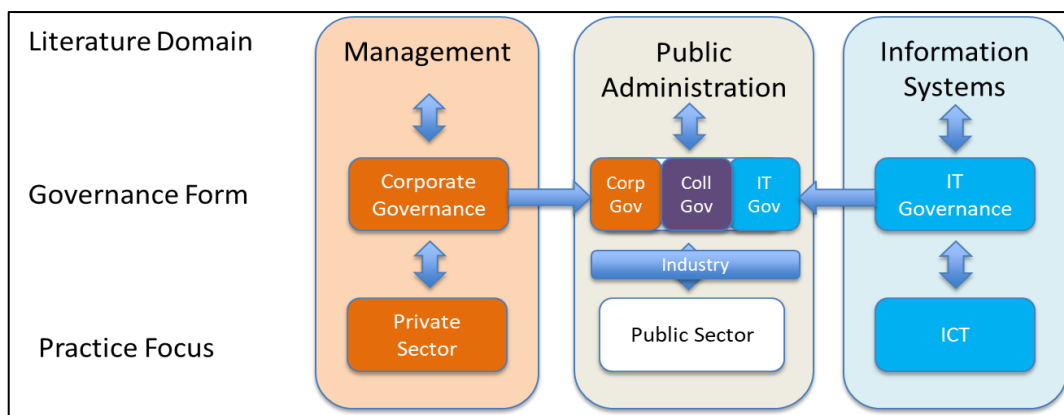


Figure Six: Industry Governance Models

My research is intended to contribute to bridging the gap between academic literature and practice. Industry governance models are a secondary concern, which led me to the decision to exclude them as inputs for my analysis, including the creation of sensitising concepts and characteristics.

The apparent widespread use of industry governance models requires them to be included here for background as, based upon literature and my analysis, they influence governance arrangements and governance in practice.

### Closing the Governance Gap by Exploring Practice

Governance arrangements have been identified as contributing to the perceived failure of PSISS (National Audit Office, 2012; Hillier, 2019). Academic literature can be used to guide practice, in this case PSISS governance (Lacity, Khan, & Willcocks, 2009).

## Multidisciplinary Approaches from Literature

The multidisciplinary nature of public administration is evidenced through the presence of theories from other domains imported into the public administration domain (Van Thiel, 2014). My literature review identified the use of governance forms, originating in multiple domains, in the public sector.

Practitioners have a range of academic and industry literature they can use to develop governance arrangements and perform governance. The governance forms are segmented across different domains which resulted in no single discipline or practice literature for practitioners to draw upon. Selection and integration of these governance forms is challenging (Grant et al., 2007). The majority of academic literature surveyed advocates the use of individual governance forms or combinations of governance forms (Weill & Ross, 2004; Dunleavy et al., 2005). Other scholars advocated the selection of normative industry models, which have also been presented as problematic (Guldentops, 2004; Von Solms & Von Solms, 2005).

The segmented nature of literature has led me to investigate multidisciplinary research approaches to contribute to the body of knowledge, with the intention of surmounting the gap between academic literature and practice. Investigation of academic literature from management, information systems and public administration domains identified three examples where scholars had developed approaches to conduct multi-disciplinary research.

**Example One.** Gregor (2006) advocated the use of theory from other domains to contribute to the body of knowledge. She identified social science, design science and natural science as contributing theory to information systems. Bringing these theories into the body of knowledge was seen to require an interpretivist perspective where theory was not created to be testable using traditional positivist approaches, rather theory was to be created to increase understanding of social situations from participants' lived experiences. Gregor advocated the creation of "mid-range theory as particularly important" for researching practice (Gregor, 2006, p. 616).

Having identified the multidisciplinary nature of information systems research Gregor (2006) produced two additional insights useful for my research, a taxonomy for theoretical contribution and three requirements for conducting multidisciplinary research. She promoted selection of research method based on the type of theory being produced, which she saw as an attribute unique to information systems. She promoted a taxonomy to classify theory based on analysis, explanation, prediction and prescription, which lead to five possible types of information systems theory:

- theory for analysis
- theory for explanation
- theory for prediction
- theory for explanation and prediction, and
- theory for design and action.

Gregor (2006) identified three requirements for researchers conducting multi-disciplinary research. As the researcher will be importing theory into the (information systems) domain researchers need to develop a common language across domains, create a method for identification and analysis of theory from other domains and finally to use their research to contribute to the body of domain knowledge. I have considered how I can apply these requirements to my research design in Table two.

Requirement	Design Considerations
Common language	I developed a governance framework from academic literature that identified and defined generic elements and sub-elements present in all governance forms. This framework enables the identification of governance in practice.
Identify and analyse theory from other domains	As I am identifying the presence of governance forms for further analysis, I have created a literature-based characteristics model that defines characteristics of each governance form for all elements and sub-elements. This enables the identification of different governance forms for analysis.
Contribute to body of knowledge	Development of mid-range theory based on practitioner perspectives for explanation to contribute to the body of knowledge.

Table Two: Design Considerations from Gregor

**Example Two.** Davenport and Markus (1999) were information systems scholars who called for multidisciplinary research into either information systems implementation or, interestingly, the role of information systems in resolving public sector policy problems. They were concerned that academic research was becoming increasingly irrelevant to practice and was falling behind industry literature. To overcome these challenges, they advocated working closer to practice and delivering relevant research that would be used by practitioners. These calls are similar to criticism about the lack of academic involvement in public sector reforms where governments “were quite explicit about not turning to academics” (Kettl, 1999, p. 130). Common language was identified as a requirement to bridge the gap between literature and practice, not just with academics, but with practitioners, indicating a need to pilot my literature informed governance framework with practitioners before entering the field to conduct research (Davenport & Markus, 1999). Considering these findings has led to the design considerations in Table three.

Finding	Design Considerations
Multidisciplinary information systems research can be conducted on technology implementation or public sector policy.	Investigating PSISS governance provides an opportunity to investigate implementation of an information system within a wider public sector policy frame.
Common language is required across domains and with practitioners.	Pilot literature informed governance framework and associated elements as sensitising concepts before conducting research.

Table Three: Design Considerations from Davenport and Markus

**Example Three.** Researching public administration literature led me to the work of Raadschelders (2008, 2010, 2011) who conducted a comprehensive review of public administration literature and traditions, which resulted in assertions the public administration domain is multidisciplinary in nature and there is a need to conduct research to reduce the gap between literature and practice.

Instead of attempting to separate public administration into a siloed discipline Raadschelders acknowledged the complexity and reach of government. As government, and the public sector, has multiple relationships across society it is of

interest to researchers from multiple disciplines making it multi-disciplinary in nature (Raadschelders, 2011). The NPM and post-NPM reforms evidenced this multi-disciplinary nature through the introduction of theory influenced by other domains (Edwards, Halligan, Horrigan, & Nicholl, 2012). It is this multi-disciplinary nature that “prevents the development of a unifying theory” (Raadschelders, 2011, p. 128).

Rather than feeding off the scraps of other disciplines, Raadschelders presented public administration acting as an umbrella for knowledge about government, covering knowledge that has been developed in other domains or by other disciplines. After exploring the history of public administration, and the associated academic literature, he proposed basing the study of public administration on four traditions, each with their own research objectives and approaches. These traditions are scientific knowledge, relativist perspectives, practical wisdom and practical experience. He calls for integration of these traditions to further understanding of the public sector, thereby reducing the gap between academic literature and practice (Raadschelders, 2011).

Raadschelder’s call has been adopted by other public administration literature, which promotes the use of the four traditions to bridge the disconnect between literature and practice (Franklin & Ebdon, 2005), providing examples where the disconnect has increased through the introduction of literature from multiple domains (Kettl, 1999). The following section introduces the four traditions and outlines my rationale for selecting one of the traditions for my research into bridging the gap between governance literature and practice in the public sector.

Scientific knowledge is derived from the scientific method where hypotheses are created and tested empirically to improve the understanding of public administration with the intention of developing a unifying theory (Raadschelders, 2011). Testing hypotheses requires isolation of the components to be tested, which can be challenging in a social context like the public sector (Eppel, 2017). Other challenges include the requirement for the researcher to be independent and to approach the research from a monodisciplinary perspective (Raadschelders, 2011).

Relativist perspectives interpret the interactions between individuals, organisations and processes (Eppel, 2017). Relativist perspectives are subjective and develop understanding through interpretation of an aspect of reality to uncover and explore values, traditions and culture (Raadschelders, 2008, 2011). Researchers deconstruct situations to describe rather than provide prescriptive findings as values are contradictory (Franklin & Ebdon, 2005).

Practical wisdom comes from a tradition of public administrators providing advice to rulers stretching back hundreds of years (Machiavelli, 1997). Practical wisdom is intended to advise on three concerns: where we are going, should we go there and how we can get there (Flyvbjerg, 2001). To address these concerns a ruler needs to understand the social context, the current and desired relationships between ruler and ruled, and have authority. A multidisciplinary approach is required given the breadth of government and the application of theory across domains. Practical wisdom reflects upon what is usable from across domains, interpreting these inputs to address the concerns listed above (Raadschelders, 2011).

Practical experience provides research that illustrates the challenges facing government and attempts to bridge the gap between academic literature and practice by exploring real world situations and designing methods to improve practice using available theory (Raadschelders, 2011). The objective of practical experience is identifying the best method for implementation of policy and to make technical refinements to practice (Franklin & Ebdon, 2005; Orr & Bennett, 2012).

My research requires me to explore how governance occurs in practice to gain an understanding of how practitioners perceive PSISS governance, to what extent the different governance forms are reflected in practice, and what issues have arisen from application of these different forms. Researching practitioner perspectives led me to consider practical wisdom or practical experience. The decision came down to the purpose of my research, whether I was trying to explore the application of theory across domains or designing the best method of implementing PSISS governance, as shown in Table four.

Finding	Design Considerations
Multidisciplinary approaches are suitable for public administration research to reduce the gap between academic literature and practice.	Perform multidisciplinary research exploring the application of governance forms in the public sector.
There are four traditions that can guide research: scientific knowledge, relativist perspectives, practical wisdom and practical experience.	I selected the practical wisdom tradition to guide my research exploring the application of governance theory across domains using practitioner perspectives.

Table Four: Design Considerations from Raadschelders

### Researching Practitioner Perspectives

Exploring academic literature relating to multidisciplinary research has provided me with design considerations for conducting my research. These insights have been incorporated into my research design in Chapter four.

Confirmation that multidisciplinary research is suitable for public administration, as a multidisciplinary domain, provided me with confidence to proceed. Raadschelders' practical wisdom tradition provides guidance for conducting research from a practitioner perspective. As information systems scholars, Davenport and Markus (1999) identified the value of multidisciplinary research investigating the role of information systems in the public sector, which can be interpreted as including the governance of PSISS. Gregor presented different types of theory and their potential to contribute to the body of knowledge, leading me to identify the potential to contribute through explanation and the construction of a mid-range theory.

Before progressing to my research design, I needed to address two requirements raised in the multidisciplinary research literature: common language and theory identification.

Gregor, Davenport and Markus identified a need for a common language to enable academic literature from multiple domains to be employed. For my research this meant a common language for governance, which could be consistently applied to corporate, IT and collaborative governance. I developed a literature informed



governance framework to provide a common language for the three forms. This framework enabled the identification of governance in practice. The governance framework is presented in the following sensitising concepts section. Davenport and Markus extended the common language requirement to include practitioners, leading me to pilot my framework using a similar PSISS as a case study. The pilot involved comparison with context specific documentation, in this case New Zealand reform literature and government documents and trialling my framework with practitioners. The pilot study is presented in Chapter three.

Gregor identified a need to identify literature from different domains to enable analysis. As I am identifying the presence of governance forms for further analysis I have created a model that defines characteristics of each governance form for my governance framework. My characteristics model is presented in the governance characteristics section which follows the sensitising concepts section.

### Sensitising Concepts

PSISS governance cuts across three domains of academic literature: management, public administration and information systems (Van Gigch, 2002). The use of combinations of corporate, collaborative and IT governance makes it difficult to identify governance in practice. Rather than focussing upon the differences between the governance forms I have developed a theoretical framework using common elements of governance literature from corporate, collaborative and IT governance to identify governance in practice.

My governance framework served three purposes, firstly to broadly define a common language for governance elements present in all three governance forms, secondly to take into the field to identify governance in practice and finally to assist with initial analysis. The framework was supported by a characteristics model that presents specific element characteristics for each of the governance forms. Once I had identified the governance elements in practice the characteristics model enabled me to explore the presence, and influence, of the different governance forms (Miles & Huberman, 1994). This section introduces my literature informed framework and characteristics model presenting how they were constructed.

Initial categorisation of public sector literature identified four governance forms: bureaucracy, corporate, collaborative and IT governance. Bureaucracy was challenged based on dissatisfaction of the performance of the public sector and a perceived inability to efficiently deliver services, leading to the introduction of corporate reforms. Over time there was dissatisfaction with the limitations of bureaucratic and/or corporate approaches which led to front line intervention (Lipsky, 1993) and later led to calls for collaborative approaches (Stoker, 2006). The increased significance of information & communications technology led to calls for a distinct IT governance form (Weill & Ross, 2004; Ali & Green, 2007).

These governance forms were observed in academic literature covering public sector reforms and associated changes to governance arrangements in practice (Norman, 2003; Boston, 2011). Literature covering these reforms were explored to identify governance elements for my literature-informed governance framework. The elements identified were compared to the governance literature across domains to assess the plausibility of conducting research into the public sector using the governance framework.

Reviewing governance literature led me to the conclusion governance can be divided into formal and informal governance (Lynn, Heinrich, & Hill, 2000). The literature showed formal governance is officially documented in organisations and could be further divided into three formal governance elements: direction, controls and structures (Hilmer, 1993; Stoker, 1998; Edwards, 2002; Bevir, 2007). Informal governance was less tangible, in that it was not documented, and was more likely to persuade than dictate (Johnson & Scholes, 1999; Lynn et al., 2000).

I defined governance as the direction, controls, structures and informal elements that influence the running of organisations (Stoker, 1998; Lynn et al., 2000; Edwards, 2002; Bevir, 2007). My initial governance framework presents four governance elements to research PSISS governance, as shown in Figure seven:

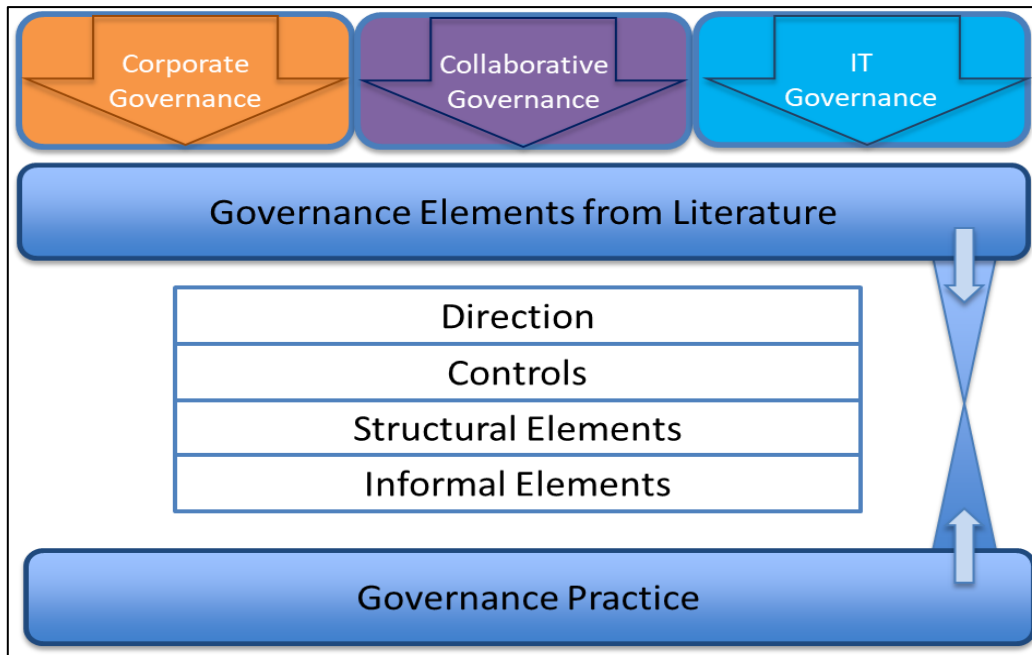


Figure Seven: Governance Element Framework

Placing the governance elements in a frame enables a structured literature based starting point for researching PSISS governance that could be compared with practitioner views of governance. It is important to note the framework is only a starting point and will not provide an explanation of governance (Sabatier, 2007).

Direction and controls are the focus of governance scholars advocating command and control techniques (Hilmer, 1993). These are present in the New Zealand public sector accountability framework which specifies performance levels and ensures adequate performance measurement, holding the agency accountable for non-performance (Schick, 2001; Pallot, 2003; Mulgan, 2004; Gregory, 2009). Structural governance elements can extend the formal direction and control to define formal roles and relationships, as well as the authority held by actors (Sambamurthy & Zmud, 1999). The NPM reforms introduced several structural changes moving from a centrally controlled bureaucracy to a contract based system with increased authority and autonomy for agencies (Halligan, 2007; Lodge & Gill, 2011). This has led to a situation in some countries where the public sector consists of sets of relationships between the Executive, individual ministers and the wider public sector, each of which perform elements of governance (Scott, 2003; Boston, 2012). The NPM reforms were followed by several reforms, loosely called post-NPM reforms, which were considered responses to perceived shortcomings of

NPM including fragmentation of the public sector (Dunleavy & Margetts, 2010). Other scholars explored the softer informal aspects of governance (Lynn et al., 2000; Bovaird, 2007). My research considers all four governance elements as part of the governance of PSISS so I will explore direction, control, structures and informal governance.

Based on my experience in the public sector I have observed multiple governance arrangements, all exhibiting different mixes of formal and informal governance. This provided a starting point, but unfortunately the four elements did not provide enough detail for the purposes of my intended research, so I dug deeper into the literature to identify suitable sub-elements within the four elements for further investigation. After reviewing over 250 peer reviewed, indexed governance papers, a sample of fifty-three were selected to identify governance sub-elements (Miles & Huberman, 1994; O'Leary, 2010). This resulted in the identification of multiple instances of fifteen governance sub-elements: accountability, authority, autonomy, culture, formal roles, formal relationships, informal roles, informal relationships, leadership, legislation and regulation, performance specification, performance measurement, political interests, responsibility and trust. The governance elements and sub-elements were combined to develop my initial theoretically and empirically informed governance framework presented below in Figure eight.

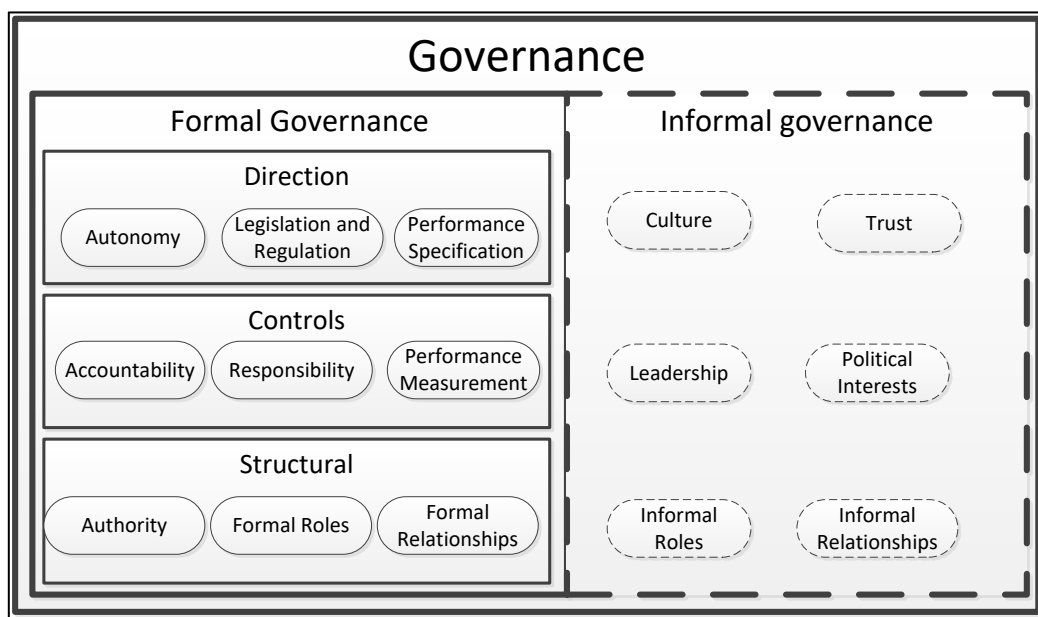


Figure Eight: Governance Elements

The governance elements highlight the divide between formal and informal governance. In Figure eight formal governance is divided into three elements: direction, controls and structural governance.

Direction sets the course for the organisation. Direction consists of autonomy, legislation and regulation and performance specification. Controls are mechanisms that are put in place to ensure direction is followed. Controls identified are accountability, responsibility and performance measurement. Structural governance relates to the formal roles and relationships and the provision of authority that empowers them.

Informal governance influences the formal governance elements. Informal governance consists of the softer sub-elements culture, trust, leadership, political interests, informal roles and informal relationships.

The elements, and sub-elements, were all identified in the three governance forms, which led to the creation of generic definitions for each element and sub-element to enable the identification of governance in practice as shown in Figure nine.

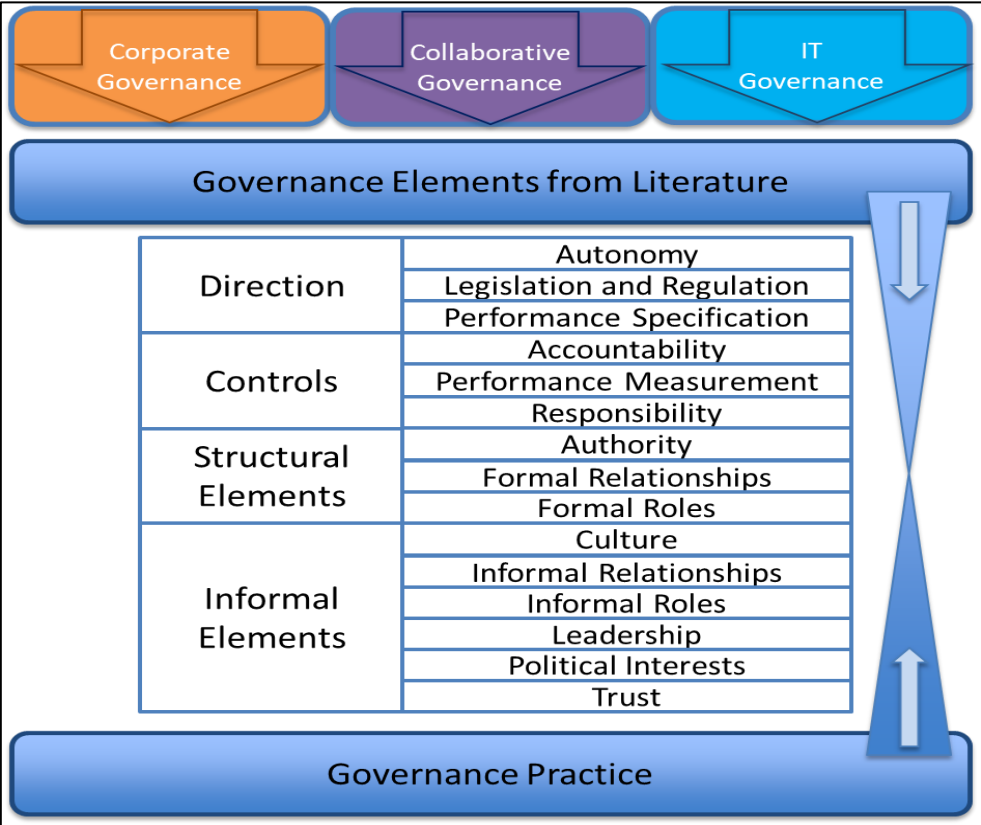


Figure Nine: Identifying Governance Elements in Practice

The fifteen governance sub-elements have been categorised in the framework under the four governance elements. What is interesting is in academic literature they are often discussed in terms of the relationships between sub-elements. The obvious examples are direction and controls where performance specification sets the direction and performance measurement reports the results of agency activities against the specified performance criteria (Baehler, 2003; Gregory, 2009). Rather than exploring each element in isolation I have attempted to show how they are presented as interacting in the literature and provide examples of attributes that can be used to identify them in practice.

The governance sub-elements will be presented as groups of related sub-elements, which is consistent with the selected academic literature, enabling comparison of academic perspectives. Finally, the selected element and sub-element definitions will be presented. The groupings are:

- Authority and Autonomy,
- Responsibility, Accountability and Performance Specification and Measurement,
- Formal and Informal Roles and Relationships,
- Legislation and Regulation, and
- Other Informal Sub-elements.

Attributes for identifying these sub-elements in practice have been identified through academic literature with illustrative examples shown in the following sections.

### **Authority and Autonomy**

Authority is the delegated right to make decisions, whereas autonomy is freedom from controls. Autonomy is linked to authority as an individual may have autonomy, however they must be delegated decision making authority and the resources to carry out the decision. Autonomy can be constrained through reduced decision making or directives (Sambamurthy & Zmud, 1999; Young & Tavares, 2004).

Stoker (1998) identified authority and autonomy as important aspects of governance relationships as they enable collaboration. Reduced authority and autonomy leads to questions about delivery of outcomes and outputs, resulting in tensions between agencies and the Executive (Norman, 2003). Autonomy increases as the degree of freedom from formal governance controls increases (Young & Tavares, 2004). If collaboration is required between agencies it is questionable whether increased centralised governance controls will improve the ability of agencies to work together to successfully attain interagency outcomes or outputs (Janssen & Wagenaar, 2004; Ezz et al., 2009).

The question of whether collaboration, and indeed agency autonomy is required for governance is debated in theory and practice (Janssen & Wagenaar, 2004; Cabinet Office, 2007). Hilmer (1993) takes a position that directions are set and controls in place to ensure compliance, with limits to authority and little autonomy provided. Johnson and Scholes (1999) have a more inclusive approach where collaboration is required and therefore autonomy is provided and management are afforded increased authority. This has parallels in public administration literature where governance functions are delegated to agencies, whether formally or informally (Peters & Pierre, 1998; Provan & Kenis, 2007).

Authority is provided, and can be identified in practice, through performance agreements, legislation and contracts (Eglene, Dawes, & Schneider, 2007; Bryson, Crosby, & Bloomberg, 2014). Autonomy can be identified through changes to legislation and regulation and through contracts, including service level agreements (Aulich, Batainah, & Wettenhall, 2010).

### Responsibility, Accountability and Performance

Responsibility and accountability are used interchangeably in literature and practice. Responsibility relates to issues about choices based on conflicting options. Once the decision is made the individual or group can be held culpable for their action, or inaction. Particular forms of responsibility in the public sector include ministerial responsibility and managerial responsibility (Gregory, 2009).

Accountability is about providing an answer for actions that were or were not taken by an individual. The Executive have political accountability and are accountable

to the people for the use of authority provided through election, ensuring no misuse of authority. This includes accountability to the public for the actions of agencies acting on their policies. Agencies are accountable to the Executive for use of delegated authority provided to perform their roles. This is known as managerial accountability (Wallis & Gregory, 2009).

Accountability is being held to account for specified tasks, when provided commensurate authority, including resources (Mulgan, 2000; Gregory, 2009). The accountable party is required to provide an account of how and why decisions were made, authority was exercised, and actions were taken. This account is provided to specified others who have the right & capacity to monitor performance and to invoke sanctions & rewards (Gregory, 2009; Schillemans, 2011).

Poorly designed accountability can result in an accountability deficit (Brown & Troutt, 2007; Wallis & Gregory, 2009). An accountability deficit occurs when performance does not meet the expected level of accountability. The identification of an accountability deficit often leads to the creation of new accountability mechanisms (Schillemans, 2011). Some scholars are wary of the introduction of new accountability mechanisms to resolve a perceived accountability deficit. They cite accountability overload, resulting in administrative costs outweighing benefits provided through the additional mechanisms (Brown & Troutt, 2007).

Accountability needs to be considered from both vertical and horizontal perspectives. The accountability relationship between ministers and agencies is based upon vertical governance. Collaborative initiatives, like PSISS, introduce the dimension of accountability to other agencies and stakeholders (Goldsmith, 2004; Stoker, 2006). This raises questions about whether horizontal governance mechanisms are required to govern PSISS (Ulbrich, 2010).

Collaborative governance arrangements exist in both formally defined roles and responsibilities and informal interactions between actors (Mathur & Skelcher, 2007). Many of these activities, particularly informal interactions, may not be enforceable through vertical accountability mechanisms leading to challenges for collaborative governance (Gregory, 2009; Boston & Gill, 2011).



When conducting collaborative governance scholars have recommended light touch accountabilities, consensus based patterns for enforcement or influence based enforcement (Torfing, 2016a). Others believed that formalised accountability was required. Boston and Gill (2011) attempted to provide a pragmatic approach that balanced the need for hierarchical controls with the flexibility required for collaborative working. They identified the ability to sanction as a key requirement for any accountability relationship. The challenge as they saw it was collaborative initiatives introduce horizontal governance as opposed to the vertical, principal-agent relationship common in corporate governance. To meet this challenge, they proposed accountability through external based authority and enforceable agreements.

Performance specification defines the expected level for deliverables, these should be clearly defined and measurable (Baehler, 2003). Performance measurement involves the creation, analysis and reporting of agency activities against specified performance criteria (Lynn et al., 2000; Wallis & Gregory, 2009). The relationship between accountability and performance is often expressed in terms of an accountability framework where agencies are delegated the authority to make decisions and held accountable for attaining a specified level of performance (Schick, 1996; Cook, 2004; Wallis & Gregory, 2009). Formal agreements are established to specify performance expectations, with controls put in place to measure performance (Schick, 1996; Aulich et al., 2010). Performance measurement is used to track agency progress towards attaining specified performance goals, which are commonly expressed in terms of outputs and outcomes (Ryan, 2006).

Responsibility and accountability can be observed in performance reports, legislation and through contractual measures including performance agreements and service level agreements (Jensen, 2003; Gregory & Lonti, 2008).

Performance specification can be identified through performance agreements, performance reporting and other contractual measures including service level agreements. Performance measurement can be observed through performance reporting including annual reports, performance reviews, service level reporting and contract reviews (Gregory & Lonti, 2008).

## Formal and Informal Roles and Relationships

The roles and relationships of public servants have changed since the introduction of public sector reforms in the 1980s (Boston, 2011). The roles performed by public servants have been viewed as more independent, complex and multi-faceted than previously performed in a traditional bureaucratic model (Poulsen, 2007). Public service agencies are commonly led by their Chief Executive (CE) in conjunction with the minister and government, all of whom perform elements of governance. This differs from agencies, like crown entities, who have politically appointed boards who provide governance on behalf of the government (Scott, 2003). The NPM reforms reinforced vertical accountability, increasing the role of agencies and altering the relationships between ministers and agencies through increased agency autonomy (Aulich et al., 2010). Schick (1996, 2001) stated that formally defined contractual relationships are preferred in the public sector because they are clearer and easier to enforce, although he felt these relationships could detriment third parties who use agency provided services. This is particularly relevant in the principal-agent relationship between ministers and the agencies providing services. The relationship between minister and agency forms part of the accountability framework which is vertical in nature. This vertical relationship could exclude third party agencies who adopt PSISS, which is particularly relevant when the third-party agency is reliant on agency provided services to deliver their own contracted services (Grant et al., 2007; Dormer & Ward, 2018).

The principal-agent approach to governance focuses on financial performance, which is satisfied by undertaking three functions: review and approve strategy, ensure policies on key issues are in place, and review compliance (Hilmer, 1993). Many collaborative governance scholars have concentrated on the roles agencies and other third parties play through theories like network governance (Stoker, 2006) where governance functions are decentralised from the government and rely upon relationships between agencies and third parties. Networks are presented as more collaborative in nature than formal principal-agent contractual relationships, which is reinforced by Lindquist (2011) who found interpersonal relationships are more likely to lead to collaborative behaviour and horizontal interactions, and Piccoli (2005) who found some ICT enabled services rely upon interpersonal relationships and trust developing over time.

After reviewing academic literature I compiled the following definitions for roles and relationships. Formal roles are codified descriptions of functions performed by positions and groups (Hilmer, 1993; Schick, 2001). Formal relationships are codified descriptions of activities that occur between positions and groups performing functions (Hilmer, 1993; Chapman & Duncan, 2007). Informal roles are un-codified functions performed by positions and groups. Informal relationships are un-codified activities occurring between positions and groups performing functions (Johnson & Scholes, 1999; Chapman & Duncan, 2007).

Attributes that can be used to identify formal roles and relationships include government direction, legislation and regulation (Scott, 2003). For example the State Sector Act (SSA) (1988) placed chief executives in charge of agencies providing delegated authority with increased autonomy (Baehler, 2003; Jensen, 2003). Several key relationships appear to exist between agencies, the government and outsource providers (Collier, Fishwick, & Johnson, 2001; Norman, 2003). Many of these relationships are formally defined in service level agreements, contracts and publications including strategies and annual reports (Eglene et al., 2007; Aulich et al., 2010).

### Legislation and Regulation

Legislation has been defined as Acts of Parliament passed into law through the legislative programme, and regulations defined as rules or directives made by the Executive that can have a technical nature and may need to be updated frequently making legislation unsuitable (Goldfinch & Roberts, 2013; Cabinet Office, 2017). Some corporate governance literature states the influence of legislation on governance practice is limited (Hilmer, 1993; Bovaird, 2005), however this does not appear to be the case for the public sector. Public sector reforms have been strongly influenced by legislative change (Christensen & Laegreid, 2010). This is compounded by the role the House plays in the public sector as legislator and through controls like steering committees, as well as the role of the government in setting performance targets and monitoring performance of public sector agencies (Norman, 2003; Scott, 2003). Regulation has been identified as a vehicle for increasing the adoption of PSISS particularly through mandates (May & Burby, 1996; Anthes, 2015).

There have been numerous legislative and regulatory changes that altered governance arrangements (Polanski, 2015; Bazarhanova et al., 2019). The introduction of Sarbanes-Oxley and GDPR have impacted how governance is performed and information is held (Damianides, 2005; Stalla-Bourdillon et al., 2018). In New Zealand examples include the introduction of three pieces of legislation that shaped the NPM reforms: the State-Owned Enterprises Act (SOE) 1986, the State Sector Act 1988 and the Public Finance Act (PFA) 1989 (Norman, 2003; Boston, 2011). Other examples include a regulation directing agencies to use PSISS (Brownlee, 2010; Cabinet Office, 2010a) and specific legislation to enable private sector clients to use PSISS to provide services to citizen and non-citizen customers. The legislation and regulation examples listed above indicate for the role played by legislation and regulation in governance, and the governance of PSISS, the challenge is identifying the applicability of legislation and regulation to the public sector context being researched.

#### Other Informal Sub-elements

The remaining informal sub-elements are: culture, political interests, leadership and trust. Given the flexible nature of informal sub-elements I have explored multiple views from literature for contextual understanding and I have chosen broad definitions for sub-elements to enable exploration in my research.

Culture has been discussed in terms of a barrier to change or something to be controlled and influenced from the top through formal governance mechanisms (Bevir, 2006). Alternate views discuss the ambiguity of the local context and the challenge faced by centralised top-down approaches to culture change (Christopolous, Horvath, & Kull, 2012; Sorensen, 2013). The view that local culture is important, particularly for collaboration, is reflected in shared services literature. An example is the tension between efficiency provided through standardisation against the flexibility required to deliver services that are meaningful for adopting agencies (Janssen & Joha, 2006; Ulbrich, 2010). I have defined culture as the implicitly understood assumptions and practices of organisations (Johnson & Scholes, 1999).

Politics will be investigated through bureaucratic political intentions rather than the political system. Peters (2008) discusses the need for government to take political control of governance, citing the devolution of governance associated with network governance and movement from the centre bought about through the NPM reforms. Jessop (1997) investigated the lessening influence of the government on governance and the increased focus on partnerships between the Executive, agencies and third parties. Skelcher (2011) took a wider perspective looking at the role of government across different top-down and bottom-up arrangements through the use of meta-governance. I have defined political interests as the personal goals and agendas of individuals and groups involved in PSISS governance (Johnson & Scholes, 1999). Traditionally the Executive was involved in politics with public servants expected to be non-political (State Services Commission, 2008d). Focussing upon political interests will provide the ability to explore the political interests of more than just the Executive, which appears relevant based on the literature and the number of actors involved in governance.

Leadership is a broad field with several different perspectives. For this research leadership focuses on the role played by leaders steering, shaping and influencing governance (Johnson & Scholes, 1999). Some NPM reforms used legislation to change the leadership dynamic in the public sector, commonly placing chief executives in charge of agencies with increased decision making ability (Baehler, 2003; Jensen, 2003). The adoption of agency theory saw them acting on behalf of the government, being provided delegated authority with increased autonomy to manage their agencies (Newberry & Pallot, 2003; Chapman & Duncan, 2007). Skelcher (2011) and Sorensen (2006) discuss the need for political leadership in governance which could impact the ability of chief executives to lead their organisations. Similarly, the introduction of PSISS appears to impact agency leadership. The risk for agencies appeared to lie in the transition and ultimate success of PSISS. If they lose their internal ICT capability to the provider they will want transition to be seamless, and after transition for new PSISS to be provided to a standard that meets their needs, which is similar to outsourcing arrangements (Ali & Green, 2012). If the new PSISS does not meet their needs and they have lost the internal capability to provide the service themselves, they are reliant on the

provider. This could be problematic for PSISS where outages could impact services that support agency deliverables (Gershon, 2008; Ezz et al., 2009).

Trust is the level of confidence and belief that exists between individuals and groups (Smith, 2010). As previously discussed trust is seen as important for informal relationships. Osborne (2010) presents trust as a key requirement for collaboration. This may be particularly relevant for PSISS given the potential reliance of one agency's outputs on the delivery of PSISS by a provider. Trust based governance is also raised in terms of network governance relationships involving third parties, particularly given the dependency on informal relationships to support more formal contractual relationships (Rufín & Rivera-Santos, 2012).

Attributes for informal elements appear to be harder to identify as they are often not documented by organisations. Leadership and culture can be read into publications including strategies, annual reports and statements of intent. Policies, strategies, assurance reviews and agency annual reports can be used to infer leadership, trust and culture change as well as resolution of inter-organisational political interests for PSISS (Gershon, 2004; Stephen et al., 2011; National Audit Office, 2012).

### Governance Elements and Definitions

Reviewing the academic literature enabled me to identify governance elements for my framework and select the following generic definitions for the identification of governance in the field, presented in Table five.

Element	Sub-Element	Definition
Direction		Governance direction is the overarching policy or plan rather than detailed instruction for operational management.
	Autonomy	The freedom to act and freedom from controls.
	Legislation and Regulation	Legislation is law. Regulations are rules or directives made by the Executive that can have a technical nature and may need to be updated frequently making legislation unsuitable.
	Performance Specification	Performance specification defines the expected level for deliverables, these should be clearly defined and measurable.

Element	Sub-Element	Definition
Controls		Governance controls are mechanisms put in place to ensure directions are followed.
	Accountability	Accountability is about providing an answer for actions that were or were not taken by an individual.
	Performance Measurement	Performance measurement involves the creation, analysis and reporting of agency activities against specified performance criteria.
	Responsibility	Responsibility relates to issues about choices based on conflicting options, once the decision is made the individual or group can be held culpable for their action, or inaction.
Structural Governance		Structures relate to the formal roles and relationships and the provision of authority that empowers them.
	Authority	Authority is the formally empowered ability to act.
	Formal Roles	Formal roles are codified descriptions of the functions performed by positions and groups.
	Formal Relationships	Formal relationships are the codified descriptions of activities that occur between positions and groups performing functions.
Informal Governance		Informal governance elements influence governance structures, direction and controls. Often these factors are intangible or not formally captured and include culture, informal roles and relationships, leadership, political interests and trust.
	Culture	Culture is the implicitly understood assumptions and practices of organisations.
	Informal Roles	Informal roles are un-codified functions performed by positions and groups.
	Informal Relationships	Informal relationships are un-codified activities that occur between positions and groups performing functions.
	Leadership	Leadership is a broad field with several different perspectives. Leadership focuses on the role played by leaders steering, shaping and influencing governance.
	Political Interests	Political interests are the personal goals and agendas of individuals and groups.
	Trust	Trust is the level of confidence and belief that exists between individuals and groups.

Table Five: Governance Framework Definitions

The governance elements, and generic definitions, were taken into the field as sensitising concepts to link theory to practice and to use for preliminary analysis of practitioner responses (Miles & Huberman, 1994). After utilising the framework as sensitising concepts to identify governance I used a secondary analysis tool to explore the presence of the governance forms.

**Governance Characteristics**

Reviewing academic literature showed me that the governance elements, and sub-elements, were present in each of the governance forms. What was different was how elements were presented in literature relating to the individual governance forms. I observed common characteristics within forms and contrasting characteristics across forms. Once governance had been identified using the sensitising concepts I found I could use these characteristics to identify the governance forms for further analysis, as shown in Figure ten.

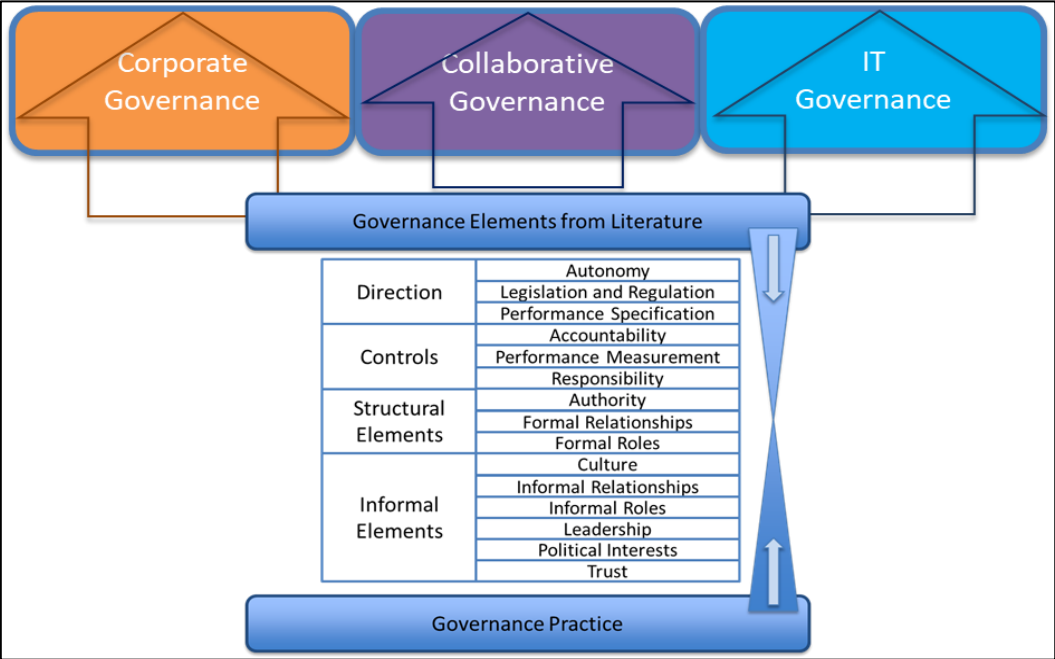


Figure Ten: Characteristics to Explore Governance Forms in Practice

The characteristics for each governance form relating to the elements and sub-elements are presented in Table six.



Element	Sensitising Concept	Corporate Governance	IT Governance	Collaborative Governance
Direction	Governance direction	Direction is aligned to management actions, aligning with the needs of shareholders to maximise returns and shareholder value.	Vertical alignment. IT governance aligns an organisation's ICT with wider organisational strategies.	Collaborative governance direction is outcome focussed, often created by consensus and attempts to ensure the goals of the collaborative initiative reflect the needs of participants.
	Autonomy	Autonomy to act within delegation as defined in roles and responsibilities and organisational processes.	Autonomy is provided by delegation from the corporate governance function to IT governance function. IT governance approval provides formal delegation for delivery by management.	Autonomy is considered from two angles: the autonomy of the collaborative initiative and participants to act; as well as the autonomy of organisations to participate in the collaborative initiative.
	Legislation and Regulation	Legislation and regulation require compliance however they play a limited role as the focus of corporate governance is to maximise shareholder benefit. Legislation and regulation can play a larger role after corporate governance failures.	Legislation and regulation require compliance. Information sharing and outsource agreements can require compliance with international regulations.	Collaborative governance within the public sector can be policy driven and have specific regulatory and legislative obligations.
	Performance specification	Improve performance by ensuring roles and responsibilities are well defined, aligning processes and incentives with strategic goals.	Performance is commonly specified using contractual mechanisms. These include project business cases, service level agreements and outsource contracts.	Performance goals are commonly collectively developed and agreed by participants.

Element	Sensitising Concept	Corporate Governance	IT Governance	Collaborative Governance
Controls	Governance controls	Reliance on formal controls to ensure management actions are aligned with corporate strategy to deliver shareholder value.	IT governance performs monitoring of IT decision making as well as the policies and procedures for controlling IT resources.	Collaborative governance commonly includes horizontal controls including accountability, responsibility and performance measures.
	Accountability	Vertical accountability. Management are held accountable by the board. The board is held accountable by the shareholders. Accountability is formally defined in role descriptions, contracts, policies and performance agreements.	Vertical accountability where IT governance function is accountable to corporate governance function. Parties delivering to IT governance are accountable for agreed deliverables through formal mechanisms including performance agreements, contracts, project business cases and service levels.	Introduction of horizontal and shared accountability still requires formal definition of who is accountable to whom for what, with the ability to sanction.
	Performance measurement	Management performance is measured against contractually agreed performance targets by the board through the use of controls and performance monitoring.	Performance measurement is conducted by the IT governance function based on agreed contractual mechanisms through periodic monitoring, project reporting and contract reviews.	Performance measurement and monitoring is required to ensure the robust evaluation of agreed performance targets.
	Responsibility	Managers answer to the board for decisions they make, similarly the board answers to shareholders. Managers are held responsible for unethical behaviour, particularly if it could damage shareholder value.	Contracted parties are responsible for advising the IT governance function on decisions outside their delegation. The IT governance function is responsible to the corporate governance function for action or inaction.	Collaborative governance entails certain obligations or duties that can be considered ethical, if not legal. This includes a responsibility for participation.

Element	Sensitising Concept	Corporate Governance	IT Governance	Collaborative Governance
Structural	Structural elements	Boards address interactions and relationships through the process of decision making and controls over resources.	Structures capture the governance roles and relationships of parties performing the IT governance function and the authority they are delegated to act.	Collaborative governance commonly recognises horizontal roles and relationships and the influence of stakeholders.
	Authority	Under agency theory the board and management are delegated authority within formally defined, clearly prescribed limits.	The corporate governance function delegates decision making authority to IT governance to ensure strategic alignment.	Authority is present in both formal delegation and through influence.
	Formal roles	Clearly defined roles and job descriptions, use of contractual mechanisms.	Contract-based controls including service level agreements, contract based outsourcing arrangements, or employment contracts and hierarchical controls.	Collaborative governance can consist of formal and informal roles. Over time informal roles and relationships are commonly replaced by inter-organisational structures and processes, including formal roles and responsibilities, for ongoing direction and management.
	Formal relationships	Hierarchy based role accountability and relationships are formally defined through contractual mechanisms in organisational charts.	Industry models define key roles and relationships and methods for mapping accountabilities. An example is the responsibility assignment matrix (RACI).	Collaborative governance can consist of formal and informal relationships. Over time informal roles and relationships are commonly replaced by inter-organisational structures and processes, including formal roles and responsibilities, for ongoing direction and management.

Element	Sensitising Concept	Corporate Governance	IT Governance	Collaborative Governance
Informal	Informal governance elements	Informal elements are to be influenced and controlled through formal mechanisms. Gaps are commonly addressed by the board.	Centralised IT governance seeks to minimise the influence of informal elements to enable control over ICT resources.	Collaborative governance commonly recognises informal governance elements.
	Culture	A culture of self-interest which is aligned to interests of shareholders through incentives and controls.	A culture of compliance. Vendors and ICT employees comply with contracts, the organisation complies with policies and processes.	An outcome based culture looking beyond organisational goals to deliver public value beyond corporate boundary.
	Informal roles	Corporate governance attempts to codify roles and responsibilities to ensure alignment with strategy to deliver shareholder needs. Previously undocumented roles are formalised or managed with board oversight.	Industry models are used to define roles and relationships. New relationships are codified to enable centralised monitoring and control.	Collaborative governance arrangements exist of both formally defined roles and responsibilities and informal interactions between actors. Understanding informal roles and relationships requires interpretation of everyday interactions of network actors.
	Informal relationships	Corporate governance attempts to codify roles and responsibilities to ensure alignment with strategy to deliver shareholder needs. Informal relationships are codified through processes or contracts or managed with board oversight.	IT governance attempts to measure and control activities. Where direct relationships are not captured specified softer measures are used to monitor performance including customer and stakeholder satisfaction scores.	Collaborative governance arrangements exist of both formally defined roles and responsibilities and informal interactions between actors. Understanding informal roles and relationships requires interpretation of everyday interactions of network actors.
	Leadership	The board are responsible for overseeing performance, boards	IT governance focusses upon alignment of ICT activities with	Collaborative governance introduces additional leadership

Element	Sensitising Concept	Corporate Governance	IT Governance	Collaborative Governance
		must ensure these roles are performed; and define the responsibilities of the different parties for performing these roles.	organisational goals. IT governance groups provide direction and controls to ensure alignment and compliance.	challenges including collaborative problem solving, incentivising participation and gaining consensus.
	Political interests	Board and management are opportunistic which is controlled through incentives and controls.	Business units have different requirements. Centralised prioritisation and oversight of ICT decisions enables strategic alignment.	Political interests are recognised and participants may use formal authority or influence to further their interests.
	Trust	Agents are opportunistic, so trust is low, the board are required to align incentives and controls to avoid agency costs.	Trust is dependent upon maturity. In low levels of maturity trust is low and controls used to reduce self-interest. Co-production occurs under high levels of IT governance maturity.	Trust is required to generate mutual understanding and enables participation.

Table Six: Governance Form Characteristics

## Recent Literature

In keeping with my grounded theory research method, review of the state of the existing literature is not a one off but something that is returned to at each phase of the research (Charmaz, 2014). Therefore, after I had completed my grounded theory analysis, I again returned to the literature which had been developing apace. This section provides a synthesis of that more recent governance literature since 2016.

When I began my research, I found limited literature addressing the integration of governance forms (Wilkin & Chenhall, 2010; Hirschheim & Klein, 2012). My literature informed governance framework was a synthesis of governance literature from this earlier time which I used to sensitise my grounded research. In the interim academic literature has continued to explore governance. I have reviewed and presented selected literature to provide insights into recent peer-reviewed thinking about public sector governance and, in particular, the governance of PSISS.

The issues of control and turbulence were observed in recent PSISS governance literature across governance forms. The use of governance controls were identified in literature which promoted alignment of corporate and IT governance controls as a method for addressing board and corporate liability (Tonelli, de Souza Bermejo, Dos Santos, Zuppo, & Zambalde, 2017; Vejseli & Rossmann, 2017). Some of these researchers investigated the use of governance controls to address liability arising from data protection and privacy breaches, as evidenced in the passing of privacy and data protection legislation including the European GDPR (Jackson, 2019). When observed through a historical lens, similar concerns were identified in the 2000's through Sarbanes Oxley and in the 1990's through the Cadbury Report, which resulted in tighter governance controls to address corporate and board liability (Cadbury, 1992; Damianides, 2005).

Other recent examples of research into the use of IT and corporate governance controls have explored the use of industry frameworks, particularly security and audit frameworks (De Haes & Van Grembergen, 2016; Ettish, El-Gazzar, & Jacob, 2017; Wilkin & Chenhall, 2019).

Recent research into IT and corporate governance controls also appear to have built upon previous research from the 2000's into the use of these governance frameworks (Guldentops, 2004; Van Grembergen, 2004; De Haes & Van Grembergen, 2009). These older examples were explored in my initial review of literature where I found much of the corporate and IT governance literature were formalised and rule based with the intention of using controls to mitigate risk. I also found limited integration of academic literature across governance forms, which was supported by a review of IT governance literature conducted by Wilkin and Chenhall (2010) who revealed limited integration of IT governance literature with only 11 of the almost 500 journal articles they reviewed providing a holistic perspective of IT governance. In a follow up study Wilkin and Chenhall (2019) explored IT governance literature developments, and while exploring the use of controls in the governance of IT they also identified an increased literature focus upon governance through IT, where IT controls support corporate governance. This appears to identify a changing relationship between corporate and IT governance through a two-way interaction, rather than the previously presented control of IT by corporate governance. This could be indicative of tensions between governance forms, organisations and individuals as information technology initiatives, like PSISS, can cross organisational boundaries.

These tensions have been defined as ongoing contradictions between co-existing, often inter-dependent, elements (Schad, Raisch, & Smith, 2015; Defillippi & Sydow, 2016), and have been explored in recent research through collaborative inter-organisational projects (Lampel & Braun, 2020) and contrasting governance forms (Plotnikof, 2016).

Much of the research into IT governance and corporate governance promoted the use of governance frameworks as controls to overcome organisational governance tensions (De Haes & Van Grembergen, 2016; Benaroch & Chernobai, 2017). Whilst this research can provide useful insights for integration of these two governance forms, there appears to be an ongoing inherent limitation for public sector governance, particularly for inter-organisational governance arrangements.

Although they advocated alignment between corporate and IT governance through controls, in their review Wilkin and Chenhall (2019) alluded to the limitations of

corporate governance within the public sector, particularly when working in inter-organisational networks. As a result, they identified a gap in knowledge, calling for future research into inter-organisational governance arrangements, and in particular resolution of accountability issues through non-contractual, or informal, governance mechanisms. This call appears to signify a departure from the use of formal, predominantly contract based, vertical controls commonly present in corporate governance under agency theory to deal with turbulence or complexity.

The application of vertical controls for inter-organisational governance arrangements has been criticised, as has the application of corporate and IT governance. Lips (2019) highlighted the nested relationship between corporate governance and IT governance, and the inherent limitations of vertical governance arrangements derived from these governance forms. She also criticised technology led governance approaches (Dunleavy et al., 2005; Dunleavy & Margetts, 2010) as contributing to public sector governance arrangements that have limited system-wide focus, limiting the ability to deliver system outcomes. This brings into question the applicability of IT governance for the governance of inter-organisational IT enabled initiatives like PSISS.

Corporate governance is performed by a board who act as agents overseeing the activities of an organisation, public sector governance is different to a corporation as it occurs across organisational boundaries requiring a system wide governance focus (Lips, 2019). This approach to the governance of social systems, like the public sector, are explored holistically as eco-systems (Steelman, 2016).

My initial review of literature identified theories proposing alternate public sector governance approaches which were technocentric or collaborative (Dunleavy et al., 2005; Stoker, 2006; Ansell & Gash, 2008). Collaborative governance literature has progressed with a range of labels used including multi-level governance, integrative governance, meta-governance and adaptive governance (Ansell & Torfing, 2016; Stout & Love, 2017), with technocentric approaches like Digital Era Governance falling by the wayside (Lips, 2019).

The application of governance mechanisms horizontally across inter-organisational boundaries was more common in collaborative governance literature. In the 1990s



and 2000s collaborative governance literature noted inter-organisational tensions between vertical and horizontal governance arrangements including multiple accountabilities (Christiansen, 1997) integrating policy and implementation, fragmentation of performance management and the applicability of existing audit functions (Considine, 2002; Pollitt, 2003). Subsequently these tensions have been presented as push-pull relationships between government and collaborative governance participants where existing, predominantly vertical, governance arrangements and collaborative governance arrangements are required to co-exist (Edelenbos & van Meerkerk, 2016). The co-existence of vertical and horizontal governance mechanisms in practice points to an ongoing need to incorporate collaborative governance into the investigation of public sector inter-organisational governance arrangements (Lips, 2019).

Reviewing recent collaborative governance literature led to the identification of examples where researchers have attempted to deal with the turbulence and complexity of public sector governance, particularly the challenges of governing across multiple organisations (Ansell et al., 2016; Klasic & Lubell, 2020; Lopes & Farias, 2020). This is not a new challenge given the research investigating the delivery of public value and outcomes in the 1990's and 2000's (Moore, 1995; Osborne, 2010; Scupola & Zanfei, 2016).

Even with the increased body of research literature it has been claimed little is known about collaborative governance, with existing research criticised for producing prescriptive governance arrangements (Gash, 2016). Limited knowledge of participant interests including motives, expectations and meanings attributed to governance arrangements have been identified as a gap in the body of knowledge (Gustafson & Hertting, 2017). These criticisms have resulted in calls for research to (i) investigate participant interests and (ii) increase understanding of the interactions between participants and governance arrangements (Gash, 2016; Gustafson & Hertting, 2017).

In corporate governance literature, governance arrangements for an organisation are overseen by a single board of directors acting as agents for shareholders (Benaroch & Chernobai, 2017). Tensions between participants have been identified in literature when attempts are made to employ corporate governance

arrangements in inter-organisational governance arrangements (Stafford & Stapleton, 2017). These tensions have been observed in the public sector over the past forty years through introduction of corporate governance arrangements through New Public Management and inter-organisational governance arrangements like New Public Governance (Scupola & Zanfei, 2016).

Reflecting upon the nested nature of IT governance within corporate governance arrangements (Ilott, 2016; Vejseli & Rossmann, 2017; Wilkin & Chenhall, 2019) led me to examine nested relationships in public sector and collaborative governance literature. The relationship between the government and public sector has been recognised as a nested governance relationship, and in some cases agents have been authorised to perform governance on the government's behalf (Torfing, 2016b; Gjaltema, Biesbroek, & Termeer, 2019). The presence of nested governance arrangements has been identified as increasing complexity, with construction of a system view recommended as a way to explore nested governance arrangements in collaborative governance arrangements and for public sector governance (Steelman, 2016), particularly for ICT enabled digital services (Lips, 2019).

Academics have explored the applicability of collaborative arrangements for public sector ICT shared services (Torfing, 2016a; Lopes & Farias, 2020), and whether the scope of governance arrangements are scalable to enable inclusion of new organisations or services (Scott & Thomas, 2017; Ansell & Gash, 2018). The introduction of new services and stakeholders has been identified as a potential cause of tensions which has been posed as a governance challenge (Lopes & Farias, 2020). This signifies a gap in knowledge that could be explored through the construction of a system view of PSISS governance in practice to explore tensions between participant interests and PSISS governance arrangements.

Delving further into the literature led me to identify three examples where tensions could be explored: Accountability, Privacy and security, and Projectification.

The first example of tensions identified in academic literature is accountability. Public sector accountability was traditionally between the minister and department. The NPM reforms introduced agency theory to the public sector which reinforced

the use of vertical accountability and associated governance arrangements. Cross-sector initiatives, like PSISS, raised questions about the suitability of vertical governance arrangements, with some academics calling for the introduction of horizontal governance arrangements and accountabilities to other agencies and stakeholders (Torfing, 2016a; Lopes & Farias, 2020).

Poorly designed accountability mechanisms have been identified as resulting in accountability deficits where performance does not meet the expected level of accountability (Schillemans, 2011). The addition of accountability mechanisms to multiple parties has been identified as contributing to accountability deficits, and potential accountability overloads (Bovens, Goodin, Schillemans, & Halachmi, 2014; Han, 2020). The introduction of horizontal governance mechanisms and associated accountabilities have been criticised for adding to accountability deficits and overloads through the additional objectives and expectations, dubbed “the problem of many eyes” (Dormer & Ward, 2018, p2).

Academic literature has explored tensions over the use of horizontal accountability and vertical accountability mechanisms in governance arrangements across organisational boundaries (Edelenbos & van Meerkerk, 2016; Papadopoulos, 2016; Stafford & Stapleton, 2017). These tensions have been explored by researching dimensions including authority (Papadopoulos, 2016; Sorensen & Torfing, 2016; Gjaltema et al., 2019) the use of mandates or agreements (Gash, 2016; Schou & Hjelholt, 2018), participation (Bang, 2016; Scott & Thomas, 2017) and co-production (Bovaird & Loeffler, 2016). This research provides an opportunity to empirically explore the presence of these tensions through governance arrangements in practice.

The second example of tensions identified in literature is between performance targets, privacy and security. E-ID have been presented as passports for the internet, providing trusted identity information which can be used to transact internationally (van Dijck & Jacobs, 2020). As such privacy and security have been identified in academic literature as important design considerations for PSISS (Melin et al., 2016; Houser & Voss, 2018), and as socio-political issues (van Dijck & Jacobs, 2020).

Legislative reform, including GDPR, have been presented as requiring PSISS, and in particular E-ID PSISS, to deliver more than technical security and legal compliance. There is an expectation that governance arrangements for these PSISS have to consider not just electronic transactions between clients and customers, but also national and international privacy and security concerns (Houser & Voss, 2018; van Dijck & Jacobs, 2020). The perceived failure of PSISS to meet legislative privacy requirements, like GDPR, have reinforced these views (Stalla-Bourdillon et al., 2018).

The focus upon the dual PSISS performance targets of reduced cost and increased adoption (Paagman et al., 2015; Zefferer & Teufl, 2015) appears to have introduced tensions about the privacy and security of citizen information, and in some cases a need to redesign services (Göransson, 2018; Houser & Voss, 2018).

The sharing of e-ID information across organisations, and international boundaries, identifies an opportunity to explore governance tensions particularly between PSISS performance targets, security and privacy.

The third example of tensions identified in PSISS governance was identified in projectification, or the widespread use of project management. Project management is a common method to organise the delivery of public sector ICT initiatives, and associated benefits, through formalised processes (Sirisomboonsuk, Gu, Cao, & Burns, 2018; Hodgson et al., 2019). Although the use of project management is widespread, there is a history of public sector ICT project failures (Gauld, 2006; Lofgren & Allen, 2019). The wide-spread use of project management in the public sector has come under scrutiny for contributing to sector fragmentation and promoting a focus on short term deliverables (Derakhshan, Turner, & Mancini, 2019), particularly where policy problems are not clearly defined (Godenhjelm, Sjöblom, & Jensen, 2019). A project management focus on short-term deliverables has been identified as potentially problematic for inter-organisational initiatives, leading to calls for improved governance of projects (Godenhjelm et al., 2019; Hall, 2019; Hodgson et al., 2019).

The common use of project management to deliver benefits appears to conflict with the perception of project failures and academic criticism (Hodgson et al., 2019).

This is particularly concerning when considering the perceived failure of inter-organisational initiatives like PSISS (Stalla-Bourdillon et al., 2018; Godenhjelm et al., 2019). These factors provide an opportunity for empirical exploration of the literature identified tensions in the governance of projects.

Exploration of recent academic literature has identified three examples to explore tensions present in governance arrangements: accountability, privacy and security, and projectification. Conducting empirical research exploring these tensions through practice could provide insights for both practice and academic knowledge. The following section presents a contextual overview of the New Zealand public sector, where my research was conducted.

## Chapter Three. New Zealand Context

This chapter introduces the New Zealand public sector context for the research and a pilot study that was undertaken to trial the use of sensitising concepts to identify PSISS governance in practice. In the first section, the public governance models at work in New Zealand's public sector are outlined, including some of the adjustments and reforms made during the period covered in the research. In the second section I explain a pilot study undertaken to test the fitness of the sensitising concepts synthesised at the end of Chapter two and inform the research design.

### Public Sector Governance in New Zealand

There is a bureaucratic model in evidence. In the form of this model before 1988 the elected government was responsible for the governance of the public sector, with individual ministers responsible for the delivery of their government departments. Public interest was defined by politicians and experts and the public were viewed as largely disinterested in political engagement and participation (Kelly et al., 2002; Stoker, 2006). Elections provided the mandate for public political endorsement with political parties keeping the public interest as the government or in opposition (Considine & Lewis, 2003). Public sector managers were accountable to ministers and had to respond to their political direction. The public sector had a monopoly on the provision of public services and was viewed as inefficient and cumbersome. Public officials were criticised as having too much power. Public sector organisations were commonly called departments, and the main role of departments was to manage inputs (Kelly et al., 2002; Stoker, 2006).

In 1984 New Zealand's debt levels were high and the credit rating had been downgraded. The public sector was seen as an inefficient overhead (Chapman & Duncan, 2007), and highly centralised, particularly information systems which were centrally provided by Government Computing Services (GCS) (Jensen, 2003). These factors were the target of change when the bureaucratic model was replaced by some comprehensive changes to the model that have subsequently been grouped together as the NPM reforms (Boston, 2011).

NPM changed New Zealand's public sector governance model from a centrally controlled bureaucracy to a contract based system with increased agency authority

and autonomy (Halligan, 2007; Pollitt, 2017). New Zealand undertook a large change programme with aggressive timeframes introducing private sector methods to improve public sector performance (Stoker, 2006). These changes were considered the most radical and complete public reform of any country in the OECD (Chapman & Duncan, 2007).

The NPM reforms have been characterised as organisational change, and considered the dominant idea behind management and governance change in the public sector for two decades since their introduction in the 1980s (Dunleavy et al., 2005). The government implemented multiple legislative changes that altered Chief Executive authority and autonomy, governance roles and relationships, and the accountability framework. These changes were primarily through amendments to the State-Owned Enterprises Act 1986, the State Sector Act 1988 and the Public Finance Act 1987 (Norman, 2003). The legislative reform introduced public sector organisation types including agencies, crown entities, crown agents and state-owned enterprises (State Services Commission, 2019b). For clarity the term agency will be used to describe post reform public sector organisations.

The State Owned Enterprises Act provided principles for governance and accountability, establishing trading services into profit driven companies. The SSA outlined arrangements for administration and oversight of government agencies (Treasury, 2005). The Act placed chief executives in charge of agencies with increased decision making ability (Baehler, 2003; Jensen, 2003). Informed by agency theory chief executives, as agents of the government, were provided delegated authority and autonomy to manage their agencies thereby reducing the role of the State Services Commission (Newberry & Pallot, 2003; Chapman & Duncan, 2007). The PFA delegated responsibility for financial management to agencies while the Treasury retained some supervisory oversight. Chief executives were made accountable for agency performance leading to a silo based approach with vertical governance structures and relationships (Perera, Velayutham, & Rahman, 2001; Jensen, 2003).

The relationship between ministers and chief executives formed part of a wider set of relationships including Cabinet, individual ministers and the wider public service, all of whom performed elements of governance (Scott, 2003).

Cabinet leads the Executive branch, directing individual ministers, who in turn direct public servants, in particular chief executives, who act as administrative heads of agencies. Cabinet must retain the confidence of the House or lose the ability to form a government. Unanimity means Cabinet speaks with one voice and binds individual ministers to support Cabinet decisions. Cabinet must maintain confidentiality of Cabinet discussions. Confidentiality and unanimity reinforce each other (Palmer, 2006).

Unanimity provides clarity on the government's policy direction. The government has political accountability, to the people through the Parliament and their elected representatives. This includes accountability to the public for the actions of agencies implementing their policies. Agencies in turn are managerially accountable to the government for their use of resources and delegated authority (Wallis & Gregory, 2009).

Political accountability translates into individual ministerial responsibility and the requirement to toe the party line or face removal. The ability to remove ministers based on the doctrines of unanimity or individual ministerial responsibility are key components of prime ministerial power, and can profoundly affect the relationship between chief executives and their ministers (Palmer, 2006).

Ministers collectively constitute the Executive who administer or execute policy. Ministers are accountable to Parliament for ensuring their departments perform efficiently and effectively (Gregory, 1998; Cabinet Office, 2017). They are supported in their portfolios by the public service. Ministers are expected to provide direction and priorities for the public service, however, they are not expected to interfere in day-to-day management. In carrying out their roles public servants are expected to support ministerial portfolio functions, develop strategies that support the aims of their minister and implement the policies of the government (Cabinet Office, 2017).

Managerial decision making authority is delegated to the chief executives (Norman, 2003; Duggett, 2009). For example prior to NPM, government ICT services were provided by Government Computing Services which was sold to EDS in 1995 (Bradbury, 1999). The sale of GCS increased agency ability to



provide their own organisational ICT services through increased chief executive authority and autonomy (Jensen, 2003).

While NPM enabled the delegation of managerial authority from government to public sector organisations, it appeared to introduce confusion about who is responsible for the delivery of outcomes. Fragmentation of the public sector into narrowly focussed organisations led to chief executives being responsible for specific deliverables called outputs, and in some cases within the jurisdiction of their agency, but left uncertainty about accountability for the delivery of inter-agency outcomes (Cook, 2004). The perceived riskiness of needing to rely on other agencies for successful delivery of their outcomes contributed to a lack of desire for interagency collaboration. Norman (2003) used a metaphor for the move from bureaucracy to NPM as killing off organisational dinosaurs yet spawning packs of velociraptors with strong appetites for private sector independence, often beyond the appetites of the government. Other criticisms include limited cross-government collaboration, excessive managerial autonomy, reliance on legislative reform and a vertical governance focus (Boston, 2011; Lindquist, 2011).

A centre left coalition government elected in 1999, oversaw a second generation of governance reforms including the introduction of Managing For Outcomes (MFO) and legislative change (Chapman & Duncan, 2007). Schick (1996) highlighted the lack of coordination between agencies, limiting the ability to manage resources to deliver outcomes (Cook, 2004). Areas targeted for improvement included integration of services across agencies and improved state sector alignment (Mallard, 2001). MFO was based on public value (Cook, 2004), through meeting the needs of the public (Moore, 1995; Spano, 2009).

Outcomes can be complex and may require inputs from several agencies, making them difficult to co-ordinate and measure, particularly with the silo based public sector introduced through NPM (Alford & O'Flynn, 2009; Rutgers, 2009). Under MFO departments were encouraged to demonstrate how they contribute to outcomes (MFO Steering Group, 2003).

The MFO framework defined three levels of measurement for the services provided by the government: Outcomes, Impacts and Outputs. Outputs are goods and

services ministers purchase from public and private sector providers. Outcomes are impacts from delivery of an output or class of outputs. Impacts are intermediate term outcomes. The government purchased outputs to deliver desired outcomes from government agencies or third parties (State Services Commission, 2008c; Treasury, 2017).

MFO took a citizen centric approach identifying policy value as residing in implementation and measured in how citizens and clients respond to outcomes (MFO Steering Group, 2003; Ryan, 2006). To support MFO the government introduced legislative reform to improve whole of government service delivery (Chapman & Duncan, 2007; Parliament, 2008), including amendment to the Public Finance Act 1989; amendment to the State Sector Act 1988; and The Crown Entities Act 2004 (Newberry & Pallot, 2005; Treasury, 2005). The legislative reforms were intended to improve integration of service delivery by providing for multi-output appropriations to improve interoperability between agencies and delivery of outcomes, and providing the State Services Commissioner a wider remit across the government (Chapman & Duncan, 2007).

### ICT in the Public Sector

Many post NPM initiatives, like e-government, were led by the SSC who were accountable for both overseeing the public sector and delivering shared services (State Services Commission, 2006a, 2008b). SSC created the e-Government Unit, establishing the Government Chief Information Officer (GCIO) and investigating the introduction of PSISS to improve coherence and integration of public sector services (State Services Commission, 2003b).

In essence, legislative changes since 2000 made minimal changes to the core elements introduced by the earlier NPM reforms. There were new requirements for more consistent governance and accountabilities with increased monitoring by central agencies (Chapman & Duncan, 2007). SSC and Treasury were critical of the silo-based public sector, apportioning blame for the failure of collaborative initiatives on limited chief executive accountability. They believed without outcome based performance requirements chief executives simply delivered their outputs and avoided collaboration (State Services Commission & Treasury, 2005).

SSC's role changed in the late 2000s in respect of e-government following the failure of several SSC led e-government initiatives: the Government Shared Network (GSN), and removal of the GCIO Laurence Millar. The e-government implementation arm, Government Technology Services (GTS), moved from SSC to DIA (Pullar-Strecker, 2009). Tensions emerged between GCIO and GTS with the general manager of GTS, Stephen Crombie, critical of governance arrangements stating, "government ICT projects, both locally and internationally, had failed because of the absence of a solid strategy and effective governance." Millar countered arguing that public sector system "savings weren't reflected in the cost of the project. It was losing half-a-million dollars a month but was saving much more across government. Yet, in a narrow accounting concept, it was a failure" (Pullar-Strecker & McEntee, 2009, p. 1).

Around 2008, after nine years of global and nationwide economic growth and stability, economic conditions changed with New Zealand and the world faced with recession. A newly elected more centre-right government saw that budget deficits for the next 10 years were projected to reach \$12 billion. In response Deputy Prime Minister Bill English stated the public sector was facing significant long-term change and called for agencies to do more with the same funding or possibly more with less (Small, 2009b).

Agencies were asked to find savings through line by line reviews and reduced funding caused internal pressures to reprioritise expenditure, reallocate resources and increase cost reduction. The pressure for cost reduction led to the establishment of several efficiency initiatives including improvement of administrative and support services, agency performance, cross-government ICT services, procurement and the creation of centres of expertise (Treasury, 2010). As well as shared services moving to DIA (Pullar-Strecker, 2009), SSC lost capability through budget cuts and the loss of 22 jobs (Small, 2009a).

The Executive established new priorities for ICT supported by new legislation, overseen by a Cabinet committee who issued a directive mandating client adoption of PSISS (Cabinet Office, 2010a). DIA provided leadership for sector ICT, established new governance arrangements and provided direction by issuing the New Zealand Government ICT Strategy and Action Plan to 2017 (Department of

Internal Affairs, 2013b). New targets for PSISS adoption were set, reset, and in many cases failed to be met (Department of Internal Affairs, 2014a, 2015a, 2017d). In 2015 the monitoring of large public sector projects was moved from SSC to Treasury (Treasury, 2017).

In 2017 after nine years of centre-right government another government has introduced new legislation to reform the public sector (Hipkins, 2018; State Services Commission, 2019c). The proposed reforms include cross-sector governance changes to improve outcomes to citizens (State Services Commission, 2019a).

DIA continues as lead agency for public sector ICT, which is now called functional leadership. The Chief Executive of DIA has had a title change from GCIO to Government Chief Digital Officer (GCDO). New targets have been agreed with the Executive, through a Cabinet committee, for the delivery of shared services through to 2021 (Dunne, 2017a). These changes occurred with a backdrop of technology failures in large agency ICT enabled programmes at the New Zealand Transport Agency and Statistics New Zealand, and criticism of the government's approach to technology leadership, all of which have received widespread media coverage (Cropp, 2019; Dreaver, 2019; Pennington, 2019; Pullar-Strecker, 2019).

In this brief overview of public sector governance changes we see how the Executive has shaped and reshaped the public sector through legislation and regulative changes. There were changes to the relationships and roles played through the introduction of contractual mechanisms for performance specification and management which in turn impacted accountability relationships. Exploring the New Zealand reforms in this way identifies some of the parties involved in the governance of PSISS and shows how their roles and relationships have changed over time.

### **Pilot Study – Government Shared Network**

When initiating this research, I was concerned the academic literature we met in Chapter two might not allow adequate identification of governance sub-elements in practice and conversely if my framework might have too many sub-elements to conduct research. I also wanted to trial my framework as a set of sensitising

concepts on a PSISS that had been in place in the same operating environment as my selected PSISS and during similar time periods. The pilot also enabled me to identify PSISS governance participants for my research design.

Before entering the field, I ran a pilot to trial my interview protocol and use of governance framework as sensitising concepts (Davenport & Markus, 1999; O'Leary, 2010) with experts involved in the governance of the Government Shared Network PSISS.

Interviews were conducted with six expert practitioners who had held senior executive positions with experience of the governance of PSISS in New Zealand. Interviewees were selected due to their PSISS experience. This was a snowball sample, and did not purport to represent the full spectrum of views (O'Leary, 2010). Human Ethics Committee (HEC) approval and approval from participants was obtained before commencing interviews. Participants took part in individual face-to-face semi-structured interviews of about one hour. Qualitative data analysis was conducted concurrently with data collection, using NVivo version 9 to enable emergent participant insights to be incorporated into future and follow up interviews (O'Leary, 2010). The interviews identified governance elements in practice and explored practitioner views on the governance of PSISS.

**Pilot Study Description.** In 2004 SSC conducted an ICT feasibility scoping exercise based on the premise of rationalised ICT infrastructure. The scoping found an all-of-government shared network may provide benefits, however no other PSISS's were deemed suitable. As a result, the Government Shared Network was created. The possibility of a directive mandating GSN adoption was debated and rejected (Cabinet Office, 2007).

GSN was provided by Government Technology Services at SSC. GSN was to provide network infrastructure services government agencies could opt to adopt (State Services Commission, 2008a). GSN was expected to provide increased bandwidth and better service quality to agencies at a cheaper cost than they were currently paying. The GSN was supplied at a cost of \$21.7 million for 2006/7 which was \$8.5 million more than forecast in supplementary estimates. This breached the Public Finance Act and required a write down of the assets by \$10.6

million. This loss was blamed on poor client adoption of the GSN and contributed to the GCIO resigning (State Services Commission, 2008a; Walter, 2009).

An independent review of GSN was commissioned by the State Services Commissioner (State Services Commission, 2008a). The GSN failure was a catalyst for moving GTS from SSC to the Department of Internal Affairs. The role of GCIO, the GTS unit, services, 62 employees and \$15 million of assets were transferred on 1 July 2009 (State Services Commission, 2009; Department of Internal Affairs, 2011b). GSN was redesigned and rebranded as one.govt and provided by GTS at DIA (Gillespie, 2010).

On the 22<sup>nd</sup> of September 2010 public service agencies were directed by the Cabinet Economic Growth and Infrastructure Committee (CEGIC) to adopt PSISS unless they had a compelling reason to opt out (Cabinet Office, 2010a). Any agency wishing to opt out, or taking action to undermine the programme, would be reported to the Expenditure Control Committee (Brownlee, 2010).

Based on case documents the major difference was GSN had no mandate, whereas one.govt had a mandate. Contractual arrangements were used by both GSN and one.govt for performance specification and performance measurement between provider, vendors and clients.

The presence or absence of a directive mandating service adoption provided a point for analysis using my sensitising concepts. Similarly, contractual arrangements were used for the analysis of the governance sub-elements performance specification and measurement as shown in Figure eleven.

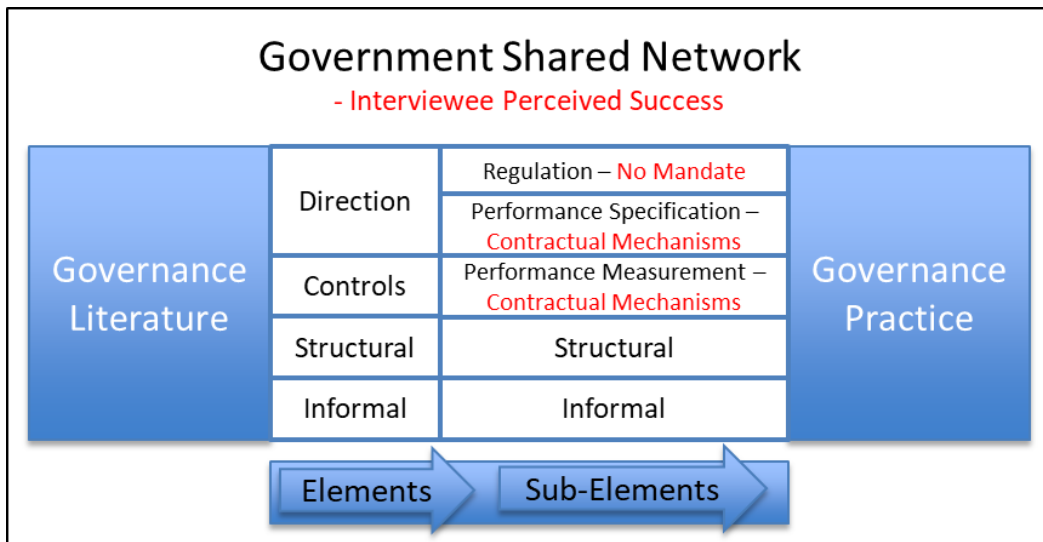


Figure Eleven: Government Shared Network

Although contractual arrangements appear to have been used both times, interviewees perceived a difference in their use. GSN was criticised for having poorly defined contracts that were not quantifiably measurable. On one hand one.govt was praised by interviewees for providing clearly defined, measurable performance criteria in their contracts. On the other hand, an interviewee inferred that, if the mandate was in place for GSN the service would have cost a lot more money and in their opinion would not have delivered a usable service. The elements and sub-elements identified by interviewees for one.govt are presented in Figure twelve.

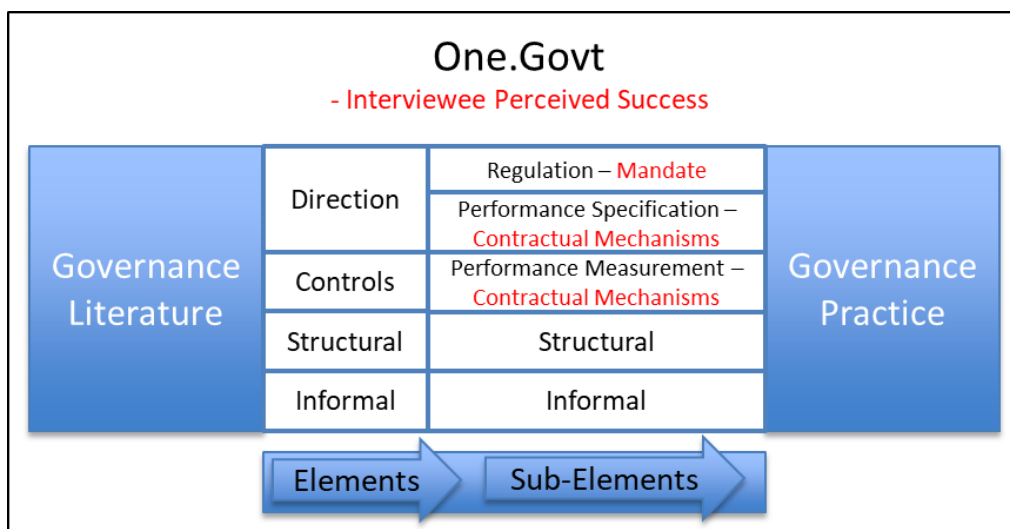


Figure Twelve: One.Govt

As shown in the illustrative example the pilot suggested using sensitising concepts for analysis would be relevant. Evidence of all sub-elements were identified in the analysis of the interviews, providing confidence in the empirical relevance of using the governance framework to conduct the research. No other sub-elements were identified.

Having developed, and piloted, my governance framework as sensitising concepts provided confidence for use in the field. I gained valuable feedback from participants on the interview process and piloting enabled me to improve my interview technique and identify potential issues with conducting interviews and analysis. The results of my pilot were used to refine my research design and select the PSISS I would research (O'Leary, 2010).

In the next chapter I use the introduction to New Zealand's public sector governance and the findings from my pilot study to set out the research design to answer my research questions.



## Chapter Four. Research Design

This chapter presents my plan for conducting empirical research and explains the decisions I made when implementing my plan (Holloway, 1997). The first part presents my paradigm and method decisions, while the second details how I conducted my research and justifies my choices.

### Paradigm and Method Decisions

This section starts by reintroducing my research problem and research questions before exploring research design selection.

#### Research Problem

Governments have invested heavily in Public Sector ICT Shared Services with the intention of providing improved services to clients and customers, whilst providing savings across government. Unfortunately, these benefits have commonly failed to materialise. Governance and governance arrangements have been identified as contributing to the perceived failure of these services (National Audit Office, 2012).

In Chapter two we saw that current knowledge of PSISS governance is principally informed by literature from three domains: management, public administration and information systems. Each of these domains holds segmented or silo-like worldviews of governance arising from a specific domain and the governance focus within that domain field.

As a result, the governance of PSISS could be at best unhelpful and even confusing to practitioners. This state of knowledge is not assisted by segmented domains or the tendency to simplify governance into “how to govern” guides that obscure their different theoretical origins and do not appear to address the complexity of PSISS governance.

#### Research Questions

Despite the range of literature and practice discourses, practitioners are expected to use this segmented literature to develop governance arrangements and perform

PSISS governance. This led me to ask my first research question: *How do practitioners perceive PSISS governance in practice?*

Conducting grounded theory analysis enabled development of a mid-range theory supported by a governance practice narrative, and the means to answer my secondary research question: *How have governance arrangements addressed critical issues in public sector governance?*

### Research Paradigm

All empirical research is interpreted by the researcher who uses empirical data, regardless of how it is collected and analysed, to draw inferences and conclusions. How these inferences are made depends upon ontology, epistemology and methodology, collectively referred to as a research paradigm (Denzin & Lincoln, 2005; Willis, 2007).

A research paradigm is a philosophical model reflecting the world view, belief system, common assumptions and values shared by a scientific community when conducting research (Holloway, 1997). A researcher adopts a paradigm when conducting research and must defend that decision (Blaikie, 2007). This is important as justification is viewed as a key element for the acceptance of knowledge (Brueckner, 2008). I evaluated four paradigms: positivist, post positivist, constructivist and critical theory for their fit with my research question, finally selecting the constructivist paradigm.

**Paradigm Selection.** Governance is a contested concept with a variety of definitions, originating across domains (Frederickson, 2005; Rhodes, 2007). Given the perception that governance has contributed to the failure of PSISS, there is merit in gaining a deeper understanding of the governance of PSISS. How I approach this depends upon my research paradigm.

My research focuses upon the gap between theory and practice and the need to gain an understanding of the social interactions and context, requiring interpretation of practitioner perspectives combined with insights from theory, previous research and secondary literature (Marshall & Rossman, 2006; Tavory & Timmermans, 2014).

Constructivists view reality as social in nature and embrace understanding from a wide range of participants in the phenomenon. They view meaning as constructed by people interacting with the world (Crotty, 1998). My research aim was working with participants in the governance of PSISS to gain a deeper understanding based on their experience, which is consistent with the constructivist paradigm.

Ontologically constructivists accept there are multiple viewpoints that are equally valid. Knowledge is constructed based on the views of participants (Orlikowski & Baroudi, 1991; Guba & Lincoln, 1994). This differs ontologically from positivist and post positivist realist ontologies. Rather than seeking objective truth constructivists seek subjective knowledge (Creswell, 2009). Constructivists conduct research in a natural setting with participants involved in the phenomenon and seek to interpret it through them. The researcher is seen as part of the context and brings their experience to the research (Denzin & Lincoln, 2005; Corbin & Strauss, 2008), which is consistent with my use of sensitising concepts as an entry point.

### Research Approach

An important consideration when selecting a research methodology is whether the research is conducted using quantitative, qualitative or mixed methods. Scientific research is grounded in quantitative research (Chua, 1986). Qualitative research methods came to prominence in the 1960s to investigate real world settings and capture contextual richness (Crotty, 1998; Yin, 2011). Another option is to use a combination of qualitative and quantitative research called mixed methods (Johnson & Onwuengbuzie, 2004).

**Approach Selection.** Reflecting upon the fit between philosophy and qualitative research, constructivists commonly employ qualitative methods to gain a deeper understanding of a phenomenon through the views of multiple participants (Creswell, 2009; Jarvensivu & Tornroos, 2010). This aligns with my use of qualitative methods to gain a deeper understanding through participant perspectives, making qualitative methods suitable for conducting this research.

A research design and associated methodology should be suitable for answering the research problem. My research will use participant perspectives to access their

understanding of a relatively new real-world phenomenon (Charmaz, 2014). There are a limited number of experts involved in governance of PSISS in New Zealand, limiting the effectiveness of quantitative approaches. Similarly the research seeks to explore the phenomenon from a public administration perspective through the richness of participant experience which requires open-ended questions and the ability to explore understanding as it emerges (Corbin & Strauss, 2008; Yin, 2011). These characteristics align well with qualitative research. Qualitative research studies real-world phenomena focussing on the views of participants and the contextual conditions. As a qualitative researcher I needed to get close enough to the phenomenon to gain an in-depth understanding and capture what was actually occurring through the views of participants, including gathering direct quotes to explore the phenomenon (Patton, 2002). Mixed methods were discounted as qualitative methods appear to provide a reasonable research strategy and the additional design requirements appeared to outweigh the benefits of adding quantitative research methods.

Qualitative research was selected as it is useful for investigating contemporary issues, particularly where boundaries between phenomenon and context are not clearly defined, which appears to fit for PSISS governance (Miles & Huberman, 1994; Darke, Shanks, & Broadbent, 1998).

### Research Methodology

Grounded theory research is grounded in the behaviour, words and actions of those being studied. Methodologically the researcher enters the world being studied to observe the interactions and interpretations that occur (Goulding, 2002).

Using a constructivist approach all knowledge is considered as a valid input, including that which occurs before as well as during the research (Corbin & Strauss, 2008; Charmaz, 2014).

Scholars have debated which paradigms are aligned to grounded theory research. Looking at some of the key grounded theory practitioners: Glaser's work has been considered post-positivist, with others including Corbin adopting a constructivist worldview (Corbin & Strauss, 2008; Birks & Mills, 2010; Charmaz, 2014). What can be taken from this debate is exemplary grounded theory has been conducted

using different philosophical positions, including a constructivist philosophical worldview.

Constructivist grounded theory research investigates a single phenomenon through participant perspectives in a natural setting using qualitative methods to gain a deeper understanding (Creswell, 2009). Qualitative research investigates a phenomenon by gaining a deeper understanding through eyes of participants. As constructivist research is context based it is suited to a qualitative case as it considers the understanding constructed by participants in the context being researched (Jarvensivu & Tornroos, 2010).

I found grounded theory would provide me with the ability to analyse data to construct mid-range theory from practitioner perspectives. The selection of a single PSISS as a critical case enabled me to place a boundary around the scope of my research.

A critical case has strategic importance for researching a phenomenon, in this case PSISS governance (Flyvbjerg, 2006). As identified in Chapter two E-ID are presented, in literature and practice, as a prerequisite for the delivery of secure shared services that protect customer privacy. The E-ID selected has strategic importance as 20 years of practitioner insights can be sought into the governance of the PSISS. My selection criteria are presented in the research conduct section.

Using a constructivist lens, I have applied grounded theory to construct theory by becoming a part of the research process, gaining a deeper understanding of the influence of governance on PSISS through participant perspectives coupled with my knowledge and experience (Corbin & Strauss, 2008; Charmaz, 2014). I brought my previous experience to the field, which included my literature based governance elements in the form of a conceptual framework and characteristics model (Miles & Huberman, 1994; Corbin & Strauss, 2008).

Grounded theory was introduced to discover theory from data, based on systematic collection and analysis (Glaser & Strauss, 1967). Rather than trying to develop universal top down theories, grounded theory offers practical mid-range theory building (Glaser & Strauss, 1967; Corbin & Strauss, 2008). Grounded theory is a non-positivist, qualitative methodology that utilises inductive procedures to

identify theoretical concepts from data, based on respondents' perspectives on their own experiences of the phenomenon being researched (Corbin & Strauss, 2008).

Glaser and Strauss have since disagreed about how grounded theory research should be conducted. Glaser advocated approaching the research with an open mind, whereas Strauss allowed the researcher to enter the field with research questions enabling the use of personal experience, knowledge and literature (Miles & Huberman, 1994; Goulding, 2002). Other scholars subsequently introduced alternate approaches to conducting grounded theory (Charmaz, 2014). My research follows Strauss' approach and my grounded theory research design was based upon the work of Corbin and Strauss (2008).

Data collection for grounded theory can come from a range of different qualitative sources (Marshall & Rossman, 2006; Corbin & Strauss, 2008; Charmaz, 2014). I explore qualitative methods for data collection in the following section.

### Data Collection

Qualitative data can be collected from three sources: direct observation, documents and interviews. Observation occurs within the setting where the researcher captures detailed descriptions of activities in practice. Document analysis uses excerpts to capture the context and meaning from published materials. Interviews are useful for generating direct quotes from participants in the phenomenon under investigation (Patton, 2002).

I sought to gain a deeper understanding of PSISS governance through participant insights (Corbin & Strauss, 2008). In New Zealand, where I am conducting my research, PSISS have been around since the early 2000s. As there are a limited number of participants involved in the governance of PSISS in New Zealand, I decided to draw on the perspectives of participants involved over the full life to date of the service with the drawback that previous participants no longer involved in the governance of the PSISS could not be directly observed. The use of documents has limitations in that there is no ability to prompt for clarification to gain a deeper insight into participant understanding. Interviews were selected as the most suitable method to collect data for my research.

Interviewing requires more than turning up and asking questions (Patton, 2002). I developed an interview protocol to define the questions and guide the interviews (Galletta, 2013; Charmaz, 2014). As part of the interview protocol I considered whether to use open or closed questions. Closed questions were discounted as they would not elicit enough of what is not already known or contribute to deepening understanding. Open-ended questions are useful for gaining rich data grounded in participant experience from the domain which the research is being conducted. Using open-ended questions enabled me to draw participants into the research (Galletta, 2013).

I chose to undertake semi-structured interviews with open ended questions. Semi-structured interviews are favoured by grounded theory researchers as they can assist with generation of rich accounts of a participant's experience, yet still provide the flexibility for the interview to open up relevant areas the researcher had not previously considered (Goulding, 2002).

Interviews are the primary method of data collection however documents, including academic and practice literature, were used for theoretical integration and mid-range theory construction (Patton, 2002; Charmaz, 2014; Tavory & Timmermans, 2014).

### Data Analysis

Data analysis was conducted to build mid-range theory using grounded theory based on Corbin and Strauss (2008). They present theory building as a process that starts by creating concepts from the raw data, defining the relationships between concepts to identify categories, and integrating categories into a theoretical whole with each step of analysis captured in memos. To support researchers using their process Corbin and Strauss (2008) provide thirteen tools that can be used to perform grounded theory and I discuss the tools I selected and how I used them to conduct analysis and construct theory.

### Theoretical Integration

According to Corbin and Strauss (2008) theoretical integration is the construction and validation of a theory of practice grounded in empirical data through the

integration of categories into a central category. Theoretical integration requires internal and external validation. Internal validation requires the categories to be integrated into a rich, cohesive whole; which resonates with practitioners.

My research has two questions. The first question: *How do practitioners perceive PSISS governance in practice?* can be answered through the construction of a grounded theory using practitioner perspectives. This requires theoretical integration to ensure the grounded theory resonates with practitioners.

My second research question: *How have governance arrangements addressed critical issues in public sector governance?* requires an additional round of theoretical integration to enable external validity.

Charmaz (2014) asserts external validity requires reflexive interplay between practice, case documentation, and theory, with the interplay used to conduct theoretical integration.

The addition of documents relating to the governance of the researched PSISS can be used to “corroborate or refute, elucidate, or expand on findings across other data sources” to aid with validation and guard against bias (Gross, 2018, p. 545). Conversely, other scholars warn the addition of case documents can introduce bias as they have been created for a purpose other than the research, and can require management to ensure the selected documents will contribute to the research, which requires qualitative document analysis (Denzin & Lincoln, 2005; O’Leary, 2010). I therefore decided to conduct theoretical integration with the addition of case documents using qualitative document analysis based on O’Leary’s (2010) six step process for textural analysis to construct what I refer to as an official narrative. This process was selected as it is an iterative approach and enabled the reflexive analysis required for theoretical integration.

Reflexive analysis of my grounded theory, case documents and theory enabled theoretical integration (Corbin & Strauss, 2008; Charmaz, 2014). This was conducted to construct and validate a mid-range theory against current literature that answers my second question: *How have governance arrangements addressed critical issues in public sector governance?*



## Quality

Following Corbin and Strauss (2008) enabled me to enter the field with research questions enabling the use of personal experience, knowledge and literature. As an internal researcher I had prior knowledge of the phenomenon and participants. I sought to address personal bias by employing techniques to ensure the trustworthiness of the data I was gathering and that my findings were as accurate as possible. Internal, or self-reflexivity was sought, acknowledging the role I play as a constructivist researcher whilst ensuring the research accurately reflected the views of participants. Self-reflection was greatly assisted through the use of memos. Corbin and Strauss address bias through Sensitivity, which was sought in the collection and analysis of data, employing external reflexivity through validation with participants and supervisors, and strengthened through the use of multiple narratives. Research quality was assessed using the ten quality criteria presented by Corbin and Strauss (2008, pp. 305-307) presented in Table seven.

Quality Criteria	Description
Fit	Do the findings resonate with professionals and participants?
Applicability of findings	Do the findings offer new explanations or insights? Do they add to the existing knowledge?
Concepts	Have concepts been developed and can they be used to foster common understanding?
Contextualisation of concepts	Do the findings reflect the context and associated influence on concepts?
Logic	Is there a logical flow of ideas, so the findings make sense?
Depth	Are concepts described richly to increase understanding?
Variation	Is the complexity of the context reflected in the findings?
Creativity	Does the research say something new or present old ideas in a new way?
Sensitivity	Did the researcher demonstrate sensitivity to the data? Did the data drive the results?

Evidence of memos	There should be evidence of memos in the final report.
-------------------	--

Table Seven: Research Quality

### Research Conduct

This section documents how I conducted my research. A research conduct overview was used to guide the research and support analysis and methodical conduct (Yin, 2011; Tavory & Timmermans, 2014). The overview was used as an outline rather than a prescriptive plan, to ensure coverage whilst enabling the incorporation of emergent concepts and categories. As such it is a useful tool for providing the reader with a high-level view of research design decisions. The overview was evaluated through the research process to enable changes to be incorporated (Yin, 2011). I found this to be a useful tool for maintaining methodological coherence across my research methods and activities as the grounded theory guidance was predominantly focussed upon analysis (Corbin & Strauss, 2008). My research overview is shown in Table eight.

<b>Requirement</b>	<b>Response</b>
The literature review identified a common language requirement for multidisciplinary research, in this instance PSISS governance (Davenport & Markus, 1999; Gregor, 2006).	I developed a literature informed governance framework that identified and defined generic elements and sub-elements present in all governance forms. This framework provides a common language for governance and sensitising concepts that enable the identification and analysis of governance in practice.
The literature review identified multidisciplinary research requires a method to identify and analyse theory, in this instance governance forms, in practice (Gregor, 2006).	My governance framework enables identification of governance in practice. I have extended the framework to create a characteristics model that enables the identification and analysis of theory from governance forms in practice.
Qualitative data collection will occur through semi-structured interviews supported by documentation. Conducting semi-structured interviews requires planning and the creation of an interview protocol (Galletta, 2013).	I created an interview protocol to guide data collection. My protocol included an interview schedule outlining questions (Appendix B), an information sheet and consent form.
Frameworks, models and data collection and analysis methods	A pilot study was planned and conducted after ethical and participant approval was

should be trialled before entering the field (O'Leary, 2010).	gained. Insights were used to refine frameworks, models and methods.
Before conducting data collection ethical and participant approval is required.	HEC and participant approval was gained for both pilot study and subsequent field work.
Identify boundaries of research phenomenon and select a PSISS to research.	Criteria for selection of PSISS were defined and used to select the electronic identity PSISS RealMe.
Perform data collection.	Data collection was performed using the refined interview protocol.
Gain a deeper understanding of governance in practice.	Grounded theory analysis was conducted using my governance framework as sensitising concepts, leading to theoretical integration based on Strauss and Corbin (2008). Reflection of findings against academic and secondary literature sources was conducted to provide thematic integration and development of mid-range theory (Corbin & Strauss, 2008; Alvesson & Kärreman, 2011).
External validity requires reflexive interplay between practice, case documentation, and theory to conduct theoretical integration (Charmaz, 2014).	A second round of theoretical integration was conducted using reflexive interplay to integrate the practitioner narrative, official narrative and existing theory.

Table Eight: Research Conduct Overview

### Framework and Characteristics Models

The literature review identified PSISS governance as multidisciplinary, with governance forms from multiple academic domains employed in the public sector. Multidisciplinary researchers have identified requirements for a common language and methods. This section introduces my governance framework and characteristics model used to meet these requirements.

Regardless of an inductive approach, theory and previous experience sensitises a researcher to how data is likely to be grouped (Miles & Huberman, 1994). A conceptual framework is a tool that explains the main things being studied and the relationships between them (Miles & Huberman, 1994; Corbin & Strauss, 2008). Grounded theorists commonly develop a conceptual framework and take it into the field for testing, refinement or qualification. The conceptual framework often

evolves out of the research through interaction and analysis. A conceptual framework can be considered as the current version of a researcher's map of the area under research. As the researcher's knowledge of the area increases the map becomes increasingly grounded and better defined (Miles & Huberman, 1994).

Conceptual frameworks lend themselves to graphical representation that outlines prior theorising and empirical research to identify relationships, variables, gaps and overlaps in existing knowledge. This representation can be refined several times through field work and reflection upon theory (Miles & Huberman, 1994).

Governance literature as a phenomenon is theorised across multiple academic domains. Practitioners were developing PSISS governance arrangements using literature from three academic domains, using three governance forms and trying to perform governance in the public sector using these arrangements. This led me to question how I could identify governance in practice. After reviewing 250 academic governance papers I found fifteen common governance elements to enable identification of governance in practice (O'Leary, 2010). What I observed was, although the common elements were present in all three governance forms, each form attributed different characteristics to the elements. I came to the realisation I could take the governance elements into the field, however I would need to populate them using practitioner perspectives (Mills et al., 2006; Corbin & Strauss, 2008; Offe, 2009).

To guide me in the field I created broad definitions for each element to use as sensitising concepts, providing me with a general reference to guide me in identifying empirical evidence of governance (Blumer, 1954; Miles & Huberman, 1994). I placed the elements and broad definitions in a literature informed governance framework that I could use as a personal reference but would not show to practitioners (Miles & Huberman, 1994; Corbin & Strauss, 2008). I later extended my governance framework to include characteristics from governance forms for each governance element which could be used for grounded theory analysis (Bowen, 2006).

My framework was refined in a pilot study of a shared service, the Government Shared Network, through interaction with research participants. My framework was presented to academics and practitioners for further feedback and refinement.

In this current research my literature informed governance framework was used to provide a useful list of initial concepts for analysis. However, consistent with my grounded theory approach, I took care to remain open to new ideas and concepts and to let go if literature concepts did not fit the data (Corbin & Strauss, 2008, p. 21). My framework was used as sensitising concepts to identify governance in practice and for initial analysis, contributing to the creation of concepts and providing depth for explanation. Interplay and constant comparison in theoretical integration between academic literature (theory) and observations from practitioner perspectives (practice) enabled me to refine my framework. Comparison occurred between initial and follow up interviews with respondents and reflection upon academic and practitioner literature. My refined framework is a contribution to the existing knowledge base and is presented in Chapter two, in Figure nine.

The governance framework enabled identification of governance in practice, however, once identified it did not provide the ability to differentiate between different forms of governance. To overcome the challenge of identifying governance forms in practice to enable analysis I developed a model which identified characteristics for every governance element and sub-element for the three governance forms. The detailed characteristics model is presented in Chapter two and population of the model represented graphically below in Figure thirteen.

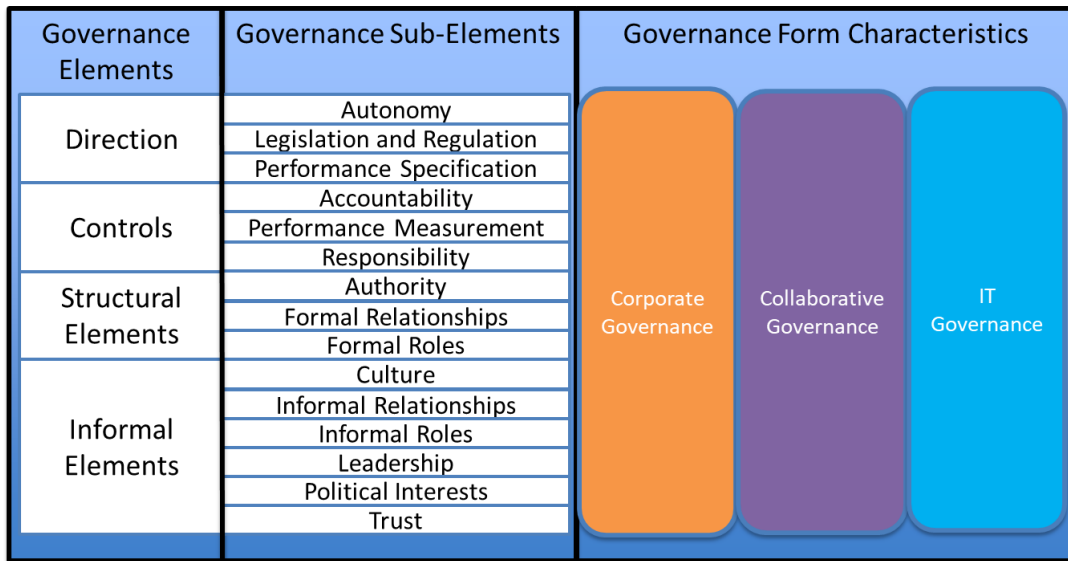


Figure Thirteen: Governance Characteristics

My governance framework and characteristics model are presented in Chapter nine as a contribution to the body of knowledge.

#### Interview Protocol

I developed my interview protocol which included interview questions, a participant information sheet and consent form which were approved as part of my HEC application. Interview questions structured in an interview schedule, which is presented in Appendix B, were created using the three segment approach advocated by Galletta (2013). The first segment was designed to involve participants and elicit responses grounded in experience, whilst leveraging the researcher’s knowledge of literature. The middle segment leverages initial responses to gain a greater understanding through more specific questioning and probing. In-depth questioning was used to ensure the research phenomenon of interest was fully explored from the interviewee’s perspective. The final segment was used to reflect upon interviewee responses in the context of their interview, other interviews or theory. The respondent was asked for additional thoughts and thanked for participating.

I reviewed my interview questions with supervisors and tested the order. I also had a run-through of the interview and practiced recording and transcribing with a senior ICT professional (O’Leary, 2010).

Before entering the field I planned a pilot study to inform my research design, trial my use of interviews and to evolve my framework for use as sensitising concepts for data collection and analysis (Blumer, 1969; Corbin & Strauss, 2008). This pilot study required ethical approval and participant consent.

### Ethical Approval and Consent

As my research involves human participants there are ethical requirements that need to be satisfied from academic, agency and individual perspectives. Before entering the field I obtained the following approvals for the pilot and later field research:

- HEC approval and
- Participant approval.

### PSISS Selection

The unit of analysis is participant perspectives in a New Zealand PSISS. A review of PSISS in New Zealand identified twenty-one possible candidate PSISS for my research. To enable grounded theory analysis the PSISS needed to have been in place long enough to enable comparison over time (Tavory & Timmermans, 2014). I developed additional selection criteria using qualitative research manuals and previous shared services research (Marshall & Rossman, 2006; Corbin & Strauss, 2008; Niehaves & Krause, 2010), resulting in the following selection criteria:

- Criterion One: PSISS still in operation
- Criterion Two: PSISS provided to agencies in New Zealand
- Criterion Three: Historical PSISS with a variety of governance elements enabling comparison over time.
- Criterion Four: PSISS with breadth and depth providing ability to explore a wide range of governance elements
- Criterion Five: Ability to gain insight into PSISS governance through a critical case

I selected a single PSISS providing electronic identity services, currently known as RealMe, looking for depth and richness for a deeper understanding rather than multiple PSISS. The rationale for selecting RealMe was the service has been in

place, through various guises, since the early 2000s. It was a service that had been through multiple iterations and there was publicly published information about the service. The selection of a single PSISS enabled me to explore the governance of the PSISS through the perspectives of participants using grounded theory. It also enabled me to balance limited time and resources with the feasibility of making a meaningful contribution to the body of knowledge.

### Data Collection

Data collection was conducted using semi-structured interviews. Human Ethics Committee approval and approval from participants was acquired before interviews commenced. Interviews were conducted with twenty-one expert practitioners who had held senior positions with experience of the governance of PSISS in New Zealand. Participant responses were solicited through open ended questions to gain rich text-based responses. Interviews were typically 60-90 minutes long and were audio-recorded for improved transcription with respondent agreement.

Interviews identified governance elements in practice and explored practitioner views on the governance of PSISS. Interviewees were selected due to their PSISS governance experience. A snowball sampling technique was used based on the limited number of experts involved in the governance of the selected PSISS and participant referrals provided the ability to identify potential participants (O'Leary, 2010). Potential interviewees were initially identified through documentation about the PSISS and more identified later through as part of the interview process. This occurred directly through Question 4 “who else played a key role in the service”, and through other responses made in the interviews.

Once each interview was transcribed it was copied to NVivo to enable concurrent analysis. I persisted with this process until the point of saturation, which was established as all possible perspectives that could be brought to bear were in the data i.e: I had spoken to people involved in different stages, who performed different roles and had different organisational backgrounds, and no new concepts emerged from analysis. The characteristics of respondents are presented in Appendix C.



## Analysis

I sought to deepen understanding through constructivist grounded theory, conducting analysis of practitioner perspectives based on Corbin and Strauss (2008). They present theory building as a process that starts by creating concepts from the raw data, defining the relationships between concepts to identify categories, and integrating categories into a theoretical whole with each step of analysis captured in memos (Corbin & Strauss, 2008, p. 106). A codebook outlining the codes constructed for this research are presented in Appendix D. Example memos are provided in Appendix E.

Corbin and Strauss (2008) recommend refining and validating theory with practitioners. When I spoke to practitioners and academics about my theory there was general agreement that the theory made sense to them. What was interesting was how they began trying to use the theory to explain their current work situations, which caused me to reflect upon the application of my theory within the wider public sector context. Reflecting upon my analysis I observed comments from respondents about the wider public sector, particularly the relationship between PSISS governance and wider public sector governance.

I viewed this as an additional step in my theoretical integration, where I would reflect upon the relationship between PISSS governance and public sector governance using themes generated from analysis of practitioner responses, with the intention of providing a better understanding of what was happening in practice, based on insights from practitioners (Alvesson & Kärreman, 2011; Tavory & Timmermans, 2014).

**Creating Concepts.** Corbin and Strauss (2008) present thirteen tools for data analysis used to identify and create concepts. These tools form a toolkit researchers can use to perform analysis on different problems. According to Corbin and Strauss (2008) rather than use each and every tool for a job the researcher should explore the tools in the toolkit and use the best ones for the job at hand.

I used NVivo version 11 software to manage my coding. I began coding using the initial concepts from the literature-based governance framework. New concepts began emerging through the use of analytic tools to mine respondent data and

memos for reflection. By trialling the different analytic tools I found several different ways to explore the data and develop concepts. The Nvivo tool helped with the use of simile, antonym and direct word searches. Memos were useful for reflection, particularly the use of questioning and making constant and theoretical comparisons between data. Analytic tools like the “so what” metaphors and flip flop were useful for teasing out different meanings for the data and questioning my personal experiences and initial interpretation.

Creating concepts enabled me to begin exploring relationships between concepts, which in turn led to creation of new concepts and eventually categories. Relationships were explored through the creation of memos.

**Memos are Elaboration.** Memo writing was continuous throughout the coding process, providing insights to explore as they emerged through data analysis (Corbin & Strauss, 2008; Charmaz, 2014). Through the combination of analysis and reflective elaboration I identified new concepts. Grouping and exploration of these concepts led to the creation of categories and theoretical integration. Memos were key to theoretical integration, which started as ideas drawn from the practitioner responses and developed through writing and extending memos which eventually became the eight themes.

**Relationships between concepts.** Relationships between concepts were explored to create categories. Categories are high level concepts that represent phenomena by grouping concepts with shared properties (Corbin & Strauss, 2008).

Corbin and Strauss promoted the use of three analysis tools to build categories and conduct theoretical integration, these are the paradigm, the conditional/consequential matrix and process. Although I tried all three tools I found the matrix and process the most useful. I present these tools below and then talk about how I employed them in my analysis in subsequent sections.

The matrix and paradigm are designed to identify the key conditions that shape the context. The paradigm is used to identify context through conditions, interactions, emotions and consequences.

The matrix provides a conceptual guide to explore where the action or interaction occurs using concentric circles from the action to groups, organisations and finally the international arena. The matrix presented by Corbin and Strauss (2008, p. 94) is presented in Figure fourteen.

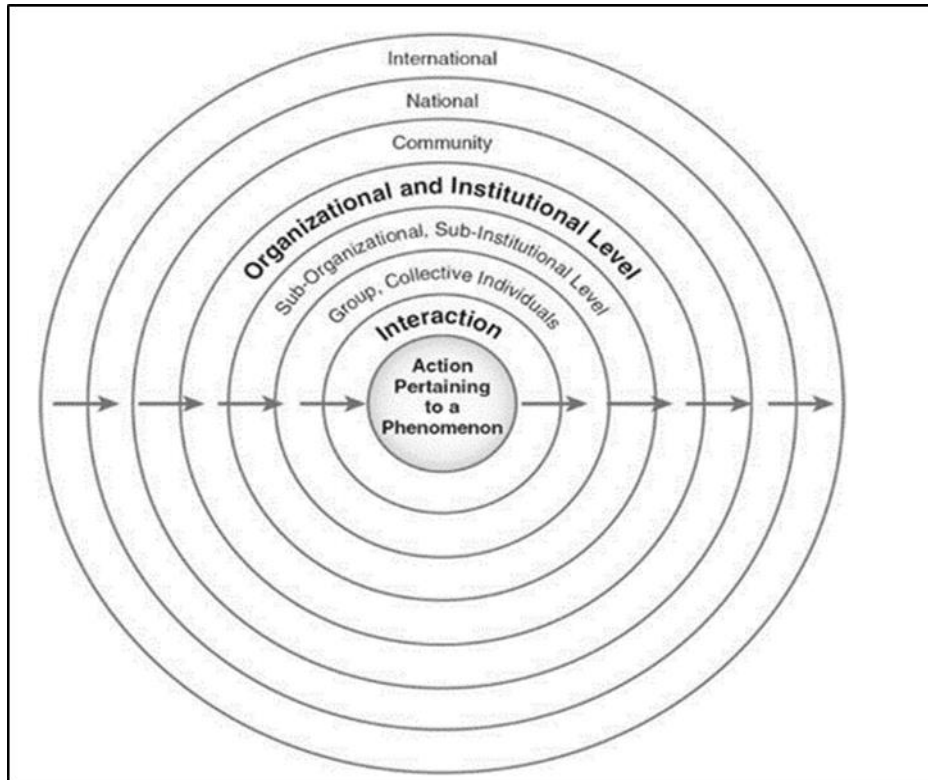


Figure Fourteen: The Conditional and Consequential Matrix

Process is represented in data through changes in actions, interactions or emotions in response to structural changes or consequences. Structure and process are linked because people act in response to events, situations or problems. Conceptualisation of process is based on the context and the researcher's interpretation of context. Researchers interpret the context based on their understanding of how respondents perceive or define situations and what meaning respondents attribute to the situation. Conceptualisation depends upon the interpretation of the researcher and how they use their analysis to link categories by showing relationships between process and structure (Corbin & Strauss, 2008). Corbin and Strauss (2008, p. 99) present a visual representation of process which I have presented in Figure fifteen.

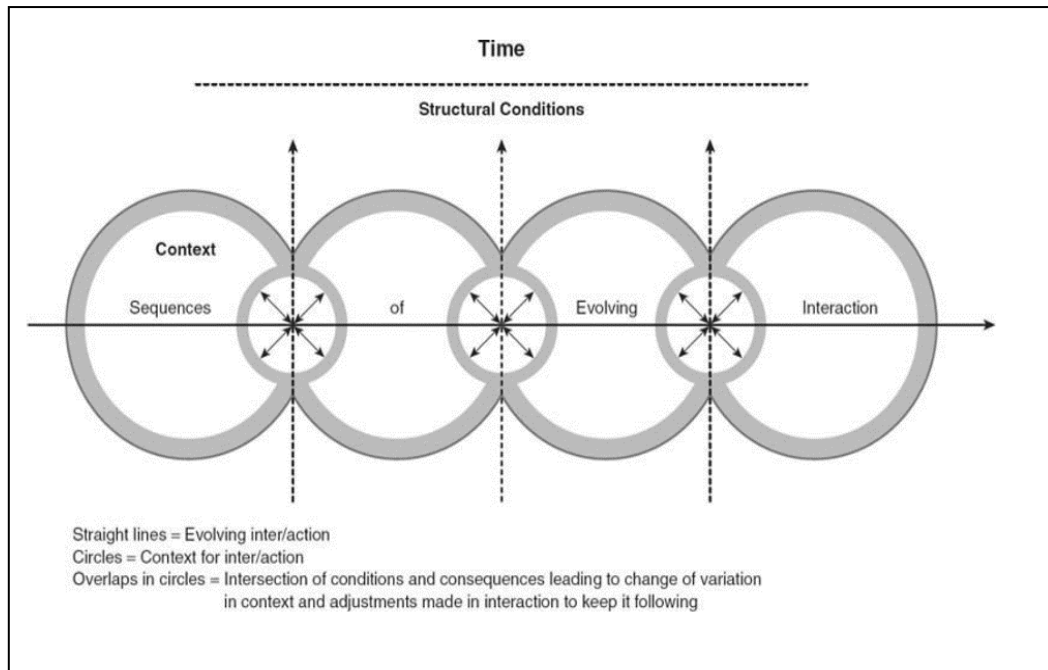


Figure Fifteen: Process

**The Matrix.** The matrix identifies changes to responses by individuals (be they action, interaction or emotion) over time by exploring the context surrounding the individual making the response (Corbin & Strauss, 2008). Using the matrix enabled me to confirm the contextual boundaries and key parties for analysis.

Placing the matrix in the context of my research I found action and interaction were observed through the provider to the public sector. The public sector primarily involved interactions between the provider, public sector clients and the Executive. Beyond the public sector was interaction at a national level where customers and private sector clients became involved. International customers became involved at the international layer. This resulted in construction of the matrix for my research, presented in Figure sixteen.



Figure Sixteen: Matrix

Further exploration of context resulted in construction of Figure seventeen, which presents the parties most commonly referred to by respondents as: provider, public sector clients the Executive and customers.

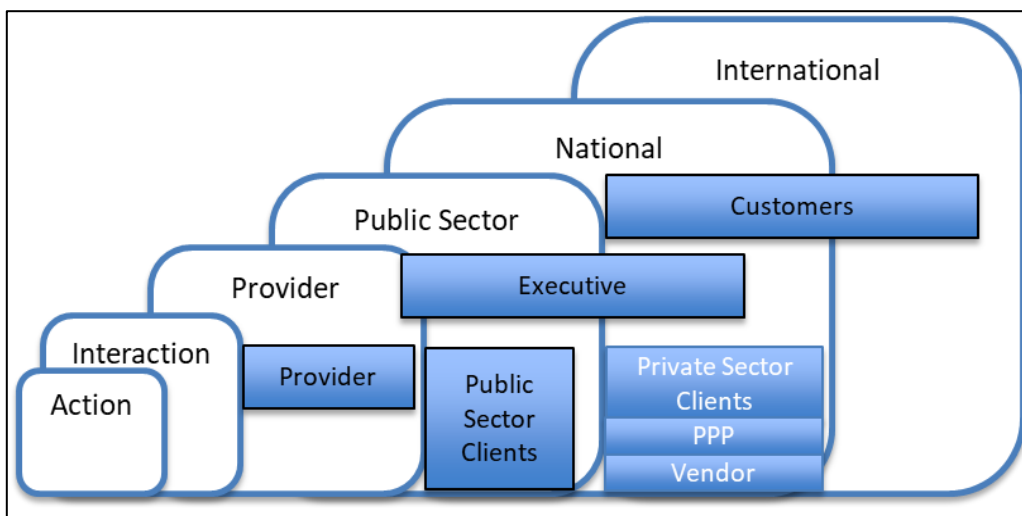


Figure Seventeen: Key Parties.

The identification of key parties enabled me to analyse actions and interactions between these parties when exploring concepts. Categories were identified by grouping concepts and exploring relationships between concepts through analysis of changes in process and structure. Through this process of analysis, I identified five categories:

- Adoption
- Governance focus

- Accountability
- Risk, and
- Resistance

Exploring and defining relationships between categories, grounded in outputs from analytical tools, provided the inputs required to undertake theoretical integration.

**Construction of Grounded Practitioner Theory.** The first part of theoretical integration involves linking categories around a central category and integrating these into a wider theoretical scheme. A grounded theory does not have to be an explicit hypothesis, rather it can be a rich narrative. Theory construction is explanatory in that theory provides explanation. “The idea is to raise the concept of the study up to a more abstract level where it can have broader applicability but at the same time remain grounded in data” (Corbin & Strauss, 2008, p. 102).

My central category was constructed using Corbin and Strauss’ (2008, p. 105) criteria for choosing a central category, which is presented below:

- It must be abstract; that is, all major categories must be related to it and placed under it,
- It must appear frequently in data. This means that within all, or almost all, cases there are indicators pointing to that concept,
- It must be logical and consistent within the data. There should be no forcing of data,
- It should be sufficiently abstract so that it can be used to do research in other substantive areas, leading to the development of more general theory and
- It should grow in depth and explanatory power as each of the other categories is related to it through statements of relationship.

The process tool was used to develop a central category incorporating my five categories. The central category provides a theoretical explanation of the research and is presented in Chapter six. The following section shows how the process tool was used to construct the central category.

A researcher investigates a phenomenon which is the event or major idea through a central category. The process is the means of investigation. Process is related to structure because people respond to the issues, problems, situations goals and events that occur in their lives. Responses can take the form of action, interaction or emotional response. There are infinite variations in response as people interpret situations and attribute meaning in different ways.

When exploring process through analysis of responses I identified two lifecycle methodologies suggested by respondents: project management and software development life cycles. My intention was to explore these processes through responses and related documents to identify a process that represented the sequences of evolving interactions identified in my research.

The Guidance for Monitoring Major Projects and Programmes published by the SSC found that the majority of departments used the Office of Government Commerce's Prince2 project methodology, with others using the Project Management Institute (PMI) methodology (State Services Commission, 2011).

Prince2, Projects in Controlled Environments, was created in 1989 by the Central Computer and Telecommunications Agency (later renamed the Office of Government Commerce) in the UK (Matos & Lopes, 2013). The Prince2 project lifecycle consists of a pre-project, initiation, subsequent stages, a final stage and post project (Hughes, Dwivedi, & Rana, 2017).

The Project Management Body of Knowledge (PMBOK) was created by the PMI to provide a set of knowledge principles for project management and was first published in 1987 (Matos & Lopes, 2013). The sixth edition of the PMBOK has four generic project life cycle stages: starting the project, organising and preparing, carrying out the work and ending the project (Rose, 2013).

A software development life cycle (SDLC) is a structured technique used to develop software (Massey & Satao, 2012). The SDLC covers activities from requirements analysis through to the operation and maintenance of the system. The SDLC is historically connected to the waterfall approach of development (Bassil, 2012). Typical stages in a waterfall SDLC are requirements analysis, design, implementation, testing and operation & maintenance (Massey & Satao, 2012).

Exploring the project management lifecycle and SDLC identified processes that were used to create and operate the PSISS. Whilst project management was used in the delivery of the PSISS, a project management lifecycle is a generic process that can be used for any project. Similarly, the PSISS was developed using a waterfall SDLC methodology, which was a common process used for ICT system development. These two processes were unsuitable as a central category as they lacked the explanatory power of a central category. They are abstract and appeared in the data and have been used in other areas of research. Unfortunately, being existing processes from literature there would be limited ability to grow in depth and explanatory power through relationship to other categories as they are not derived from the grounded theory analysis, potentially leading to forcing data into an existing process.

I returned to interview responses and mined the data for process using NVivo. What emerged was a process for the PSISS that incorporated elements of SDLC and project management. The central category is summarised in Figure eighteen.

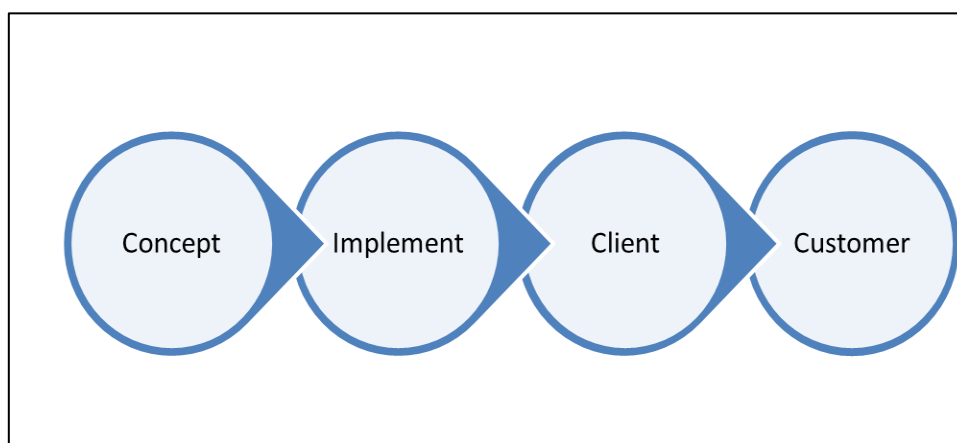


Figure Eighteen: Central Category.

Respondents perceived governance changes occurred between the initial concept and implementation of the PSISS. When the PSISS moved from an idea to actual delivery the governance arrangements became more formal in nature. The provider was observed as open and consultative during concept, which was perceived to change when they moved to implement.

The focus changed from building the PSISS to getting public sector clients to adopt the PSISS. This led me to question whether I should limit the process to public



sector adoption or to include private sector clients. Initially the PSISS was intended to prove online identity for New Zealand citizens to access public sector services. Over time the PSISS was adopted by private sector clients and later by international customers. The two options were therefore:

- Concept, build, public sector, citizens; and
- Concept, build, client, customer.

I selected the concept, build, client and customer option as it fits the requirement for abstraction. It works whether the clients are public or private sector. It also works whether customers are citizens or not, which is particularly important as non-citizens consume government services.

The central category was integrated with the five categories, as shown in Figure nineteen.

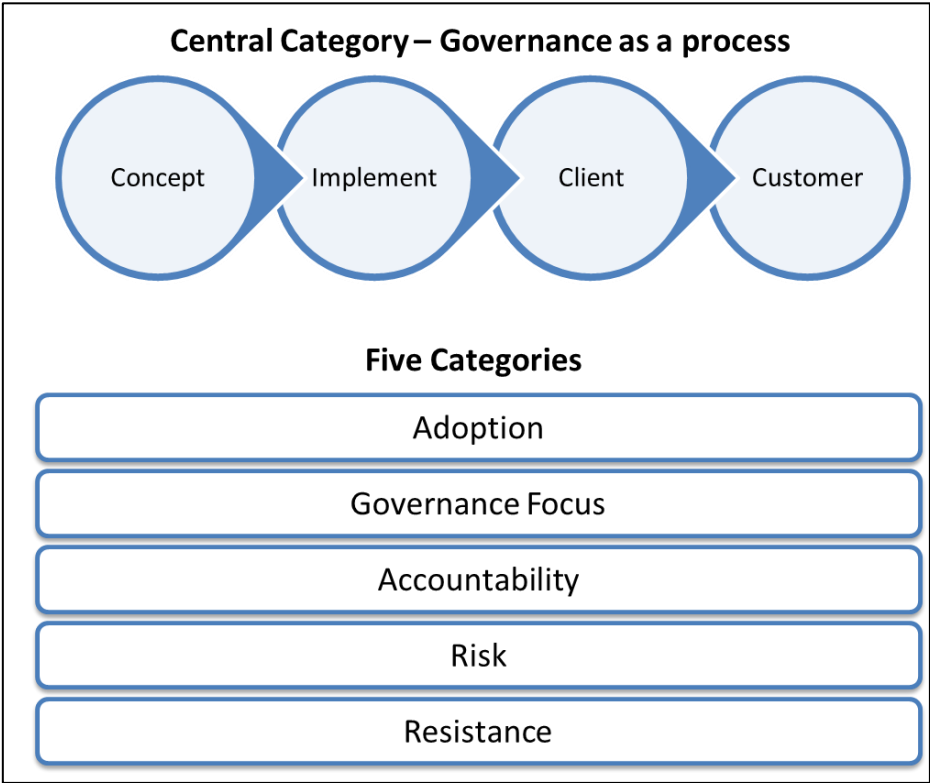


Figure Nineteen: Grounded Theory

Consultation was conducted to improve quality, to ensure the grounded theory resonated with professionals, participants and academics and the findings were applicable to practice and theory. The results of this analysis are presented in

Chapter six as a rich grounded practitioner narrative arising from grounded theory construction. My grounded theory is presented in Chapter nine as a contribution to the body of knowledge.

### Theoretical Integration

The first round of theoretical integration resulted in the creation of my grounded theory supported by a rich practitioner narrative on PSISS governance, to provide an answer for my first research question. This practitioner narrative provided an input for theoretical integration with the official narrative and existing theory to construct a mid-range theory as an answer to my second research question (Corbin & Strauss, 2008; Tavory & Timmermans, 2014). This section presents the second round of theoretical integration.

**Official Narrative.** In parallel to the grounded theory analysis of interview data, documents related to the case were analysed using O’Leary’s (2010) six step process for textural analysis which guided me to plan for contingencies, gather texts, review their credibility, interrogate the documents, reflect and refine my process, and analyse the data. The document analysis enabled the construction of an official narrative, presented in Chapter five.

I began by gathering the published performance and strategy documents related to the PSISS. These were selected as they were audited and required for the accountability framework and budget processes (State Services Commission & Treasury, 2000). Further documents were added as they were discovered through the interview, analysis and validation processes. These were mentioned by practitioners or referred to by other documents. All documents were recorded, scanned when required and electronic copies saved in Endnote to enable access and management. Documents were reviewed for authenticity and bias. Interrogation of the documents was used to construct the official narrative for reflexive analysis and comparison with theory and practitioner perspectives. Sensitising concepts, from my literature informed governance framework, were used to conduct initial interrogation, grouping data into initial categories for analysis, similar to my grounded theory analysis. The process was iterative and constant refinement and comparison were used across documented sources to construct the official

narrative. The official narrative was then used as an input for the second round of theoretical integration involving reflexive analysis of the practitioner narrative, official narrative and existing theory. New documents emerged throughout theoretical integration and were incorporated into the official narrative.

**Reflexive Analysis.** Having developed my grounded theory that practitioners viewed PSISS governance as a process I moved to perform theoretical integration through reflexive analysis.

Governance as a process is an arrangement commonly employed in IT governance to deliver projects or manage systems through their lifecycle. Most governance arrangements were contractual and governance relationships were vertical in nature which are both common in corporate governance.

Public sector ICT shared services are delivered within the wider public sector system context where governance arrangements for PSISS interact with wider public sector governance arrangements (Lips, 2019). Grounded theory analysis enabled the construction of a grounded theory of practice which was used to identify and reflexively explore tensions between governance arrangements.

Critical issues were generated through analysis of my grounded theory, grounded practitioner narrative and validation with practitioners (Charmaz, 2017). These issues were reflexively compared with the official narrative and academic theory leading to the creation of memos which resulted the construction of eight themes for theoretical integration (Corbin & Strauss, 2008; Tavory & Timmermans, 2014). These themes are presented in Chapter seven. Reflexive analysis identified inconsistencies between the grounded practitioner narrative, official narrative and academic literature, requiring further interplay with existing literature to throw new light on the phenomenon of PSISS governance (Alvesson & Kärreman, 2011).

This enabled the identification of critical public sector governance issues and the construction of a perspectives model to provide a system-wide lens (Steelman, 2016; Lips, 2019). This lens could be used to reflexively explore current academic literature and practitioner informed critical public sector governance issues to answer my refined secondary research question: *How have governance arrangements addressed critical issues in public sector governance?*

My secondary research question was refined through the second round of theoretical integration, which is consistent with grounded theory research (Corbin & Strauss, 2008; Charmaz, 2014).

Reflexive interplay with academic literature from the three domains and deeper exploration of practice through practitioner perspectives and case documentation enabled identification of seven critical issues. Through empirical exploration of these critical governance issues, I have attempted to answer my second research question by constructing a mid-range theory consisting of:

- 1) A public sector system governance model.
- 2) Identification and exploration of system governance arrangements and mechanisms in practice.
- 3) Identification and exploration of relationships between governance arrangements and tensions present in the system. These include:
  - (a) Exploring the following tensions identified in literature: Accountability, Project management and Privacy & security in practice.
  - (b) Identifying and exploring additional tensions in practice.

The results of this reflexive analysis were validated with practitioners and academics. They are presented in Chapter eight.

The mid-range theory and critical issues were constructed to provide theoretical insights into the phenomenon through empirical examples, and where possible to propose a resolution for the knowledge gap presented by critical issues (Alvesson & Karreman, 2011; Charmaz, 2017). These are included as contributions to the body of knowledge in Chapter nine.

### Risks and Mitigations

The following risks were identified and are presented with associated mitigations in Table nine.

<b>Risk</b>	<b>Mitigation</b>
Quality	Use the ten quality criteria from Corbin and Strauss (2008). Supported by the use of the following research tools: research conduct overview, conceptual framework, semi-structured interviews and grounded theory analytical tools.
Findings lead to research design or governance element changes	I used an emergent approach with grounded theory, the design and elements open to change as practitioner views informed theory.
Insufficient access to case study documentation	Public agencies publish results, documents are a secondary source to support respondent views.
Balanced view	Interview a range of actors from different perspectives including PSISS provision and adoption. Grounded theory iterations provide the ability to reflect practitioner perspectives. The researcher is an active part of the research.
Validity of governance elements as sensitising concepts	Governance elements were explored with expert practitioner interviews in pilot and presented for academic review in doctoral proposal.
Suitability of analysis tools	I found that the NVivo database had limitations when writing and connecting data so I developed a separate database to assist with write up, particularly when linking memos, and developing themes for reflective analysis. The second database was used for thematic integration to avoid queries becoming tangled by multiple scenarios.

Table Nine: Risks and Mitigations

## Chapter Five. An Official Narrative of PSISS Governance

I selected the New Zealand electronic identity PSISS which is currently called RealMe to investigate PSISS governance. The governance narrative presented in this chapter was developed by analysing a selection of official documents, for that reason I refer to it as an ‘official’ narrative. It provides the reader with an understanding of the official conceptualisation of the PSISS and its governance arrangements. It was constructed using O’Leary’s (2010) six step process for textural analysis and the use of sensitising concepts as detailed in my research design in Chapter four.

The selected documents included legislation, government documents and press releases. These documented sources provided the ability for comparison and contrast with practitioner views. The terms used in documents to refer to services, the parties involved and their interactions, which all changed over time. To make it easier for the reader I have chosen consistent terms where possible yet retained the variety of terms in direct quotes. Appendix A contains a glossary and cross-references alternate terms.

The key terms I use in respect of governance of the PSISS are: The Executive, Provider, Clients and Customers.

The Executive consists of the Prime Minister and government Ministers who administer policy and ensure the public sector performs efficiently and effectively. The Executive is informed by the Cabinet who form the core decision making body of Executive government (Cabinet Office, 2017).

The Provider was the agency who was accountable for the creation and performance of the PSISS. The initial provider was the State Services Commission. The provider was transferred to the Department of Internal Affairs in 2010.

Clients are parties who can provide customer facing online services integrated with the PSISS. Public sector clients were commonly known as departments before the NPM reforms and agencies after the reforms. Private sector clients were introduced after legislative reform in 2012.

Customers use the PSISS to consume client services. The PSISS started by targeting New Zealand citizens, and over time the provider began targeting international citizens as customers.

This synthesis presents the reader with an overview of the PSISS over a 20-year period from the early concept in 1999 to the current publications available in 2019. Particular areas of focus include the changes to the service, legislation, strategies, performance targets and participants in governance of the PSISS. Participants include the Executive, provider, clients, customers and the organisations performing monitoring and review of the PSISS.

A time series is presented after the narrative showing the events in chronological order. This is followed by a summary of performance targets and results for the PSISS.

### The PSISS 'Official' Narrative

In the late 1990s SSC investigated the use of shared services in the public sector. As a result they concluded there were “a range of support functions currently undertaken in-house by Public Service departments for which a shared services approach may be more efficient” (Gill & MacCormack, 1999, p. 7).

Investigating opportunities for efficiencies through shared services led SSC to develop and publish the e-government vision in May 2000. The vision was developed to provide strategic guidance for information and communications technology in the New Zealand Public Sector (State Services Commission, 2006b). An e-government programme of work was designed to deliver the vision.

The E-government programme was approved by the Executive in July 2000 with the intention of better managing investment on information and communications technology and offering more accessible public services (State Services Commission, 2001).

The Executive empowered the State Services Commissioner to establish governance and deliver the programme (Mallard, 2004). A governance advisory board of senior public and private sector executives was created to advise the Commissioner on programme direction (State Services Commission, 2001). The

e-Government Unit was created to deliver the programme (State Services Commission, 2001).

The e-government strategy was released in April 2001, presenting the plan to deliver the vision that “by 2004 the Internet will be the dominant means of enabling ready access to government” (Mallard, 2004, p. 1).

Large public sector ICT projects failures, most notably the police system INCIS, resulted in publication of guidelines for managing and monitoring public sector ICT projects in 2001 (State Services Commission & Treasury, 2001). As a result of the INCIS inquiry the “State Services Commission and the Treasury were required to monitor IT projects to provide second opinion assurance to Ministers” (State Services Commission, 2001, p. 55). Coverage was all public service and only crown entities directed by their responsible Minister (State Services Commission & Treasury, 2001). This meant SSC was empowered as shared services provider to deliver a large programme of ICT change as well as being required to monitor major ICT projects as a central agency.

Work continued on the e-government programme identifying new shared services resulting in the revision of the e-government strategy by the provider and ratification by the Executive in June 2003 (State Services Commission, 2003a). Common authentication was identified as an enabler of shared services leading the provider to develop a business case for an Authentication Programme to deliver the PSISS, beginning with the Government Logon Service.

The Executive “agreed to proceed with the design of a system of authentication for people and businesses that interact on-line with Government services; the piloting of a prototype shared policy workspace; and an extension of the secure electronic environment to a larger proportion of the Public Service and State sector” (State Services Commission, 2003a, p. 48). The Executive also agreed to the creation of a network shared service called the Government Shared Network.

Before shared services were released the Executive undertook legislative reform through the Public Finance (State Sector Management) Bill which empowered the Commissioner as provider to deliver shared services. The Bill resulted in three pieces of legislation: Amendment to the Public Finance Act 1989; Amendment to



the State Sector Act 1988; and The Crown Entities Act 2004 (Newberry & Pallot, 2005; Treasury, 2005).

The PFA amendment was intended to improve integration of service delivery by enabling multi-output appropriations to improve interoperability between agencies, moving towards outcome based delivery. The amendment to the State Sector Act was intended to improve all-of-government service delivery by providing the State Services Commissioner a wider remit across the public sector (Chapman & Duncan, 2007). Section 107 of the Crown Entities Act (2004) required compliance with the all-of-government direction affording the ability for specific directions to be issued by the Minister of State Services and Minister of Finance.

The Commissioner sought to leverage his new mandate by introducing six state service development goals designed to enable delivery of "a system of world class professional State Services serving the government of the day and meeting the needs of New Zealanders" (Prebble, 2005, p. 1). The SSC launched the Development Goals for the State Services in 2005 with Executive support. Agencies were expected to assist delivery of these goals.

The Development Goals set the framework for how SSC, Treasury and the DPMC led and tracked performance. They identified system-wide changes required to advance the Executive vision for the State Services to meet the needs of New Zealanders (State Services Commission, 2008a). By clearly defining and publishing the goals with timelines and measurable milestones the Commissioner was attempting to set a clear agenda for the next generation of State Services (State Services Commission, 2007).

The Authentication Programme was developing the GLS and identifying new services to enhance the PSISS including the Identity Verification Service. In a March 2005 report to the Executive, the provider identified opportunities to leverage the DIA's Evidence of Identity Framework and identity processes to create a working identity verification service for use across the public sector (State Services Commission, 2005). The Executive gave approval to proceed with design. The programme engaged Audit New Zealand to conduct quality assurance of the

Authentication Programme and associated procurement processes (State Services Commission, 2005).

The provider completed GLS development in 2006, creating a shared service to issue and manage logons for clients whose customers perform authenticated transactions online. The GLS was the first service produced by the Authentication Programme and was intended to provide a single login for multiple systems without exchanging identity data between clients. The provider promoted the GLS as improving ease of use, security and convenience for customers, affordable access to high quality authentication services for clients and significant cost savings for the Executive (State Services Commission, 2006a).

A memorandum of understanding was agreed between SSC and the Privacy Commissioner (Parliament, 2007). Privacy commission staff were involved in PSISS design and performed privacy impact assessments (State Services Commission, 2006a). The GLS project had placed particular emphasis on privacy requirements, leading to completion of an independent privacy impact assessment. Emphasis was also placed upon security resulting in several third-party security reviews. The stated intention was for privacy impact assessments and security reviews to be undertaken for each subsequent release (State Services Commission, 2006a). The ongoing nature of assessments and reviews indicated a commitment to security and privacy over time.

The provider developed a business model for GLS which was presented to the programme steering committee. They approved inclusion in the Authentication Programme business case for the next phase. The business case covered the next two years and was submitted to the Executive after consultation with 14 potential clients and Treasury. The case proposed rolling out GLS as an all-of-government service and the collaborative detailed design of the IVS which would be led by DIA. The business case and funding were approved by the Executive in June 2006 (State Services Commission, 2006a). As part of business case approval the Executive “agreed that no department should make an investment in its own identity verification capability, outside of the Identity Verification Service, even if funded from within baselines or depreciation, without first consulting SSC and the Treasury and seeking Cabinet approval” (State Services Commission, 2007).

Although the business case and funding were approved, operational issues delayed the Authentication Programme leading to a request for Executive approval to transfer \$672,000 to 2006/7 indicating progress was slower than planned which may have delayed the release of the PSISS (State Services Commission, 2006a). As at 30 June 2006 GLS had been built and tested and was ready to be moved to a production environment. At that stage clients could integrate their services with GLS (State Services Commission, 2006a).

The Authentication Programme continued to design IVS which was conducted collaboratively with DIA. All major design work was reported as complete by January 2006, which provided cost estimates for the business case. An independent privacy impact assessment was conducted for IVS to preserve customer privacy. Although the major design work was reported as completed there was ongoing design work on IVS until June 2006 (State Services Commission, 2006a).

The e-government strategy was revised, with an increased focus upon enabling transformation, submitted to the Minister of State Services in September and endorsed by the Executive in October 2006. The Minister endorsed the updated strategy and encouraged “all New Zealand’s State Services agencies to use the Strategy as their road map for e-government initiatives” (State Services Commission, 2006b, p. 2). The strategy was promoted as a tool that clients could use “to help shape their individual or sector work programmes to move government towards the goals” (State Services Commission, 2006b, p. 15), rather than the strategy acting as a prescriptive or enforced governance mechanism.

On 31 March 2007 GLS was integrated with SSC’s shared workspace service. The shared workspace was “a collection of over 150 individual collaboration workspaces being accessed 5,000 times each month by State servants, vendor staff and other members” (State Services Commission, 2007, p53). SSC reported that two clients had successfully performed testing of GLS in the production environment but did not state which clients they were in the annual report.

GLS was reported to the Cabinet Committee on Government Expenditure and Administration as successfully tested and implemented on 18 July 2007. The project was reported as delivered within the agreed scope, quality and budget.

Although the project was reported as successfully delivered there were implementation issues identified in the SSC annual report. The implementation took longer than expected, resulting in Executive approval to carry forward \$3.696 million unspent funding to 2007/8. There was additional support from the Executive as the appropriation for the output class was increased by \$7.766 million due to the Executive decision to fund the Authentication Programme and roll out GLS across the public sector (State Services Commission, 2007).

In 2007 the Executive instructed the public service and relevant parts of the state sector to use the PSISS, then known as the government login and IVS, for authentication (State Services Commission, 2007). In 2008 the Executive issued a direction for crown agents to use all-of-government authentication shared services including logon and IVS (Parliament, 2008). GLS was released following a suite of authentication standards that were intended to improve the quality and consistency of client authentication (State Services Commission, 2006a).

Between 2001 and 2006 there were no quantifiable measures found in annual reports. Respondents characterised performance as delivering the PSISS. On 30 June 2006 the GLS had been built and tested and was ready to be moved to a production environment, meaning clients could integrate their services with GLS. The performance target for the PSISS was set as getting up to six clients to implement the PSISS in the 2007/08 financial year (State Services Commission, 2008a).

The PSISS had been released, although it had taken seven years from the creation of the e-government programme to delivery into production. An investigation was undertaken into shared services in New Zealand with inputs based on the shared services experiences in Canada, Australia and the United Kingdom. Based on the findings of the investigation the Cabinet Policy Committee noted on 4 April 2007 there was little scope for efficiency gains from shared services. The committee directed the State Services Commissioner to work with Treasury and DPMC to report back by 31 July 2007 on “how sharing good practice processes and systems and a requirement to review shared services opportunities may be implemented, and the feasibility, and likely costs and potential benefits, of a shared services approach for small agencies” (Cabinet Office, 2007, p2).

The State Services Commissioner used his overview section in the 2007 SSC annual report to highlight the perceived shared services successes he had delivered. In relation to the Authentication Programme he stated “I am pleased to report that, in the last year, there has been significant progress on the All-of-government Authentication Programme’s workstream, with the launch of a suite of authentication standards and the roll-out of the Government Logon Service” (State Services Commission, 2007, p6).

The Commissioner believed legislative reform provided him a mandate to compel client adoption and increase the system-wide focus for the state service through the introduction of the Development Goals for the State Services (State Services Commission, 2007). Having the Commissioner lead the e-government programme, sector goals and oversee monitoring of ICT programmes appears to have blurred the lines of accountability.

The SSC produced the New Zealand E-Government 2007: Progress Towards Transformation report to present their vision for e-government and promote success to date. The view presented in the report was “major developments in e-government are pointing to the beginnings of a paradigm shift in how agencies conduct their business. Both the GLS and GSN have been built and are in operation, and agency uptake is gaining momentum” (State Services Commission, 2008b, p79).

The progress report was positive about the future, however there were concerns about current performance. Performance targets were set for 2007/8 and 2008/9. These targets were for client agreement to adopt the PSISS and for integration of client systems with the PSISS. The provider failed to meet performance targets based on client agreement or integration. Interestingly although results were published, performance targets for the first year do not appear to have been specified, raising questions about whether targets had been previously agreed (State Services Commission, 2008a, 2009).

The authentication programme was renamed igovt in 2008. The programme was described as “collaboration to develop system infrastructure” indicating a system asset view rather than seeing the services as information systems (State Services

Commission, 2008b, p46). The intent of the programme was to provide improved services to New Zealanders whilst lowering the cost of service provision to the Executive by building one service that could be consumed by multiple clients. The GLS became the igovt logon and IVS became the igovt Identity Verification Service (Department of Internal Affairs, 2010).

The programme continued investigating future services including the Government Online Attribute Assertion Meta System (GOAAMS) and an organisational authentication service, to varying levels of success. GOAAMS was a project that developed a service to enable customers to use the authoritative data held about them online and in real-time, removing the need to submit the same information multiple times across government systems. GOAAMS was successfully integrated with the PSISS and won design awards (Liberty Alliance, 2007).

The provider collaborated with the Ministry of Economic Development to create the organisational authentication service. This service was investigated but not progressed, until years later as the New Zealand Business Number (NZBN) (State Services Commission, 2008a; Department of Internal Affairs, 2019c).

SSC was developing new ideas for services but struggling with delivering to performance goals. The Executive agreed to changes to the delivery of e-government in New Zealand. Under these changes the leadership function for e-government would stay at SSC with the operations function transferred to the DIA by July 2009. As a result, in July 2008 the ICT branch at SSC was split in two. The first part was a leadership function for the Government Chief Information Officer, and the second the operations function to run shared services called Government Technology Services (Walter, 2009).

Although there were concerns about the authentication programme the performance of the GSN was worse as “it had become clear by mid-2008 that take-up by public sector agencies was well short of expectations and that the projected gap between expenditure and revenue, at some \$700,000 per month, was not financially sustainable” (Walter, 2009, p. 11). Questions were asked about the contractual arrangements undertaken in the development of the GSN, which resulted in the Executive instigating the Walter Review. Although the inquiry was

completed in March 2009 the decision had already been made “on 3 February 2009 the GSN project would be discontinued and participating agencies would be moved to a new provider in the private sector” (Walter, 2009, p. 11). Discontinuing the GSN and moving e-government services to DIA were not the only changes underway.

New Zealand had an election in November 2008 that resulted in a change to a National party led government. The messaging from the new Executive was there would be Budget deficits for the next 10 years that could reach \$12 billion. The Finance Minister Bill English told the Public Sector to make savings or expect “significant and long-lasting change that would be forced upon it” (Small, 2009c, p. 1).

One of these changes was the transfer of both the leadership and operations functions of the e-government programme to DIA. In a press release on 7 October 2010 the Internal Affairs Minister the Hon Nathan Guy announced “the functions of the Government Chief Information Officer would transfer to the Chief Executive of the Department of Internal Affairs” (Duncan, 2010, p. 1). This meant the leadership and operations functions were transferred from SSC to DIA, although SSC retained their major ICT project monitoring function, which was confirmed with the 2011 release of the guidance for monitoring major projects and programmes document (State Services Commission, 2011).

The Executive concluded that public sector ICT was inefficient and needed to change. A 2008 survey indicated the \$2 billion spent on public sector ICT was fragmented with duplicate infrastructure and limited use of online service provision. Clients were avoiding shared service adoption, which was reinforced through the current accountability model between Ministers and chief executives that encouraged siloed operational ICT management (Cabinet Office, 2010b, p. 8).

The Executive acted to address these issues by initiating a directive for shared services adoption, legislative change and the introduction of new directions and priorities for government ICT.

On the 22<sup>nd</sup> of September 2010 the Executive directed public service agencies to adopt PSISS through the Cabinet Economic Growth and Infrastructure Committee

(Cabinet Office, 2010a). Any client wishing to opt out, or taking action to undermine the programme, would be reported to the Expenditure Control Committee (Brownlee, 2010). The directive appeared to reduce the coverage of the previous 2007 and 2008 Executive directives, particularly for crown agents.

Legislative change was planned with the initiation of the Electronic Identity Verification Bill (EIVB) (2012) and the Identity Information Confirmation Bill (IICB) (2012). The EIVB was intended to enable secure interactions between customers and clients, the IICB was intended to confirm customer identity information. Both pieces of legislation increased the scope of the PSISS to include private sector clients.

The Executive approved the replacement of the 2006 eGovernment Strategy with the Directions and Priorities for Government ICT, which was government policy to direct the ICT activities of the State Service (Duncan, 2010). The public service and crown entities were invited to align their ICT strategies with the directions and priorities (Cabinet Office, 2010a). Client chief executives were directed to use PSISS and work with lead agencies to ensure the PSISS met client needs. The Executive charged DIA with creation of a common ICT capability roadmap to guide client ICT planning and implementation (Cabinet Office, 2010b).

In response to the new directions and priorities DIA and SSC collaborated to produce a poster outlining the Directions and Priorities for Government ICT, based on the premise “ICT is central to the delivery of lower cost, higher quality public services” (Department of Internal Affairs, 2011b, p1). This poster provided six directions for government ICT intended to deliver a future state to overcome issues identified in the Directions and Priorities Cabinet paper. In July 2012 public service chief executives were directed to “secure GCIO agreement to their strategic ICT plans and investment intentions” (Cabinet Office, 2012, p. 3).

The monitoring of major ICT projects changed to monitoring major projects and was undertaken by the State Services Commission, which is interesting as they were monitoring ICT programmes when the e-Government programme failed. SSC replaced the 2001 project monitoring guidelines with Guidance for Monitoring Major Projects and Programmes in 2011, which incorporate the



gateway review process (State Services Commission, 2011). Public service departments were directed to follow the guidance by Cabinet. Crown Agents were expected to implement a similar level of assurance for their projects.

Shared services were identified as a tool for integrated service delivery across the public sector. The PSISS had a role to connect clients and customers through secure identity provision. Performance targets changed to measure adoption for both clients and customers. The provider initially struggled to meet performance targets for new customers and clients (Department of Internal Affairs, 2010).

In 2010 the provider was set a target of 250,000 customer logons issued in addition to client services connecting to the PSISS. The result for 2010 was just over 50,000 customer logons which represented around one fifth of the target. Only 16 clients integrated with the PSISS which was short of the target of 24 integrations. After the failure to issue the specified number of customer logons the target for 2011 was decreased from 250,000 to a range of 100,000 to 250,000. The provider exceeded this range but still fell short of the original target. The number of clients connecting target was also dropped from 24 to a range of 15 to 25, which the result of 12 connecting clients failed to meet. Performance mechanisms for 2011 were changed altering provider accountabilities, resulting in the new logins exceeding the new low target, although the integrations did not reach the new target. The integration performance mechanism was changed again to clients agreeing to integrate and the target dropped again from 15 to 10. The new targets for measuring clients were met in both 2012 and 2013, however they would not have met the previous targets, indicating the shifting of goalposts was occurring. The provider met the revised customer login target for 2012 and surpassed both old and new figures with the rate almost trebling in 2013. The annual report attributed most of the increase (around 300,000) to the introduction of the studylink service used by students to apply for funding. A one off ICT based service performance target of 99% availability was also met (Department of Internal Affairs, 2011a, 2012, 2013a).

The provider had a vision for the igovt service as a one-stop-shop for electronic identity verification, which was enhanced by expanding the PSISS into the private sector through legislative reform and partnership with New Zealand Post. The

partnership was intended to maximise efficiencies for the Executive and increase adoption of shared services by both customers and clients. NZ Post would provide an address service that could integrate with the PSISS enabling sharing of address information with clients for customer approved services. Customers would be provided with access to Post shops where they could sign up for verified identities and get photographs taken for their accounts. NZ Post would also engage with private sector clients to adopt the PSISS, although this was dependent upon new legislation being enacted (Department of Internal Affairs, 2011a).

The Electronic Identity Verification Act (2012) and the Identity Information Confirmation Act (2012) were both passed on 18 December 2012. The new legislation opened the PSISS to private sector adoption. The intent was for more clients to integrate their services with the PSISS with the belief this would increase customer adoption. The Executive enacted the Electronic Identity Verification Regulations (2013) in February 2013 defining which clients could provide services, for how long and specified privacy related information about duration and retention relating to electronic identity credentials. Private sector clients were invited to join in a controlled fashion, whereas the public sector was directed to join. Further legislative reform followed to extend the coverage of the Cabinet mandate. The mandate was extended to incorporate 27 selected Crown Entities and District Health Boards, meaning a total of 60 public sector clients were covered (Department of Internal Affairs, 2014a). Executive directions were issued under the Crown Entities Act 2004 section 107 to adopt the PSISS as a “mandatory ICT common capability” (Parliament, 2014, p. 3). Crown agents not listed were instructed “to avoid doubt, that earlier direction continues to apply” meaning they were still subject to the 2008 directive and expected to use the PSISS (Parliament, 2014, p. 3).

The Executive built on legislative reforms by endorsing the Better Public Services (BPS) programme. In March 2012 the Prime Minister announced ten results expected as part of BPS. Result 10 was designed to improve customer interactions with government as shown in the Result 10 outcome “New Zealanders can complete their transactions with government easily in a digital environment” and Result 10 target “by 2017 an average of 70% of New Zealanders’ most common

transactions with government will be completed in a digital environment” (Department of Internal Affairs, 2014b, p. 6).

In 2013 the GCIO released the ICT Strategy and Action Plan 2017 which set new targets for the PSISS, and wider cross-sector ICT (Department of Internal Affairs, 2013b). The strategy was a response to the Executive Directions and Priorities for Government ICT (Cabinet Office, 2010b), and SSC’s Better Public Services programme (State Services Commission, 2018), promoting a “culture of collaborative leadership and operation” through new collaborative cross-sector governance arrangements (Department of Internal Affairs, 2013b, p. 24). The strategy was overseen by a Cabinet committee with a review planned for 2015 “to ensure that it remains relevant and incorporates emerging technologies and practices” (Dunne, 2015, p. 1). The Executive used the 2017 strategy to charge the Government Chief Information Officer, who was also the chief executive at DIA, with leading the transformation of all-of-government ICT to provide system-wide assurance, delivery of integrated online services and business savings of \$100 million dollars per year by 2017 (Department of Internal Affairs, 2013b).

The DIA was appointed lead agency for Result 10 of BPS making the department accountable for "achieving the target of 70% of New Zealanders' most common transactions with government being completed in a digital environment by 2017" (Department of Internal Affairs, 2012, p10). In January 2013, a Digital Service Council was established with representatives from participating clients, to provide governance of the Result 10 programme and champion change as a client and across the public sector (Department of Internal Affairs, 2014b). The PSISS was identified as contributing to the delivery of Result 10 and was rebranded RealMe with the new brand launched on 1 July 2013 (Department of Internal Affairs, 2013a).

In December 2013 the Executive issued a directive under the Crown Entities Act requiring a group of crown agents to gain approval from the GCIO before finalising or implementing ICT strategic plans or investment decisions. This direction enforced the “Government Chief Information Officer’s functional mandate for leadership of government ICT” (Parliament, 2014, p. 3) providing coverage across “60 public sector agencies and district health boards” (Dunne, 2017a, p. 2).

Although the directive reinforced the GCIO functional mandate it did not provide the GCIO with a mandate across the state services, or even across all crown agents.

The provider led a Service Innovation Group (SIG) which oversaw the collective efforts of eight group members who were clients participating in delivery of Result 10 (Department of Internal Affairs, 2015b). The SIG developed the Result 10 Blueprint as government policy for online customer service delivery. The blueprint consisted of “10 priority actions aimed at putting the customer at the centre, increasing system capability, and supporting New Zealanders through the digital transition” (Department of Internal Affairs, 2014a, p. 6). The Executive endorsed the blueprint in June 2014 and set the expectation that public sector clients align their customer facing online service activities with the blueprint (Department of Internal Affairs, 2014a). The expectation was that the provider and the Result 10 clients, as members of the SIG, would work with clients to develop and implement an adoption plan for the RealMe login and verified account services. This plan was required to consider how RealMe could enable more digital transactions and federated service delivery. The SIG was expected to prioritise PSISS enhancements including mobile enablement to encourage increased client adoption (Department of Internal Affairs, 2014b). The Result 10 blueprint was explicitly linked to the PSISS through Blueprint Action 5, “Adopt RealMe and deliver integrated digital services” (Department of Internal Affairs, 2014b, p. 42).

The provider believed increased adoption of RealMe would “drive uptake of digital transactions by promoting trust and confidence in transacting digitally” (Department of Internal Affairs, 2014b, p. 43). The push began to increase private sector client adoption. The rebranded PSISS was sold as a tool for banks to comply with anti-money laundering legislation (Department of Internal Affairs, 2014a).

The previous focus on New Zealand citizens as customers changed to “include all individuals who are customers, or potential customers, of New Zealand government services. This includes New Zealand citizens living overseas, immigrants and visitors to New Zealand” (Department of Internal Affairs, 2014b, p. 13). Customers were able to adopt two services, a RealMe login and a RealMe verified account. The RealMe login provided the ability for customers to use the same username and password to access a range of client online services. Services

that required additional security were delivered through the provision of a unique, one-time RealMe code which could be sent to a mobile phone or generated by a hardware token. The RealMe verified account allowed customers to securely release verified information about themselves like their identity and address to clients to prove who they are or where they live. The RealMe verified account required the customer to first prove who they are, by providing an approved form of identity information and having their photograph taken at a participating NZ Post shop (Department of Internal Affairs, 2014a).

The Executive approved a refresh of the strategy and action plan in 2015 with a drive towards clients increasing the adoption of public cloud services which was expected to reduce the cost of public sector ICT. The performance target for Result 10 remained unchanged. The PSISS continued to be overseen by a Cabinet committee and sector programme assurance (Dunne, 2015).

In 2015 the Executive issued a Cabinet minute changing public sector leadership roles. Treasury were provided system leadership for investment management and GCIO was confirmed as functional leader for government ICT.

Project guidance and monitoring, including the gateway review process, was moved to Treasury and the 2011 guidance was replaced by the 2017 guide for Managing Benefits from Projects and Programmes (2017). Cabinet empowered Treasury to lead the government's investment management system which effectively set the enforceable boundary for the new project guidance as all state services, with exceptions including Tertiary Education Institutions and school boards (Cabinet Office, 2015).

Use of the term functional leader appears significant as it placed the GCIO under the authority of the State Services Commissioner. "Functional leaders means those individuals or business units appointed by the State Services Commissioner to give effect to functional leadership" (Cabinet Office, 2015, p. 3), signalling a shift as the ICT Strategy and Action Plan did not mention the relationship with SSC. The authorising parties were the Minister of Internal Affairs and GCIO.

Progress was presented against the Result 10 target for 2017, although interim targets were only presented once in the 2015/16 annual report where the provider

had reached 50.7% which was close to the interim target of at least 53% and the provider believed results were “on-track to support achievement of the Result 10 target” (Department of Internal Affairs, 2016, p. 139).

The PSISS was recognised as a privacy enhancing service with the award of the Privacy Trust Mark by the Office of the Privacy Commissioner in 2018 (Department of Internal Affairs, 2018a). The provider began releasing customer services that leveraged the inherent security and privacy provided by the PSISS including services that were designed to connect a group of online services around a customer life event like birth (SmartStart) and death (End of Life). These two services acted as an entry point for other online services and required a PSISS account to gain access. SmartStart was launched in December 2016 and won four online service awards. SmartStart had been accessed 98,000 times by June 2017 and 227,000 times by June 2018. The end of life service was introduced in late 2017 and had been visited 31,000 times by June 2018 (Department of Internal Affairs, 2018a).

The Executive created a new ministerial portfolio for Government Digital Services (GDS) in 2017, signalling the importance of digital services to New Zealand. The GDS vision was all New Zealanders will thrive in a digital world. The provider, and PSISS, had a role in supporting the new portfolio’s priorities including digital inclusion, the national digital strategy and customer rights including privacy and security (Department of Internal Affairs, 2018a).

The Executive reviewed the PSISS results from October 2016 to March 2017 and announced that Result 10 performance targets were on track to be delivered as “agency projections give us confidence that the target of an average of 70 per cent of New Zealanders' most common transactions with government being completed in a digital environment will be met by the end of 2017” (Dunne, 2017b, p. 1). The performance targets were refreshed for another four years to 2021 so “by 2021, 80 per cent of the transactions for the twenty most common public services will be completed digitally” (Dunne, 2017b, p. 6). Although new targets were set the Executive had not been advised which services would be included in the 20 most common services to be measured (Dunne, 2017b). This was done in the absence of a new ICT Strategy to replace the Strategy and Action Plan.

Progress to the 70% target was presented as 58% for June 2017. In the 2017/18 DIA Annual Report, for the year ended 30 June 2018, the performance results were reported as 65.7% of New Zealander’s government transactions were completed in a digital environment. The provider did not reach the 70% target set for Result 10 (Department of Internal Affairs, 2018a).

A new Strategy for a Digital Public Service was released in November 2019. In this strategy the Minister of Government Digital Services states “our public service is already trusted and highly regarded as a global leader in digital government” (Department of Internal Affairs, 2019c, p. 2), although “foundations that could better support New Zealanders in dealing with government, such as digital identity and informed consent tracking, are patchy or not present” (Department of Internal Affairs, 2019c, p. 17).

### Time Series

Date	Event	Comment on Event
Late 1990s	Early consultation on identity service	In the late 1990s the SSC investigated the use of shared services in the public sector. They concluded that shared services could provide support functions more efficiently.
May 2000	SSC published the e-government vision	The e-government vision provided a strategic vision for ICT in the Public Sector.
July 2000	e-government programme established	The Executive established the e-government programme in July 2000 to deliver the vision.
2000/1	State Services Commissioner set up the e-Government Unit	The State Services Commissioner took the lead on shared services in New Zealand establishing the e-Government Unit to deliver the programme.
2001	SSC role monitoring major ICT projects	Publication of guidelines for managing and monitoring public sector ICT projects in 2001 confirmed SSC monitoring role.
2001	e-government strategy	SSC released the initial E-government Strategy in April 2001. The mission of the strategy was to make the internet the dominant means access to government by 2004.
2001	Governance Advisory Board	The Commissioner set up a governance Advisory Board whose role was to advise

		the Commissioner on the direction of the programme.
August 2001	SSC performing monitoring	In addition to leading the development of PSISS for the public sector SSC was required to perform a monitoring function on major ICT projects.
June 2003	SSC published the revised e-government strategy	The e-government strategy was revised by the provider and ratified by the Executive in June 2003.
June 2003	The PSISS business case was approved for Authentication	The Executive approved the authentication programme business case for design and delivery of an authentication system for people and businesses to interact on-line with government services.
December 2004	The Executive set up legislative reform and empowered the Commissioner	Amendment to the Public Finance Act 1989 provided the ability for multi-output appropriations. The amendment to the State Sector Act provided the State Services Commissioner a wider remit across the government. The Crown Entities Act required use of all-of-government services and compliance with directions.
2005	State service development goals	The SSC launched the Development Goals for the State Services which identified system-wide changes required to advance the Executive vision. Clients were expected to assist in the delivery of these goals.
2005	Identity Verification Service	Executive approval to leverage DIA's Evidence of Identity Framework and identity processes to create a working identity verification service for the sector.
2005	Independent Audit	Audit New Zealand conducted quality assurance of the Authentication Programme and the procurement processes.
2006	GLS developed	The SSC completed development of the Government Logon Service. The GLS provided a single login for multiple systems without exchanging identity data between clients.
2006	Delay to delivery	Operational issues delayed the Authentication Programme leading to a request for Executive approval to transfer \$672,000 to 2006/7 financial year.



June 2006	GLS roll out model	The provider developed a business model for the GLS in September 2005. The business case and funding were approved by the Executive in June 2006.
June 2006	Built and tested	As at 30 June 2006 the GLS had been built and tested and was ready to be moved to a production environment.
2006	Privacy and Security	MOU with Privacy Commission to participate in service design. Independent privacy impact assessment and several third-party security reviews performed on GLS.
2006	IVS Design	The IVS was designed collaboratively with DIA. All major design work was reported as complete by January 2006. An independent privacy impact assessment was conducted to preserve customer privacy.
November 2006	Revised e-government strategy	The e-government strategy was revised, with an increased focus upon enabling transformation. The Minister launched the revised strategy in November 2006.
2007	GLS successfully tested and implemented	The GLS was reported to the Cabinet Committee on Government Expenditure and Administration as successfully tested and implemented on 18 July 2007. Executive set the expectation that GLS would be adopted.
2007	Provider investigated additional authentication services (GOAAMS and organisational authentication service)	Government Online Attribute Assertion Meta System implemented providing access to approved customer data across government systems. Organisational authentication service investigated but not implemented.
April 2007	Cabinet concerns	Cabinet noted there was little scope for efficiency gains from shared services. SSC, DPMC and Treasury directed to report back by 31 July 2007 on shared services opportunities costs and benefits.
2007	State Services Commissioner response to concerns	The State Services Commissioner used the 2007 SSC Annual Report to highlight shared services successes including rollout of the GLS, his mandate and the role SSC would play delivering shared services in the future.
2008	PSISS promoted as success by SSC	The SSC produced the New Zealand E-Government 2007: Progress Towards

		Transformation which reported the GLS in operation and pointed to a paradigm shift in how clients operated.
2007	IVS directive	Executive approved IVS business case and required departments to use the IVS or seek Cabinet approval.
2008-2009	Provider struggling to deliver performance targets	Failed to deliver adoption targets
2008	PSISS rebranded as igovt	The Authentication Programme was renamed igovt in 2008. The Government Logon Service became the igovt logon and IVS became the igovt Identity Verification Service.
July 2008	Plan to move operations to DIA and keep the leadership role at SSC	In July 2008 the provider ICT branch at SSC was split. The leadership function was intended to stay at SSC with the operations function transferred to the Department of Internal Affairs in July 2009.
July 2008	Problems within the provider	The GLS was not approved by the Executive for release until 18 July 2007, and it failed to meet performance targets for 2008.
2008	Executive changed	New Zealand had an election in November 2008 that resulted in a change of Executive who forecast Budget deficits for the next 10 years. The Finance Minister told the Public Sector to make savings or expect change to be forced on them.
2009	GSN service failure	The GSN was not financially sustainable leading to the decision to move clients to a new provider in the private sector. This damaged the reputation of the provider.
2010	Executive direction	The Executive concluded public sector ICT was inefficient and needed to change. A 2008 survey indicated \$2 billion spent on public sector ICT was fragmented with duplicate infrastructure and limited use of online service provision.
2010	Directions and Priorities	The Executive approved the replacement of the 2006 eGovernment Strategy with the Directions and Priorities for Government ICT.

2010	Performance targets changed to include customers as well as clients	In 2010 the provider was set a target of 250,000 customer logons, the provider delivered just over 50,000. Client target was 24 clients connecting to igovt logon service, the result was 16 clients.
September 2010	PSISS provided Executive mandate	On 22 September 2010 public service agencies were directed by the Executive to adopt PSISS unless they had a compelling reason to opt out.
October 2010	The PSISS leadership and operations functions transferred to DIA	In a press release on 7 October 2010 the Internal Affairs Minister announced the provider leadership and operations functions including the GCIO role were transferred from SSC to DIA, although SSC retained their major ICT project monitoring function.
2011	SSC role monitoring major projects reinforced	Release of guidance for monitoring major projects confirmed SSC's monitoring role.
2011	Partnership with New Zealand Post	The provider partnered with New Zealand Post to expand igovt adoption and maximise efficiencies in service delivery. Post was to drive private sector PSISS adoption once supporting legislation was enacted.
2011	Provider response to Directions and priorities	DIA and SSC collaborated to produce a poster outlining the Directions and Priorities for Government ICT, making ICT central for delivery of lower cost, higher quality public services. This poster provided six directions intended to deliver a future state that would overcome issues identified in the Directions and Priorities.
2012	Better Public Services, Result 10	In March 2012, the Prime Minister announced ten desired results as part of the Better Public Services programme. The Result 10 outcome is: New Zealanders can complete their transactions with government easily in a digital environment.
December 2012	New legislation was passed to enable private sector to adopt the PSISS	The Electronic Identity Verification Bill and the Identity Information Confirmation Bill were passed on 18 December 2012.
2013	Lead agency	The Executive charged the Government Chief Information Officer with leading

		the transformation of all-of -government ICT to provide system-wide assurance, delivery of integrated online services and business savings of \$100 million dollars per year by 2017.
2013	Lead agency for Result 10	As the lead agency for Result 10 the provider became accountable for delivering 70% of the most common government transactions online by 2017.
Jan 2013	New governance arrangements	In January 2013, a Digital Service Council was established to govern the Result 10 programme and champion change across the public sector.
18 Feb 2013	Electronic Identity Verification Regulations	On 18 February 2013 the Executive passed regulations defining client participation, duration and retention for electronic identity credentials.
June 2013	ICT Strategy and Action Plan	The Government ICT Strategy and Action Plan to 2017 was launched in June 2013.
1 July 2013	PSISS rebranded as RealMe	The PSISS was rebranded RealMe with the new brand launched on 1 July 2013.
2012-2013	Studylink linked to increased customer adoption	New logon creation increased from 171,317 in 2011/12 to 552,025 in 2012/13 which was attributed to 300,000 Studylink signups
2014	The mandate was extended by legislative reform to include crown entity client adoption	The Executive enacted legislation to extend the coverage of the GCIO mandate. The ICT functional leadership mandate was extended to incorporate 27 selected Crown entities and District Health Boards, meaning a total of 60 public sector clients were covered.
2014	Result 10 Blueprint and actions	The provider developed the Result 10 Blueprint which contained ten priority actions. Cabinet endorsed the blueprint in early June 2014.
2014	PSISS redefined for 2014	Two services were available for customers, a RealMe login and a RealMe verified account. A RealMe login allowed people to use the same username and password to access a variety of participating online services. A RealMe verified account let people who have verified certain information about themselves, such as identity and address, securely release this information online

		for clients to prove who they are or where they live.
2014	Customers redefined	Customers redefined to include New Zealand citizens living overseas, immigrants and visitors to New Zealand.
2014	Blueprint made direct link between Result 10 and PSISS	Result 10 Blueprint Action 5 required client adoption of RealMe and integrated digital services, which directly connected the blueprint to PSISS adoption.
2014-16	Executive directions were issued to Crown Entities	Executive directions were issued under the Crown Entities Act 2004 section 107 to use all-of-government services
2015	Revised Strategy	The ICT Strategy and Action Plan was refreshed in February 2015 and approved by the Executive.
2015	Project Assurance moved to Treasury	Project assurance moved to Treasury as part of investment management function.
2016	Provider continued to struggle to meet performance targets	The provider had an interim goal for Result 10 of at least 53% of transactions, the result was only 50.7%.
2017	Executive Reporting	The Executive reviewed the PSISS results from October 2016 to March 2017 and announced Result 10 performance targets were on track to be delivered.
2017	Targets changed for Result 10 to 2021	A new Result 10 target was agreed with ministers. The 2021 target was 80 per cent of transactions for twenty common public services to be completed digitally.
2017	New ministerial portfolio	New Ministerial Portfolio of Government Digital Services established, provider expected to support portfolio priorities.
2017 to 18	Introduction of new online services	Introduction of new DIA online services including SmartStart and Te Hokinga O Wairua End of Life Service which required PSISS accounts for access.
2018	Privacy Trust Mark	The IVS was awarded the Privacy Trust Mark by the Office of the Privacy Commissioner.
2018	Failed to deliver Result 10 target	The provider failed to deliver the Result 10 performance target of 70% of New Zealander's government transactions completed in a digital environment. The results in the 2017/18 Annual Report were reported as 65.7%.

Table Ten: Time Series

## PSISS Performance Information

The provider was accountable, as an agent, to the Executive for the provision of the PSISS. The New Zealand public sector accountability framework requires specification of performance targets and adequate performance measurement, to enable the Executive to hold an agent accountable for their performance. This section presents the performance targets and results reported for the PSISS, which have been summarised from provider annual reports from 2001 to 2018.

Table eleven shows the performance information drawn from annual reports when the SSC was developing the PSISS.

Year	Result
2001	Established Governance Group, e-Government Unit and Programme
2002	Updated e-government strategy. Cabinet approval sought for policy framework. Terms of reference for project design approved.
2003	Executive agreed to detailed design and scoping of authentication system. Revised e-government strategy.
2004	Design completed, implementation of authentication programme to commence 1 July 2004.
2005	Cabinet approval to develop Identity Verification Service and integrate with Government Logon Service. Piloting GLS with three clients.
2006	Tested GLS and ready for release 30 June 2006.

Table Eleven: Performance Information 2001-2006<sup>1</sup>

Table twelve presents the performance information, including targets and results, after the release of the PSISS. The targets have been combined into six groups which show the areas of focus and how they changed over time. Cells shaded red show where targets have not been met, cells shaded green show where targets have been met, and cells shaded orange show results where no target was specified.

---

<sup>1</sup> Sources: (State Services Commission, 2001, 2003a, 2005, 2006a, 2007, 2008a)

Year		Client Agreement	Client Integration - Logon	Client Integration - Verified	Customer Logins Issued	Customer Verified Issued	Result 10 (70% by 2017)
2007	Target						
	Result			3			
2008	Target		6				
	Result	15	4				
2009	Target	25	15				
	Result	20	9				
2010	Target		24		250,000		
	Result		16		52,219		
2011	Target		15 to 25		100000 to 250000		
	Result		12		239,330		
2012	Target	10 to 15			150000 to 250000		
	Result	12			171,317		29.9
2013	Target	10 to 15			150000 to 250000		
	Result	10			525,025		36.2
2014	Target		10	2	50000 to 100000		
	Result		13	4	15212		39.3
2015	Target		16	10	75000 to 100000		
	Result		11	1	34253		45.3
2016	Target		16	10	75000 to 100000		53
	Result		11	5	123400		52.2
2017	Target		16	5	150000 to 175000		
	Result		17	4	137175		59.9
2018	Target				150000 to 175000		70
	Result				157273		65.7

Table Twelve: Performance Targets and Results 2007-2018<sup>2</sup>

<sup>2</sup> Sources: (State Services Commission, 2007, 2008a; Department of Internal Affairs, 2009, 2010, 2011a, 2012, 2013a, 2014a, 2015a, 2016, 2017a, 2018a)

In Chapter five we reviewed changes to PSISS governance arrangements covering the period 1999 to 2019 as a narrative evidenced from document analysis. This narrative presented a perspective on PSISS governance derived from official, documented accounts. Changes to governance arrangements, and supporting governance mechanisms, are presented to provide insight into who, based on official documents, was performing governance and what interaction occurred between parties. The reported roles and interactions provide a point of reference for the grounded practitioner narrative (Chapter six) and an input for comparison with practitioner perspectives (Chapter seven) and theoretical integration (Chapter eight).



## Chapter Six. Analysis: A Grounded Practitioner Narrative

The narrative in this chapter was developed from the analysis of participant interviews to gain an understanding of the phenomenon of PSISS governance through the eyes and words of participants. Participant responses also provided an insight into the use of terms in practice and an understanding of how these terms changed over time. Several terms were used by respondents to refer to services, the parties involved and their interactions which changed over time. Although multiple terms were used over time, to make it easier for the reader I have used consistent terms where possible, however, the variety of terms used is reflected in direct quotes. The glossary in Appendix A cross-references alternatives to the commonly used terms below. This chapter begins by introducing the central category which was developed through grounded theory analysis of practitioner responses using the governance framework elements as sensitising concepts. The central category was derived through the combination of sub-categories to provide a theoretical explanation of the research (Corbin & Strauss, 2008).

### Categories

The categories to emerge from my data were: Adoption, Governance focus, Accountability, Resistance and Risk. These categories are not discrete but are lenses through which to observe participants views and derived viewpoints to enrich understanding as much as possible. As such they have been artificially teased apart as they overlap and aspects will be present across categories. Where these aspects are presented has been based on balancing between duplication and inclusion for understanding, meaning at times it may appear arbitrary to the reader to have an aspect or quote included in one category and not the other.

**Adoption.** The respondents used several words for parties agreeing to use, or actually using, the PSISS. The term respondents most commonly used to describe these actions was adoption and therefore was used in this research. Two forms of PSISS adoption were identified by respondents: client and customer adoption. Clients create digital services integrated with the PSISS that customers can consume.

Respondents referred to client adoption of the PSISS in two stages. Firstly, an agreement to use the PSISS and secondly to provide customer facing services integrated with the PSISS as the identity source. Clients started as public sector agencies, however, as the PSISS evolved private sector organisations began producing customer facing digital services integrated with the PSISS. Customer adoption also occurred in two stages. The first stage occurred when customers signed up for a PSISS account and the second when they used the account to consume client services. Customers were initially identified in the early governance of the PSISS as New Zealand citizens, however, non-New Zealand citizens began consuming integrated digital services, for example foreign people using a digital immigration service.

The initially slow response of clients to adopt the PSISS led to two attempts to mandate client adoption. The initial mandate was a directive issued by the State Services Commissioner. The second mandate was an Executive mandate issued through a Cabinet minute. The mandates created client resentment and not necessarily the response wanted by the Executive. There were multiple barriers to adoption including lack of trust and concerns about integration and ongoing funding. The Executive mandate eventually forced clients to adopt the PSISS however it led to downstream issues as customer adoption was reliant upon client services.

Many respondents questioned whether use of a mandate would impact sector collaboration. They saw sector collaboration as particularly important because the PSISS was dependent upon clients to create services integrated with the PSISS thereby increasing customer PSISS adoption to consume client services. Some respondents were concerned about ongoing funding and whether that would affect the willingness of clients to adopt the PSISS. They identified barriers to adoption that included integration requirements and a desire by the provider to drive adoption at the cost of service quality.

**Governance Focus.** Respondents identified an inconsistency in PSISS governance. They believed the intention of the PSISS was to provide improved customer services and internal efficiencies for customer facing government services. Some methods used to govern the PSISS were identified as conflicting

with the intended direction, particularly internal governance controls used to oversee PSISS implementation.

Some respondents identified shared services as ‘system assets’ that provide public system value by enabling consumption of customer facing digital services. The PSISS provides a shared identity service for integration with client services that can be digitally accessed by customers using their PSISS identity. The respondents expressed views the PSISS had no actual public system value without customer facing digital services. This view was in tension with the Executive expectation the provider would recover costs from clients. Governance was perceived by respondents to have an internal focus upon the information system, including cost recovery for: the technology, programme and organisation providing the service; rather than focussing upon the wider public system benefits to clients and their customers.

**Accountability.** Some respondents raised questions about who was accountable for the delivery of services to clients and customers. They also identified changes to accountability relationships over time. These responses indicated a general confusion about the difference between accountability and responsibility, and who should be accountable to whom for what. There were numerous respondent concerns about accountability between parties. Clients were concerned the provider was not accountable for failure to deliver a service that met their needs, citing the movement of the e-Government Unit to DIA. There were concerns that essentially the same people were running a service which clients were mandated to adopt. The provider was unhappy that clients were not being held to account for non-adoption, even with the advent of the mandates. There were questions about the applicability of horizontal accountabilities, particularly the ability to sanction non-performance.

**Risk.** The Executive authorised the provider to create the PSISS and provided SSC legislative authority to lead the sector with the ability to direct client adoption. The provider was required to develop business cases for Executive approval before funding would be released and was required to report progress to the Executive. The provider had committed to meeting adoption targets and initially failed to do so, which introduced the risk of the PSISS being shut down by the Executive and

resulted in reduced central funding. Clients were concerned about the ability of the provider to deliver the PSISS, particularly given funding constraints. Clients believed premature adoption of the PSISS would expose them to risks of service failure or additional integration and running costs, so they avoided adoption which resulted in further pressure on the provider.

**Resistance.** Respondents identified client resistance to the PSISS that often manifested in passive forms. Resistance was characterised as the ‘curse of the smiling faces’ through which clients paid lip service to the PSISS without committing to adoption. Clients were frustrated by the perceived difficulty integrating with the PSISS and poor integration experiences reported by other clients. Additionally, client resistance appeared to increase when the provider attempted to use a Cabinet mandate to compel client adoption. Respondents believed client resistance was a barrier to collaboration which concerned them, particularly as the provider relied upon client services integrating with the PSISS to increase customer adoption. Resistance was seen by respondents as contributing to the slow adoption of the PSISS and ongoing failure by the provider to meet performance targets.

### Central Category

Using Corbin and Strauss’ method of grounded theory analysis I developed my central category using the five categories: adoption, governance focus, accountability, risk and resistance. It was developed using a tool called process designed by Corbin and Strauss (2008) for exploring context through a sequence of evolving interactions. In my analysis, I noticed that respondents referred to the process the PSISS went through either in terms of a software development lifecycle or a project management process. For example Respondent 9 identified a “need for lifecycle development and tighter governance around build and review cycles.” I inferred these respondents were trained in project management or software delivery and therefore sensitised to view the PSISS using these processes as a lens. Further analysis of responses identified four stages for the PSISS.

In the first stage the provider was exploring opportunities for shared services and settled on the concept of an identity solution. This concept was created through consultation with public sector clients and manifested in a business case developed

for Executive approval. The second stage occurred after business case approval whereby the provider was required to implement the PSISS based on the business case. The PSISS required both client and customer adoption to realise the system benefits identified in the business case. The third stage required the provider to work with clients to integrate their services with the PSISS, to enable customers to use the PSISS in stage four. Clearly, without client services there would be no reason for customers to adopt the PSISS as they would not be able to use it to access any online services. The provider therefore had to gain client adoption before customer adoption could occur. These characteristics made for atypical information system governance arrangements because of these complex interdependencies between providers clients and customers.

The four stages identified for my central category are: concept, implementation, client and customer.

- **Concept** was used to describe the process of coming up with the idea and the plan for creation of the PSISS.
- **Implementation** describes the process for putting the plan into effect through the actual creation and release of the PSISS.
- **Client** denotes the adoption of the PSISS by clients for use in their online services that they supply to customers.
- **Customer** involves customer usage of the PSISS to consume client services.

The central category was used as a structure to present my grounded practitioner narrative, with the sub-categories included for each stage, as shown in Figure twenty.

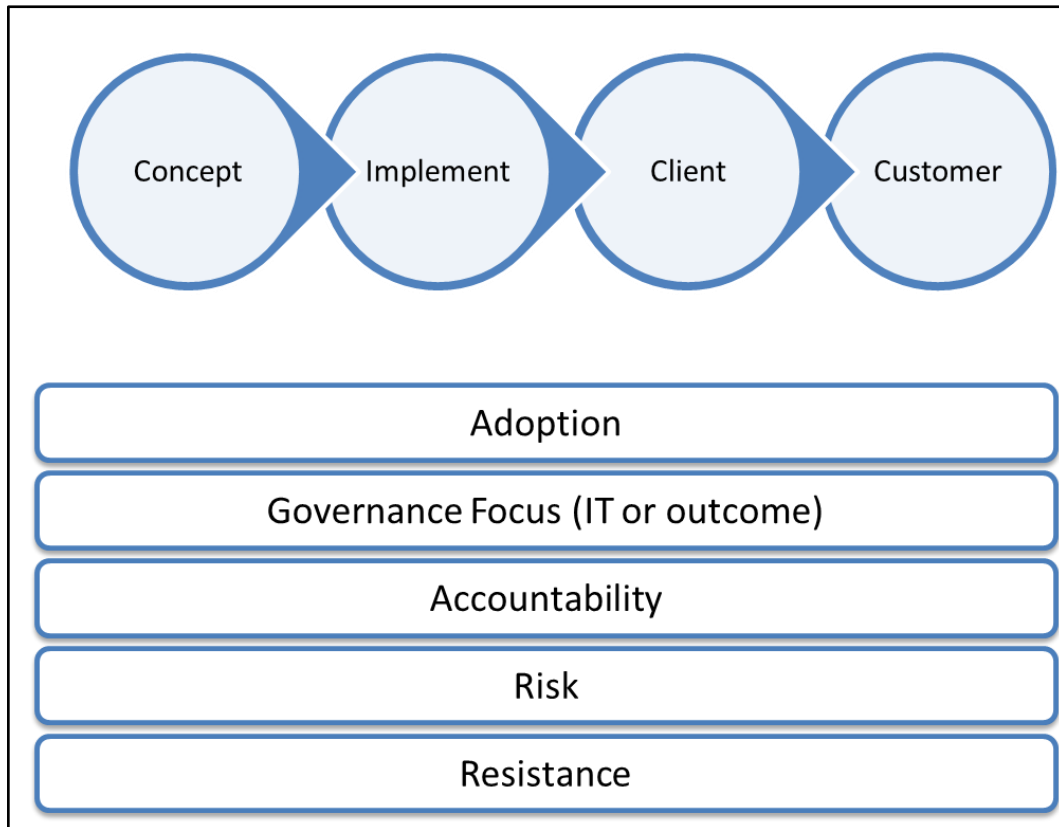


Figure Twenty: Grounded Practitioner Theory

### Concept

The first phase is concept where the PSISS was envisioned and defined resulting in a business plan for the service.

**Adoption.** The provider had to sell clients on the concept and gain their backing for Executive approval. As the PSISS had not been created there was no service for clients or customers to adopt. Respondents identified collaborative development of the business case and subsequent Executive approval as a sign of early adoption, or at least client intention to use the PSISS when it was created.

**Governance Focus.** The PSISS started as a collaborative discussion between the provider and potential clients. There were several unsuccessful early attempts to develop a shared identity service.

In the 1990s SSC created interagency working groups to discuss online personal identity. There was broad agreement around the need for identity but no real progress.

Later consultation across public sector Chief Information Officers led to discussions about the types of shared services that would make life easier for clients, leading to the creation of the e-Government Unit. “When the e-Government Unit became formalised it became the ICT branch at SSC” (Respondent 5). The e-Government Unit was responsible for design, operation and governance of shared services, as well as persuading clients to adopt shared services.

A concept was created acknowledging the increasing use of online channels for customer service delivery in the late 1990s. It was agreed that identity verification was required for rich transactions between customers and government. The e-Government Unit developed a discussion paper to explore stakeholder views on a centralised identity service around the year 2000. Focus sessions were run to gather clients who provided, or those who could provide, online services to adopt the PSISS. There was “no formal governance except in the sense that the conceptual development was seen that everyone had an interest, so it was a general conversation” (Respondent 14). Governance was put in place when discussions became more serious. The business case was written and presented to a governance group consisting of SSC and DIA representatives.

New Zealand Post produced a proof of concept solution on how the PSISS could work. Based on the proof of concept the provider gained permission to proceed with design. “Off the back of that policy and standards design was undertaken. Public consultation about privacy and government interaction was undertaken, resulting in the idea of the government logon service” (Respondent 3).

SSC was charged with developing the PSISS concept into a reality. “The bible was the business case for the particular scope and time” (Respondent 9). The Executive signed off business cases. The provider was accountable for delivery of business case benefits. “The business case showed a very strong business effect (asserting) that a centralised login and identity verification service was fundamental to use of online channels by the public sector” (Respondent 3).

The PSISS was intended to start as a login service providing access to simple public sector services. Customers would need to access services that required a greater

level of trust and the ability to use a range of services securely. The provider was to develop these services later.

Delivery of the business case would be performed by the provider reporting to the Executive. Programme management disciplines were used to plan delivery of the PSISS, manage scope changes and develop metrics to measure delivery against programme objectives. Gateways were established to provide line of sight from high level design to implementation.

Vendors would be managed through contracts and service agreements where the vendor built what the provider told them to build and had no role in governance. Programme management was intended to focus upon time, cost and quality, however, there was a feeling among respondents the provider traded off delivering high quality to meet cost and delivery dates.

**Accountability.** Clients had accountability for their ICT and delivery of services to customers. SSC identified opportunities for collaboration and joining up government. In the mid-1990s inter-agency working groups discussed options for identity management. At the time a Dublin Core identity wallet was the preferred option, however the New Zealand identity legislation made Dublin Core untenable. Sector identity services were shelved until the creation of the e-Government Unit at SSC.

The Executive had approved the creation of the e-Government Unit, legislative empowerment and funding. The Commissioner had sold the Executive the idea of shared services and was now accountable for “running the services, designing and governing the services and persuading people to use the services” (Respondent 5).

Initially PSISS governance was predominantly vertical in nature consisting of departmental controls overseen by the State Services Commissioner who reported to the Executive. The vertical nature of PSISS governance continued through concept and implementation. When the PSISS was being explored there was no formal governance, except in the sense that public servants working on the PSISS in the e-Government Unit reported to the State Services Commissioner.



The provider was accountable for developing the idea of the PSISS and developing a business case for implementation that incorporated privacy. The business case was expected to meet client and privacy requirements. The consequence was the case would be approved, or it would not. The Executive approved the PSISS business case with delivery to be overseen by a steering committee. The provider became accountable for implementing the PSISS based on the approved business case.

The provider was accountable to ministers. This became challenging when parties in power changed after elections. Accountability was enforced through existing vertical relationships. Accountabilities for relationships between the Executive and provider were defined through performance agreements and the business case. Internally the provider relied upon employment contracts and project management. Clients were involved in the creation of the business case, however after sign-off had minimal accountabilities and little involvement.

**Risk.** Respondents viewed the concept stage as the Executive charging the provider to consult with clients to develop a business case that would define the creation of the PSISS. As such respondents identified risks sitting with the Executive and provider.

The Executive approved set up of the e-Government Unit and provided the State Services Commissioner with legislative authority and funding. The potential failure of the e-Government Unit was identified as a reputational risk to both the provider and Executive. To mitigate the potential for reputational risk the Executive required the provider to develop a business case for the creation of the PSISS. The provider took on the role of venture capitalist as the PSISS had not been built, which was made more difficult as there were no comparable services.

At the concept phase respondents identified the informal nature of governance as a risk. The provider had to define the PSISS direction and bring public sector clients along with them. The risk sat with the provider to come up with a cogent plan the Executive would agree to fund, the risk was mostly reputational.

Much of the governance at this stage was informal as the provider and clients were unsure of what services they wanted. Clients were consulted about a service that

did not exist, in New Zealand or overseas, and clients believed they would have the ability to choose to adopt or not. The provider had no record of delivering ICT or shared services leading to thoughts that the service may come to nothing.

The provider was focussed upon delivering an identity solution which needed to ensure privacy and security of customer information. Early consultation occurred with the Privacy Commissioner to ensure the planned service did not run afoul of New Zealand privacy legislation.

Respondents involved in the concept stage discussed several technical risks. Much of the technology was in its infancy which made them expensive and cumbersome. Cost drove decisions changing risk profiles and technology options were passed over including secure access through two factor authentication. The early focus on technology may have reduced the PSISS system outcome focus.

**Resistance.** Clients were involved in consultation and provided positive feedback on the concept phase. The Executive required the provider to develop the business case, which was done collaboratively with clients. Respondents did not identify any resistance from clients, customers or Executive as the concept of the PSISS was captured in a business case. The business case was approved by the Executive, which was taken as endorsement.

## Implementation

The second stage of the lifecycle is implementation where the process for putting the plan into effect and the actual creation, testing and release of the PSISS occurred.

**Adoption.** The PSISS development started in SSC where the login service was being built. Datacom was the vendor contracted to build the PSISS. The approach of the SSC was build the service and the clients will come.

An anchor client was expected to be the Companies Office from the Ministry of Economic Development. Requirements were developed, but the client pulled out. The provider was faced with a dilemma as it was perceived there was no value until adoption and the provider needed to integrate with client services to prove the

PSISS. The provider identified two alternate pilot systems they could use to prove the PSISS and gain Executive sign off.

The first system was the public sector shared workspace. The shared workspace was only for public sector employee use and the PSISS added an additional login for existing users. The second system was two factor authentication for Statistics New Zealand's ATOM system which provided anonymised statistical data. After initial setup and testing Statistics stopped their service.

The PSISS was reported as proved to the Executive who approved release into production. The provider now had to convince clients to integrate their customer facing services with the PSISS.

**Governance Focus.** The PSISS was created based on a general “need for something to happen around common identity and authentication” (Respondent 2). The PSISS “was seen to be a burgeoning requirement for identifying people online so they can interact with government online to reduce the burden of asserting identity across government, so using it for multiple purposes and applications. It was defined by a core group at the SSC” (Respondent 15).

Direction was not always clearly stated to respondents, with a feeling “there are a number of discussions behind the scenes about what should occur” (Respondent 2). The initial business case was developed by the e-Government Unit at SSC. Executive approval was provided however a respondent felt performance measures were unclear as structured “benefits management wasn't there in the 1990s” (Respondent 5).

The provider took security and privacy requirements extremely seriously. “There could have been a completely different group of people who could have paid lip service to security and privacy that would have done it differently” (Respondent 17). There was debate about the use of legislation to govern the PSISS. Initially it was believed compliance with the Privacy Act was enough, until it was realised that technology alone does not protect privacy in isolation. The Privacy Commissioner became involved through the need to “ensure the identity PSISS is privacy enhancing,” (Respondent 5) and that the provider would “deliver an authentication service aligned with the Privacy Act” (Respondent 5). The provider

worked with the Privacy Commissioner to develop an agreed policy that reflected privacy by design. “New Zealand’s identity legislation made us shy away from a government supplied identity wallet. We had a 1-day workshop with design and high-level principles for what is now the identity service” (Respondent 5).

The design was lauded as a collaborative initiative with “everyone applying their minds to a common problem” (Respondent 14), a “common capability construct” (Respondent 4) for identity. The PSISS was designed to provide secure customer identity and allow clients to digitally transform customer services. Collaboration with the Privacy Commissioner provided the PSISS with an advantage as existing identity offerings did not meet the unique privacy settings in New Zealand as “it is hard to build a federated service that doesn’t leak identity data” (Respondent 11). The “Privacy Act prevents creation of a single identifier. Federation needs a single identifier that spans federation” (Respondent 5).

The provider had to overcome the challenge of providing a unique identifier to clients without passing customer identity. The PSISS only passes a client specific identifier which means when customers “login using the PSISS credential this does not link you to a verified identity. The client does not know who you are” (Respondent 5). The PSISS “does not provide identity. It provides a placeholder for credentials” as the PSISS “is essentially a unique key ring for a customer” (Respondent 5).

A key ring is only useful if there are keys attached to it. The challenge was to get clients to create services customers would want to get a key to access. The more services the more keys, the greater utility and cost savings.

Clients began to feel left out of the process. There were concerns the provider would not meet their needs and was not listening. There was a view the programme delivering the PSISS was more interested in technology delivery than ensuring the PSISS added system value. Having their jobs reliant on the success of the service led to “perverse incentives” (Respondent 11) where “people involved in the programme think better to see it through than make corrections” (Respondent 11).

In terms of enabling system outcomes the provider “become siloed and myopic” (Respondent 6). The provider turned from a consultative approach to an internally

focussed developer. The mantra was build it and they will come. This extended into respondent comments about the design of the PSISS where “the people who built and designed it were guiding it based on their own beliefs” (Respondent 17). An internal focus was linked to people in the provider having to be seen to be doing something, “what we have done is reward people for producing products, they have become good at that” (Respondent 2).

Governance was internally at SSC during PSISS implementation. Initial reporting was based on programme management. Service reporting was developed but “didn’t go anywhere” (Respondent 8). The internal governance focus during PSISS implementation was identified in meeting the needs of the provider, delivery of the programme, building the information system and designing technical aspects of the PSISS. Respondents were critical of the internal governance focus with the provider described as “bloated and arrogant,” (Respondent 9) the service was “buried in the delivery function” and the provider did “not have strategic focus” (Respondent 1). To counter this some respondents believed governance groups “should have external representation” (Respondent 14).

A pilot was conducted with NZ Post. A senior manager disagreed with the approach and sent the PSISS to a competitive process, which Datacom won. The PSISS was built by Datacom as there were no commercially available identity offerings. PSISS development used a heavyweight waterfall approach to deliver what was viewed as a piece of national infrastructure.

Datacom delivered most of the capability required, although there were concerns implementation did not meet the same standard as design, with the vendor offering “the A team set up and then getting the Z team to deliver” (Respondent 18).

SSC had no experience delivering online services and struggled to find people with PSISS experience or a mix of technical and business skills. Success for the programme was creating a PSISS. The approach was criticised with some respondents advocating “going to market for a service proposition” (Respondent 6).

The PSISS was created believing build it and they will come, which was a little naive. The provider attempted to engineer a technically perfect solution to avoid

risk, as it was safer to spend money to reduce perceived risks than to take a chance trying something new and introducing risk. Risk aversion was part cultural and part driven by perceived client risk aversion with the intention of increasing confidence for adoption. Respondents believed the time would have been better spent talking to clients to identify their needs.

Respondents referred to technologists, indicating ICT professionals who were more interested in ICT than outcomes, who tended to “think in short cycles and have a poor understanding of economics making shared services more of an article of faith than we would like them to be” (Respondent 11).

The technology focus was criticised for contributing to poor financial decisions and gold-plated solutions as “technologists love technology, but they are not financially literate” (Respondent 11). Respondents identified a fascination with capital funding and replacement of existing technology, rather than considering alternative service provision models, like cloud services as technologists would lose the ability to purchase replacement technology for them to manage.

The provider was shackled to an underfunded infrastructure and “caught in the previous investment cycle” (Respondent 6). The choice to build the PSISS had burdened the provider with high sunk costs. Respondents thought the PSISS should have been abandoned, however, “too many people with influence had their careers on the line” (Respondent 8).

The provider bought in consultants to implement the PSISS which influenced the design. “It was a \$25-30 million-dollar project which spent too much on consultants, they had to have the best” (Respondent 8). These consultants recommended best of breed solutions which were not always well implemented or supported. In one instance the PSISS went down for a period due to the failure of a piece of supporting network technology which was a single point of failure. Production services were put at risk and preproduction was failing.

The reliance on consultants reinforced the focus on technology, rather than outcomes. “We are spending our money on high cost commodity. Not on the valuable stuff. We are focussed on the burden, so we can’t get our heads above water to resolve” (Respondent 11). With a focus on the vehicle not the destination

the provider was making decisions through a technology lens rather than the needs of clients and customers. By trying to make the information technology system more cost efficient they were not questioning whether it was the right vehicle for providing customer value. The provider was seen to be “doing the wrong thing but doing it really well” (Respondent 11).

The provider was comfortable designing and building the PSISS, however, they struggled with operations which included defining the levels of service and ensuring delivery met the defined levels. Employees at the provider were rewarded for delivering technology. They subsequently found it difficult to step out of their professional discipline as technologists. Respondents were critical of the programme delivery stating “there was a poor handover to production” (Respondent 8). They acknowledged there were issues with the quality of the PSISS stating “we have scored a few own goals digitally, and we need to aspire to do better” (Respondent 16). The e-Government Unit imploded because they became the technology builders. They used influence to get clients to commit to adoption. SSC made commitments that clients did not support them with. This undermined trust between the provider and clients, leading to bad blood. The SSC could not get clients to come to the collective table, rather clients acted in their own interest.

Respondents questioned “whether the technology is the right choice, some think it is cumbersome” (Respondent 9). The PSISS took a long time to develop and when it was built clients did not have any services to integrate, leading to a longer delay. All this time the costs were being amortised and the provider was left with an albatross. Treasury were asked to write off the costs but did not, resulting in provider resentment as the PSISS “would be financially viable if the debt was foregone” (Respondent 7).

Some respondents indicated alternate methods may have alleviated the financial burden. Twenty years ago there were “no signposts or previous solutions. This was before online banking, before we expected and knew what we wanted to be private or shared. Before Facebook” (Respondent 14). Rather than having a large technology infrastructure burden the PSISS should rely upon existing public infrastructure, the “equivalent of a signature on a cheque” (Respondent 9). These

respondents thought the provider running technology was inefficient and service quality could be improved through commercial or cloud offerings. The PSISS was out of step internationally with other PSISS that were outsourced cloud offerings, for example taking a bank identity and using it as a credential.

Respondents discussed numerous commercial identity offerings available today, when the PSISS was being designed there were not. The provider was designing a federated identity for many stakeholders without signposts or existing solutions, which became exponentially difficult. Alternate solutions are available today for a fraction of the price as “options in the market for identity & access offerings have increased dramatically” (Respondent 6). Cloud offerings were also promoted for enabling quicker system changes to meet the changing needs of clients and customers as “turnaround time is reduced largely through the cloud” (Respondent 11).

Respondents identified other issues contributing to poor client and customer experience. As the PSISS was one of the first shared services created for the New Zealand Public Sector there was always going to be a learning curve, however, there was a belief that the Executive did not tolerate failure or the ability to learn. Fear of failure encouraged issues to be buried or excuses to be made. Upon reflection transparency was a key requirement for governance arrangements, with the provider learning “don’t bury things in the project it will only come back and bite you” (Respondent 9).

Respondents tried to argue the PSISS had not completely failed “Has it delivered technically? yes. For the money spent, has it provided value? no. Adoption – no” (Respondent 8). Similarly, “if you define success by the business case it has not been successful. If you define success as does it work and does it do what it set out to do it was successful. If you define success as living up to its potential, then definitely not. The biggest failure is that it hasn’t won the hearts and minds of anyone” (Respondent 17). The responses appear to reinforce the perception of provider focus on technology. There was a belief the governance was designed by committee, without a customer focus. “I suspect by and large at a governance level defined by legislation, privacy etc. Under the hood defined by technocrats and bureaucrats who provide direction” (Respondent 12).



The build it and they will come approach was criticised. “If done again, I would suggest a different approach to how it takes place. Rather than a central agency there would be a co-design approach” (Respondent 2). Many respondents believed the provider should have focussed upon the wider system benefits, rather than technology which is good for increasing efficiency or doing the wrong thing very well. “The problem is people are too focussed on technology. Technologists have focussed on technology making the change, it can be a catalyst or meet requirements, but it is only one of people, process and technology” (Respondent 6).

Clients were provided a shared identity service to integrate with their customer facing services, the problem appears to be the PSISS did not provide what they wanted. “The GLS was flawed there was no way a client would use it because it would not provide enough verification. It could not replace AD. There were no rights attached, GLS was only yes or no for how many millions of dollars. Because it didn’t provide the roles and rights with login it had no value. The problem was adding a layer of complexity with no value” (Respondent 8).

The suitability of SSC as provider was questioned. “Anybody familiar with constitutional arrangement of the Executive branch will point out a contradiction of SSC having the ICT branch in that way. That is why most of it was moved to DIA” (Respondent 5).

**Accountability.** The business case provided a governance frame which was mostly representatives from SSC. Early governance arrangements relied upon existing vertical accountability relationships between the provider and Executive. The provider was required to report to members of the Executive through the public sector accountability framework. Business cases needed to be approved and would set performance targets. The Executive were accountable for approval of the business case authorising the PSISS. Approval included financial approval to release funds to the provider. The provider was required to report progress to a steering committee. Ultimately the provider was accountable to the Executive who monitored the performance of the provider implementing the PSISS against the performance targets defined in the business case.

The PSISS was the first step in connecting personal information across public sector services for a “richer metasystem” (Respondent 17). The needs of customers and clients were a focus for the PSISS during design. “It was always about members of the public being able to control their data and an awareness that benefits would fall equally across the sector” (Respondent 14). The GCIO at SSC set up a steering committee consisting of 4-5 public sector client chief executives who met monthly and reported quarterly to the Executive. The steering committee oversaw the programme delivering the PSISS and was chaired by the Deputy Commissioner of SSC. The steering committee provided a “collective view of the government entities” including client perspectives (Respondent 9). Governance sub-committees were established to enable collaboration. Clients were tasked with delivering customer facing services, however respondents believed Executive direction for client PSISS adoption had been lacking.

Privacy was an important design consideration as the PSISS held personally identifiable information about citizens. There was tension between the provider and security agencies when the provider pushed for legislative reform to institutionalise privacy as “without a specific law customers or police could request personal information” (Respondent 17). Legislation was intended to increase trust of the provider by clients and customers. The Privacy Commissioner participated in design to protect privacy and ensure compliance with the Privacy Act.

The provider included public sector clients in the governance group. Some clients participated in PSISS governance but did not adopt. Client chief executives identified the strategic importance of the PSISS, although they were not helpful. They would attend meetings and obstruct progress. Respondents believed the provider realised “different governance arrangements were required for different phases of the service lifecycle” (Respondent 6).

Implementation of the PSISS was problematic as SSC were never service deliverers, however, they were expected to deliver a PSISS programme and a consensus across the public sector. They came up with the concept of the PSISS and sold it as something the Executive should support and invest in. What they struggled with was delivering adoption and culture change. Respondents believed realising the vision required collaboration across the public sector, unfortunately

this did not appear to happen. What they observed was technical people at the provider who want to just get on and deliver.

During implementation the provider saw success as getting the money from the Executive to proceed. Vertical accountability was much more straightforward than relationships with clients. The provider was held accountable for delivering programmes and developing business cases. Business cases were identified as “the Bible” (Respondent 9) for the scope of the PSISS and programme phases for delivery. The provider was accountable for ensuring quality based on requirements captured in the business case, limiting the ability to change direction.

Governance was internal to the SSC and accountability sat with line managers at the provider. There were limited governance gates. Performance was set and monitored by a governance group of senior managers from the provider. Employment contracts were quoted as forms of accountability, managers reporting to senior managers, to the Chief Executive who was accountable for performance targets and reporting to the Minister. Progress against business cases were reported through programme management reports. The PSISS was reviewed through contractual means and reported in the SSC annual report.

The provider relied upon an external developer to build the PSISS. Infrastructure delivery got entwined with the delivery of the service to customers. Respondents believed the provider changed to delivering and supporting the technology, rather than benefits provided to customers. Testing the PSISS against pilot systems became a technical exercise to ensure access and security, rather than ease of use or ease of integration with client services. The PSISS was reported to the Executive as a success. The Executive granted approval for the provider to release the PSISS and agreed client adoption performance targets.

SSC had developed the PSISS and would be accountable for delivering adoption targets to the Executive. When the PSISS was being introduced to clients “the structures and mechanisms for cross-government mechanisms were not there” (Respondent 17). Feedback was mixed, coming from a range of stakeholders including public sector clients and the Office of the Privacy Commissioner. Clients

were expected to adopt the PSISS, however they could opt out of adoption. The provider struggled to make the transition from developer to service delivery.

**Risk.** The PSISS was intended to enable government services to become customer centric. A single access method for customers was preferable to having to remember individual accounts and passwords for each public sector client a customer could interact with online. The PSISS was a proxy for national identity cards, which did not fit with the New Zealand culture. By having an online identity, customer services could be provided without the need for a physical card or token. This provided surety about who the person was and what they could do online.

The PSISS was a product of a different time with limited collaborative governance mechanisms and few federated identity solutions available. The government took a risk and developed a bespoke system. The provider led implementation of the PSISS, trusting their design with an attitude of “build and they will come” (Respondent 11). The provider was criticised for excluding clients from decisions impacting them. Some respondents identified customer tensions about government holding information about them like big brother.

The Executive faced a risk the PSISS would be developed and no clients would be in a position to adopt the PSISS. The response to this risk was to require the provider to develop business cases for implementation. Respondents believed the provider was overly optimistic about adoption, essentially making a rod for their own back. The Executive agreed performance targets with the provider and signed the business case. Performance against business cases was reviewed by a steering committee and results reported to the Executive.

When the PSISS was created governance was internal to the provider. Programme governance was performed during the development of the PSISS with reporting, risk registers and a programme of work with individual work streams. Internal provider controls were in place to mitigate risk including performance agreements, contracts and service levels. This internal focus was intended to provide confidence the PSISS was well designed and implemented. Internal controls did not provide confidence to clients that the PSISS would meet their needs. Respondents identified a need for external representation on the governance

groups. “I have not observed any external or public representation on their governance, that is one of the biggest holes” (Respondent 14).

The PSISS was developed as a technology service without an understanding of the risks associated with system-wide change to national identity. PSISS implementation was run by the provider with the attitude of build it and they will come. The use of technical requirements defined by the provider, as long as they did not conflict with the business case, reinforced the risk the PSISS would not meet client or customer needs.

The provider knew best, they knew the technology required to create the PSISS and believed there were economies of scale to be gained across the sector. They believed this argument would be enough for client adoption. What they didn't consider was the PSISS would take a long time to implement. Compounding this delay, when the PSISS was implemented no clients were ready to integrate customer facing online services, and it would be years before they were. This put the provider behind on adoption targets and raised the risk of PSISS failure.

The provider sought to identify suitable client-based services that could be used as candidates to prove the PSISS in practice. These candidates could be used to start driving customer adoption. When there were no clients to adopt the PSISS the provider was left with an albatross, which made a large hole in their budget, however they believed the PSISS would be viable if the debt was written off, unfortunately Treasury disagreed.

Respondents were critical of the provider for building the PSISS as alternate solutions are available today for a fraction of the price. New commercial online identity services introduced a risk the PSISS would be left behind as it was built on old technology that could not be easily updated and was perceived as not meeting the changing needs of clients or customers. The risk was the PSISS would require additional funding or risk being left behind.

**Resistance.** Statistics had been involved in the testing of the PSISS and had subsequently decided to stop using the PSISS. As the provider had not involved other clients in implementation there was little or no buy in from potential clients. Client resistance was passive but building as they did not feel part of the process.

Clients were wary of adopting a PSISS from a policy agency with no track record of delivery.

Respondents identified instances of active resistance from clients after PSISS implementation. As clients were not involved in implementation they could sit on the side lines and raise concerns about the ability of the PSISS to meet their needs, which had not been sought or articulated during implementation. The two pilot systems were not viewed as successful by respondents or clients, even though the provider had reported their successful integration to the Executive. Statistics withdrawing gave other clients pause. The public sector intranet added an additional login, which reduced the usefulness for clients who were compelled to use the PSISS to access the system adding an additional step. As one respondent said it added “complexity with no value. I changed roles three times in government and had to get three different logins for access to shared spaces” (Respondent 8).

## Client

The third stage of the lifecycle is client where the service has been released and client adoption is sought to deliver PSISS integrated customer facing digital services.

**Adoption.** The initial provider was SSC, a central agency within the New Zealand Public Sector, whose early focus was upon gaining funding. Success was viewed as the ability to create shared services “whether they worked is another thing” (Respondent 15). The PSISS was designed to provide two identity services: GLS and IVS.

Performance targets were based upon client adoption, under the belief client services would drive customer adoption, which would encourage more client services. A focus on adoption metrics shaped formal governance mechanisms, and provider behaviour. Respondents felt hard numbers could be understood, therefore provided value. Softer measures were harder to define and measure as “there was no direct line of sight to the soft areas” (Respondent 4) which were more subjective and took longer to play out.

Adoption targets were optimistic. The people writing the initial business case thought adoption would grow more quickly than it did. Forecasting was not only inaccurate but also unadjusted by experience over time. Once the timeframe and expectations were set they were hard to shift.

The provider felt responsible for PSISS direction as they believed ministers and clients had a poor understanding of the PSISS and benefits it could provide. The provider took a technology centric approach as “inherently people involved in technology like to solve technology problems” (Respondent 20), which clients criticised as a technology solution to a business problem. The provider’s strength was a “weakness, they have (a technology) discipline which makes it hard to step outside their discipline to get a multidisciplinary approach” (Respondent 2).

Consumers of the PSISS were identified as clients (public sector agencies) and customers (citizens). Clients would use the PSISS as an identity source to provide digital services to customers. The desired state was a system that met adoption targets for both clients and customers as well as reducing sector costs.

The provider expected clients to adopt the PSISS without much encouragement. Programme management was used to measure and report performance against targets. Business cases were evaluated against projected benefits and previous results. Accountabilities for performance targets were built into performance agreements. There was a soft marketing approach, whereas some respondents felt client adoption should have been compelled.

Market readiness was questioned after implementation. Building the PSISS based on a vision rather than demand from clients led to an adoption dilemma as clients were not ready to integrate with the PSISS, resulting in a three year wait for clients to catch up. Without client services there would be no reason for customers to adopt.

The provider requested direct funding which the Executive refused, so had to collect directly from clients which was a “terrible idea” contributing to client avoidance (Respondent 3). The need for clients to commit funding from their existing baselines was not well received with some clients becoming hostile and unwilling to collaborate. The focus on adoption, with additional client cost,

contributed to difficulties gaining client adoption which led to a downward spiral for the PSISS.

Problems were identified with ongoing Executive commitment. Respondents criticised the piecemeal approach to funding. The importance of the PSISS was acknowledged by the Executive but not widely understood, leading to a half-baked approach to system investment where the technology for the PSISS was funded, however there was limited funding for system change.

The PSISS was “an impossible sell if you are trying to nickel and dime recovery costs” (Respondent 20). With respect to identity it was believed cost recovery was detrimental to cost effectiveness as charging clients disincentivised client adoption impacting customer adoption and outcome realisation.

Some respondents were concerned with the provider’s inability to demonstrate PSISS costs and client benefits. They believed the provider “should be able to demonstrate the costs of a central service and contrast against individual services. It should be straightforward to enable assessment” (Respondent 2). Identity verification costs were buried in wider information system costs, making the PSISS appear an overhead cost for client digital services.

The value proposition was “flawed as there was no way a government department would use it because it would not provide enough verification. It could not replace active directory, GLS was only yes or no for how many millions of dollars?” (Respondent 8).

The provider was under pressure to increase adoption to meet performance targets. The “mantra was get volume at any cost” (Respondent 16), which was challenging as the provider was charged with gaining critical mass from a standing start with no existing client digital services. Client digital services who adopted the PSISS were painfully trivial and did not provide the “bums on seats” to meet performance targets (Respondent 18).

To increase adoption, whilst waiting for client adoption, the provider insisted public sector employees authenticate through the PSISS. This “was probably a mistake. We have staff who authenticate at client then have to reauthenticate”



(Respondent 16). Poor user experience further reduced client appetite to integrate customer facing services.

Convincing clients was particularly difficult as some had never seen the PSISS and had little trust in a provider who did not have a track record of delivery. Clients were seen to have an internal focus on their deliverables rather than wider system benefits. “Most government entities would have been happier if the project hadn’t happened. They could have carried on doing their own things” (Respondent 17). The provider was performing “fundamentally a sales role, through job descriptions and the performance framework, it was run like a sales organisation, with targets and rewards for hitting those” (Respondent 3). The push to increase adoption led to acceptance of client services ranging from those with “nice new user interfaces to another agency having any old rubbish” (Respondent 20).

Performance reporting was based upon client adoption, rather than customer adoption or integrated digital services used by customers. This simplistic reporting raised questions about when client adoption occurred. Clients could sign a memorandum of understanding agreeing to use the PSISS which was then reported as adoption, without any customer services integrated. Even if clients agreed to an integrated service, several years could pass before the promised service was used by customers.

The provider’s inability to deliver an easy to adopt PSISS caused concern as clients had further hurdles before they could create PSISS integrated digital services. Clients avoided adoption based on the PSISS reputation and adoption experience of clients. Concerns were raised about accountability and potential liability in the event of PSISS system failure. Reputational damage and financial risk appeared to sit with clients and they were not happy.

The provider felt clients would “come up with a number of excuses, you could write a book on all of the excuses for getting out of all-of-government stuff. They tend to be it is not going to work for the customer or it is too expensive, or it doesn’t fit within our programme at this point in time” (Respondent 15).

Client concerns led to their half-hearted commitment, and affected adoption targets. As provider SSC leveraged their role managing chief executive

performance, by using client chief executive performance agreements as a stick to drive client adoption resulting in lip service adoption, also known as the curse of the smiling faces. Still clients were not buying into system benefits or trusting the provider who they saw as clipping the ticket.

The provider struggled to get face time with client decision makers, this also contributed to limited trust between provider and clients. Without time to influence key decision makers the time to market for integrated client services increased. Combined with a lack of influence with the “slow moving wheels of government” (Respondent 11) the provider was not meeting client adoption targets. Client compliance was expected by the provider who became frustrated the Executive was not compelling clients to adopt the PSISS. There was a feeling “senior sector leaders need to get past the slogan waving” and adopt the PSISS (Respondent 20).

Key clients who could provide large scale customer services were visibly avoiding adoption as they had the resources to develop their own identity services. The provider’s response was developing a plan for driving adoption through clients with high volume customer services as “80% of the spend comes from 20% of agencies” (Respondent 11). Unfortunately, many of these already had working identity solutions. To them the PSISS appeared to be an overhead because they thought “the cost (of using the PSISS) should be lower than doing it myself” (Respondent 2).

Respondents believed, with hindsight, small to medium clients could have provided a better rate of adoption, because although smaller agencies might not provide the same scale, they would be more likely to collaborate as they did not have enough resources to implement identity services on their own. One respondent had identified nine smaller agencies who agreed to adopt the PSISS, however, they found the agreement they brokered ran counter to existing all-of-government agreements and the plan was shelved. It was counter-cultural in the public sector to only work with willing clients, as all clients were expected to participate and the provider’s response was to investigate their means to direct client adoption.

At this time, PSISS benefits were not well identified or understood. It was believed “until there are enough customers there is no system value” (Respondent 19).

Some respondents thought payback for identity services would be decades, however, the Executive set an expectation of a short-term payback.

One of the intended PSISS benefits was reduced sector costs. Standard service offerings were a way to provide consistency and reduced cost for all clients and customers. While the PSISS was planned to provide cost reduction and consistency, clients expected flexibility. Clients wanted enhancements, which would have limited the applicability of a commodity solution. Tension mounted between the provider who wanted to provide standard service offerings and clients who wanted flexible, configurable services as part of the PSISS. The PSISS was criticised as a commodity service that did not meet individual client needs.

New business cases were developed capturing expected benefits and planned changes. Adoption targets were defined “with metrics that were pretty easy to measure, reported to the steering group and to the Minister of State Services” (Respondent 3).

Performance targets placed pressure on the provider to increase client adoption. Clients were put under pressure to integrate. Although the PSISS had been reported as proven, clients complained integration was costly and challenging. Clients attempting to integrate their services found the PSISS “does not work out of the box” (Respondent 20) meaning clients had to undertake substantial rework for integration.

Clients believed adoption costs should have been offset by other client savings, which did not happen. Respondents thought the PSISS was expensive for what it provided. Building on cost tensions, respondents identified clients where digital services had to be reworked with built in identity solutions having to be removed to accommodate the PSISS. The client was left with a digital service they had to modify, to remove the built-in identity components and still pay licensing and maintenance for the components they had removed. Clients were frustrated at having to pay additional licence costs for components they were not using. Clients resented being compelled to consume the PSISS, being levied to build the PSISS and to integrate. The experience of those adopting the PSISS did not set the right

tone, one example given was the “Ministry of Health spending \$750,000 for a service they did not use” (Respondent 8).

Client complaints about adoption and integration were dismissed as emotional responses. The provider believed clients were passionate about arguing for their existing and planned services, when they felt threatened they reacted emotionally, resisting PSISS adoption. The theory was clients had committed significant energy to developing their services, including identity, which left them feeling threatened by the PSISS. As a result, clients raised multiple concerns to try to retain control of their own systems. This was viewed as the “illusion of control” (Respondent 11) where clients wanted to maintain their own systems, which was not financially viable from an all-of-government perspective. Clients just thought it was poor customer service and the provider protecting their reputation.

Not meeting performance targets led to increased tension within the provider and with clients, damaging provider reputation and contributing to reviews and funding challenges. The PSISS underwent several ministerial reviews. “It was often presented to ministers, they would ask if it was worth continuing with. The reports said it was strategically important and needed increased adoption, which required agency buy in. These themes came up again and again” (Respondent 2). Limited adoption meant the provider had to keep going back for more money further damaging their reputation with clients, becoming a vicious cycle.

Where all-of-government collaboration required a mindset change, the public sector was seen to be in a jargon phase where collaborative working was discussed but the old method of investment case, funding and failure to meet performance targets continued. Measured “against the business case it is an abject failure” (Respondent 16).

Clients asked why they would participate when there were no visible benefits. Despite limited incentives for client adoption respondents felt public sector clients should be directed to use the PSISS as “CEOs don't give a shit about operations. Strongest levers are big sticks, mandatory” (Respondent 18) showing a desire within the provider to mandate PSISS adoption.

The PSISS was one of a suite of shared services provided by SSC. Other services like the Government Shared Network were also beset with similar adoption challenges. This led to another push to increase adoption. The provider concluded if they compelled client adoption performance targets would be reached. The provider sought to leverage the Commissioner's legislative mandate, thereby creating a "burning platform to provide the motivation" (Respondent 2).

The State Services Commissioner owned the PSISS and believed he had a legislative mandate which provided "the power to direct other agencies. He was looking for an opportunity to use that power. He issued the direction to the whole public service" they had to use shared services (Respondent 17). The directive led to client resistance rather than willingness to collaborate.

The provider attitude to client adoption changed from working to encourage client adoption to ensuring compliance. If clients "needed authentication it had to be used" (Respondent 2). The provider sent agents to increase client adoption, "I performed the role of selling the benefits of the GLS to agencies. And sell, reminding them of the mandate" (Respondent 3).

The directive was in place to increase adoption and to ensure the right conversations were had between provider and clients when new technology decisions were being made that involved identity. Any new or modified digital customer services would be required to consider the PSISS. This was intended to combat client avoidance of the PSISS, as the overriding feeling was clients would avoid the PSISS if they could.

Clients criticised the provider for driving adoption without understanding their needs or adapting the PSISS to make adoption easier. Client trust was eroded through loss of control over their services and compelled adoption. Clients feared reliance on a third party PSISS built on technology that was rapidly becoming obsolete. Clients did not trust the provider and were concerned about losing autonomy or the ability to make decisions to support the delivery of client outcomes. As a result, clients continued to play the waiting game holding off creation of digital services to avoid integration, meaning the provider failed to meet adoption targets.

The effectiveness of governance arrangements were questioned as the directive was a vertical mechanism employed in a situation where there was meant to be horizontal governance. Clients were critical of governance introducing risk when it was meant “to mitigate risks” (Respondent 2).

The time SSC spent as provider was disastrous, particularly when considering the wider e-government programme. Respondents questioned whether a central agency should be providing shared services to clients, particularly given the Commissioner’s role managing client chief executives. Having the Commissioner in conflict with client chief executives was concerning, particularly given the perceived PSISS & GSN failures. There was a panic to get the programme out of SSC.

Respondents identified a blip for the credibility and performance of the PSISS in 2009/11 with the provider transition to DIA and the demise of the e-Government Unit, which set the PSISS “back a number of years and tarnished the brand” (Respondent 16). Adoption slowed, contributing to a vicious cycle of limited investment, system stagnation and poor client experience leaving the new provider feeling they were on a hiding to nothing.

The provider had a lack of role clarity resulting in fragmented decision making. There was conflict between DIA as provider and as client. Across DIA people were trying to get the PSISS to do more things to create a new value proposition, creating more tension. They suggested the PSISS manage client authentication and access controls. Other clients were frustrated by the lack of a clear PSISS direction and believed governance was buried in the provider at DIA. The provider led PSISS governance and was criticised for taking a technical rather than outcome focus.

Respondents identified a need for an outcome rather than technology focus as “from a leadership perspective you can't make technology something that you bury your head in the sand, you need to understand the capability technology provides” (Respondent 20). The technical governance focus was compared to giving management of our national currency to coin collectors, where they become more interested in the notes and coins than fiscal policy. It was felt a focus on technology

provided a shiny solution that won international awards for technical design but wasn't delivering outcomes for New Zealand or meeting adoption targets.

Adoption targets shaped the performance reporting. A focus on metrics limited the ability to conduct a richer discussion about outcomes. Respondents felt constrained by the original performance targets, which were an aspirational "goal seek" (Respondent 3).

The provider struggled to change public sector culture to gain PSISS acceptance. The sector was not ready, and it took time for clients to develop services and change their mindset. Clients were observed as being outside looking in when it came to adoption, taking "the after you principle, as no agency wanted to be first" (Respondent 5).

Integration continued to be challenging. Clients were provided with open source components and a feeling that when it came to integration clients were on their own. The provider argued once clients had one digital service integrated it became easier for subsequent services, the challenge was getting the first one up. They later acknowledged "in the early days we knowingly accepted poor integrations, as we were quite desperate" (Respondent 19).

Clients were having to rework services and argued a collaborative approach to integration would reduce both integration time and costs. Respondents believed the provider should accept external authentication mechanisms rather than pure reliance upon a government built PSISS. The existing PSISS would then be considered one of multiple identity options for clients. Respondents thought engagement between provider and client should be smarter, providing clients with integration options so they could select, and only pay for, the PSISS components they required.

Clients' critical feedback was a catalyst for change. Criticism about their adoption experience led the provider to realise they "had to get into the mode of customer focus, which we hadn't done before" (Respondent 19). This was driven by a need to increase adoption to justify future Executive investment in the PSISS.

PSISS adoption remained slow and targets were not being met. The PSISS had a reputation as an expensive product that met a need, but not in a user-friendly way, contributing to client resistance. The provider employed client relationship management to overcome resistance. Numerous technical documents were produced for clients to aid adoption, integration, and relationship building.

The provider set out to engage with clients to understand what they needed from the PSISS. Based on client consultation, the provider changed the PSISS roadmap to bring forward functionality including two factor authentication and improved integration. Easier integration was seen to improve the relationship between the provider and clients; however, concerns about the rate of adoption remained. Some respondents criticised adoption targets as overly optimistic with a belief they should be shifted back 10 years.

To increase adoption the provider requested a strengthened mandate from the Executive to show “we have consulted enough now we use the stick” (Respondent 17). The Executive sent clients a message by issuing a Cabinet mandate, the PSISS was a mandated service with public service clients bound to adopt it. If their services required authentication the PSISS had to be used.

There was internal tension at the provider about the Cabinet mandate, with some respondents preferring a cost-effective solution that clients would want to use rather than forcing clients down a technology path. Reliance on the mandate as a governance mechanism was criticised. “At the time the mandate was seen to be useful but in the long run it removed the pressing need to treat government agencies as clients. It caused conflict” (Respondent 17). Other respondents believed the mandate was essential for authorising the provider to refuse the ability for public service clients to use other options. One respondent called for the mandate to be further tightened by the Executive threatening to cut client budgets to ensure adoption.

The mandate fuelled further client resistance, “middle to lower management felt it is like Parliament telling me what to do” (Respondent 19) which made it harder for the provider to get client adoption and realise performance targets. The mandate was intended to gain critical mass for PSISS adoption, prompting collaboration



between provider and clients. In reality, clients were avoiding PSISS adoption where possible. Clients “would look at the exact (mandate) wording and argue from there” (Respondent 17). Some clients came on board adopting the PSISS, others avoided adoption in some cases limiting their digital service offerings which ran contrary to the desired outcome.

The mandate was viewed as a stop-gap to drive adoption, however there was a growing realisation collaboration was needed to drive adoption, as well as system investment. PSISS results had been reviewed multiple times. The broad conclusion was PSISS provision is challenging and there are no easy options. After multiple reviews ministers and senior executives began discussing softer areas and the need for effective collaboration across the public sector.

Public sector collaboration was identified as requiring a small group of tightly connected leaders, rather than a provider led PSISS. The provider proposed new collaborative governance arrangements. Increased client involvement in governance was expected to align client, customer and provider needs with Executive direction. It was hoped alignment and client involvement would increase adoption and provide a stronger argument to the Executive for increased funding.

Limited funding was impacting system improvements. Technological change was also affecting the PSISS and public sector culture, as “technology has enabled delivery in ways we have not thought of, for example smartphones” (Respondent 20). The provider was expected to pick technology to meet future client and customer needs on a limited budget. This was particularly challenging when running a service designed a decade earlier. The Executive did not want to invest in bleeding edge technology, so the provider was left “a few investment cycles behind where we should be” (Respondent 20). The fear was any new technology selected would be the wrong option, become obsolete or just not integrate with new client systems, further damaging adoption.

**Governance Focus.** After implementation the provider continued as an information system developer with an internal focus. PSISS enhancements were planned and the provider was busy developing the Identity Verification Service.

They thought the hard work had been done as the PSISS had been built and clients would come. They were wrong.

New Zealand was one of the first countries to introduce PSISS, which was challenging. “Early shared services need to break a lot of ground before they can deliver. These services need to build connections to existing services, users, devices and methods for integration” (Respondent 4).

The PSISS business case was built upon cost avoidance by avoiding multiple online identity processes with separate systems for verification. Payback would be realised through adoption by all public sector clients and customers. Customers were intended to benefit by having easier access to services, clients would not need to manage customer identity and the Executive would have greater confidence entitlements were being managed. “When we set it up it was so that government could be assured that they were delivering the services to the people entitled to them. Can’t pay taxpayer money when you don’t know they are who they say they are. You need assurance that the right people are who they say they are” (Respondent 14). Executive agreement was identified as signing off the business case.

When the PSISS was at SSC the Executive were the ultimate governance group, supported by vertical governance arrangements between the Minister and e-Government Unit. Definitions of success were defined by a steering committee, then subject to independent review. The provider reported to the Executive through the steering committee. The Executive was seen to have set the wheels in motion and left the provider to drive.

SSC attempted to establish horizontal governance, as provider and central agency, which led to the conclusion it “didn’t fit in SSC. Horizontal governance doesn’t fit anywhere” (Respondent 9). Although an all-of-government approach was discussed, it lacked a connected public sector network to support outcome delivery.

SSC were “never product delivers and never a delivery agency” (Respondent 14). Despite these factors they were expected to deliver consensus and the PSISS to public sector clients. Respondents criticised the provider for limited client consultation. The provider’s challenge was getting a collective of clients

committed to the PSISS. “The first five years was getting people’s heads around it. Governance was people playing their roles in relation to their departmental responsibilities, with central agencies having an overview role” (Respondent 14).

SSC struggled to convince clients to adopt the PSISS. Lack of engagement was “part of the problem, not a lot of supporters” (Respondent 3). The provider was accused of talking big and paying lip service as “branding and marketing is big, not the acknowledgement of the problems” (Respondent 17). PSISS cost was an ongoing problem, particularly recovery of sunk costs. Clients argued the PSISS was out of date and could be replaced for significantly less than they were paying. Issues with passing costs to clients led to relationship issues and “contributed to controversy” (Respondent 2). A lack of cost transparency made comparison between PSISS or standalone identity services difficult. Clients also expressed “concerns about losing control of customer experience” (Respondent 5) to the provider as they became dependent upon the PSISS.

The PSISS was criticised for being “hard for people to integrate with” (Respondent 11). Clients wanted easy integration from the provider. “From what I could see they didn’t do much to help clients” who were “left to sort out integration” (Respondent 5). Clients lacked clear adoption guidance which led to rework of client services to enable integration. “The institutional norms of different clients clashed” (Respondent 17), posing a challenge for increasing adoption.

Clients who were attempting integration with the PSISS were left to wait for clarity on standards, or to forge ahead, praying they avoided reworking their solutions as they had spent their allocated project budgets. They purchased solutions with identity components which they had to pay to licence and use. After paying for the inbuilt identity component they had to pay extra for the PSISS and even more to integrate, requiring additional, often unbudgeted, funds to remove the existing “out of the box integration” and integrate with the PSISS (Respondent 8). The removal of existing identity components was not easy as client systems required functionality the PSISS did not perform, leading to a requirement to use part of the client system identity and PSISS in parallel. This became problematic for clients running and upgrading systems.

Initial attempts to integrate services were “not wildly successful, a dismal failure. More like let’s convince clients that we don’t” (Respondent 1). Adoption came down to relationships, finding the right champion within clients to push adoption. Other clients, like Inland Revenue, were holdouts who heard poor adoption experiences and avoided adoption.

The provider decided to “focus on the big clients” (Respondent 11). Large clients played the waiting game and actively avoided adoption. Respondents questioned whether smaller clients would be more likely to adopt quickly as “small clients are nimble, people get things done rather than worry about position” (Respondent 11) and “those who can make things happen do not always come from big clients, you should focus on those who are fleet of foot rather than the big ones” (Respondent 11).

Unfortunately, costs were “disproportionately expensive for small clients” (Respondent 11) and the PSISS did “not scale well given cost per user” (Respondent 7) so the provider did not publish the projected scaled costs. This was problematic as many small clients would benefit the most from a shared service as they were fiscally and resource constrained, limiting their ability to implement robust identity solutions. The provider did not provide incentives for small clients to overcome the fiscal or resource constraints so small clients avoided adoption.

Even though clients did not have the bandwidth to contribute they voiced concerns about the ability of the PSISS to service the public sector. As a result, many clients opted not to use the PSISS as they believed it did not meet their needs and may introduce undue risk to their ability to deliver services to customers.

The game playing by clients and limited funding from the Executive meant opportunities for the PSISS to provide a national identity system were being missed as “New Zealand needed a grown-up conversation about this” (Respondent 12). The provider took the view clients were snowflakes, as they all saw themselves as unique and every client had “a story about why they are different and the complete mess if they adopt a shared service and things will go wrong” (Respondent 17).

The provider was frustrated by clients’ inability to think beyond their own needs. “I am not sure clients have understood the value of it. It becomes valuable when

multiple clients take it on and critical mass kicks in” (Respondent 15). Clients would accept the logic, but culturally they were struggling to meet their day-to-day deliverables, let alone meet sector outcomes. Clients ran projects focussed upon delivering information systems, rather than the wider system benefits, on time at the lowest cost. Any other considerations, including the PSISS, were distractions.

The provider had to push a service delivering limited value. “We were spending our money on high cost commodity, not on the valuable stuff. We were focussed on the burden so we can’t get our heads above water to resolve” (Respondent 11). Respondents argued meaningful delivery to customers takes time. Time to market for the PSISS was three years, client services took a similar time, yet the provider was expected to deliver the original performance targets, which were considered unattainable.

The provider had to act decisively to reach performance targets, as a result, stakeholders were not always in the provider’s line of sight. The provider believed they could make better decisions using their expert knowledge without client input. Clients “felt threatened. The quality of work on identity, and separating it from other attributes, it was difficult for government people to understand” (Respondent 9). The lack of understanding “polarised people’s perceptions of what will be accomplished leading to resistance rather than willingness to participate” (Respondent 2). Rather than spend more time increasing understanding the provider attempted to drive adoption. Clients could be involved later as decisions were time critical and imparting the understanding required to make decisions to clients needed time, time which the provider did not have.

Public sector culture involved looking no further than one election cycle, further limiting the time available to put change in place. The provider had limited time, resources and needed to get it right first time. The public sector approach to risk was criticised, and respondents believed the tolerance for failure needed to change as it is “really hard to learn if you can’t fail” (Respondent 3).

PSISS direction became what was best for the provider. Governance decisions were seen to be reinforcing previous decisions and protecting the PSISS. Fear of reputational damage meant SSC, as provider, continued to push the PSISS “even

though everyone knew it would fail, no-one had the guts to call it” (Respondent 6). Respondents believed the provider was being painted into a corner and holding the brush.

Some respondents favoured collaboration over the provider’s internal “structures of accountability for delivering shared services, I’m not convinced they made much of a contribution. They didn’t do the work to create and enable adoption. The ideas that work are the ones where the clients actually contribute” (Respondent 11). Others argued clients had been “involved in the governance of the PSISS but were not adopting at the time, and are still not adopting, this is many years old and IRD are still not an adopter. One of the dynamics that was occurring was it was strategically important at the time and high-level governance people would turn up at the meeting. But they would turn up not to make it happen they would turn up, passive aggressive may have come to mind, and said they did not want the thing to proceed” (Respondent 15).

The provider struggled with informal collaborative governance as it was “very difficult to communicate effectively across more than 30 people” (Respondent 11). Respondents believed collaborative governance efforts were hampered by the vertical nature of public sector accountability and pre-existing vertical controls with hard measures. Adoption was something that could be measured, however it was somehow inadequate. The adoption focus enabled the provider to report metrics, however there was a feeling that outcomes were ignored, because PSISS performance was measured against client adoption without considering public value.

The PSISS had no real value to the sector without customer facing services. Customers saw little benefit to adoption while the public sector was consumed by conflict between provider and clients as they could get a PSISS identity but had limited client services they could access. The PSISS was a “necessary but uncomfortable service to provide. It got to the point where the service did not develop further and stagnated. No one would invest in it due to the large investment required, which sealed its fate. It needed significant adoption to become successful” (Respondent 17).

The PSISS was “not achieving targets, which caused pressure during funding time” (Respondent 13). When performance targets were not met the attitude of the Executive towards the provider became negative. The provider was placed under “continual pressure to drive uptake whilst reducing cost” (Respondent 13).

The provider was subjected to assurance reviews. Treasury was involved in PSISS governance however they “were only interested from a financial perspective, at times an annoying role” (Respondent 9), and the PSISS underwent “independent reviews from Audit NZ and gateway reviews” (Respondent 9). The reviews usually coincided with funding requests to the Executive. Results were presented to the Executive who “would ask if it was worth continuing with. The reports said it was strategically important and it needs to get adoption up and clients across the line, which required buy in. These themes came up again and again” (Respondent 15).

The Commissioner decided to leverage his legislative mandate under the State Sector Act to force client adoption. “The Commissioner had the power through amendment to the Act. It gave the Commissioner the ability to direct public sector clients” (Respondent 17). The previous version of the Act had given public sector client chief executives the ability to say ‘No’ to the Commissioner. They were responsible for their own outcomes and could refuse to use shared services. “He was looking for an opportunity to use that power. He issued the direction to the whole public service. I had to go to DHB’s and told them they had to follow the mandate. Half the problem of going beyond the public service was (clients saying) who the hell does the Commissioner think he is telling us what to do?” (Respondent 17). Respondents identified a power struggle looming over client adoption between the Commissioner and clients.

The directive led to increased client resistance, as “if you are unpleasant no-one will follow your ideas” (Respondent 10). “Some clients became hostile,” (Respondent 9) and in some cases clients were “shooting the messenger” (Respondent 11) leading to provider employee resentment as “the messenger does not want to deliver the message” (Respondent 11).

SSC was caught between Executive and clients. Clients had participated in planning and governance, then disappeared when it came time to adopt. The SSC felt “a lot of frustration about the position they had been put in, yet in another sense there were no real consequences for not meeting the business case” (Respondent 3).

SSC struggled with the addition of the e-government programme, which was an unnatural fit for a central, predominantly policy-based organisation. SSC failed to meet performance targets and struggled to deliver the programme leading to questions from Treasury and the Executive. There were even questions about a potential conflict of interest between the State Services Commissioner and client chief executives who were expected to adopt the PSISS.

There were no real consequences until the programme “went bankrupt” (Respondent 3) leading to questions about whether governance oversight was adequate. Support from senior management evaporated. The GCIO was exited under a cloud and the e-Government Unit and programmes were transferred from SSC to DIA, which “set the whole thing back by a few years” (Respondent 16). When discussing the transfer of the e-Government Unit from SSC to DIA respondents “felt undermined at times” (Respondent 1) as they had invested a lot of their time and effort into the PSISS without much reward.

Respondents identified a need for the Executive to take a leading role requiring clients to integrate customer facing services. Until the move to DIA the Executive was viewed as delivering legislation that limited the ability of the provider to collaborate and to share information where “legislation is the greatest inhibitor, not technology, people or processes” (Respondent 7). As the provider changed there was a changing attitude to the use of legislation as “we wanted some protection” (Respondent 17).

After moving to DIA the provider struggled to get funding. Although the Executive supported the move from a technology view “to a system asset administered through DIA as provider. It was hard yards to get acceptance from ministers” (Respondent 10). The Executive would only confirm a 12-month investment to



minimise fiscal exposure. Short-term investment meant many longer-term strategic opportunities were foregone.

Respondents believed reviews did not consider what was required to adequately run the PSISS. “There have been countless reviews, if you want to create an infrastructural capability someone has to take a risk on the investment. Going to SLT or board you need to invest in plumbing and pipes. When they want to talk about the electronics and interface becomes really hard to make a case. You need to make the case, it won’t work without plumbing” (Respondent 6).

The public sector was expected to fund the PSISS and there were no other sources of funding. Charging customers for the PSISS was unpalatable as was advertising revenue. “Clients are the ones that pay, oddly enough the people who hold the accounts don’t pay at all” (Respondent 15).

“Theoretically the Executive had the ability to stop. I think though that the sunk costs ensured it continued” (Respondent 17), which was “why even though the discussions with ministers continue to be tense the initiative continues to be pursued” (Respondent 15). The problem was “you get so far in and you cannot stop. You can imagine stopping a service which has 100,000 users and saying it didn’t work, then what do you do because you have to find something else to provide identity for those users” (Respondent 15).

Respondents struggled with the Executive as “there was no normalising view at Cabinet, the Prime Minister needs ministers to have autonomy to meet their own needs” (Respondent 11). Ministers disagreed with each other and the goals of shared services. The lack of unanimity contributed to client willingness to ignore the mandate. The provider tried to develop closer relationships with the Executive, to gain acceptance of the PSISS as the national identity system.

Commercial sustainability of the PSISS was questioned with the hand to mouth funding model. The provider had “largely existed on subsistence funding and no real funding for 10 years. They have done base level stuff but not moved forward to what people want or the market provides. Operational funding has been top slicing” (Respondent 16) of client budgets, which led to grudges and did not provide enough money to make the PSISS effective.

Clients had been directed to adopt the PSISS, however they delivered their services and paid lip service to collaborative delivery. The provider, both at SSC and DIA, set up cross-sector committees to increase collaboration, but there was a perceived lack of accountability from sector governance groups. Having chief executives involved in governance was a “burden as the people in the governance forum push the risks back down rather than trying to resolve them” (Respondent 11). Based on their experiences some respondents thought that “horizontal governance is a dog. Everyone who is doing it is struggling with it” (Respondent 9).

Respondents identified a lack of benefits clarity, which was compounded by changes that impacted governance continuity. Changes to governance arrangements altered the stated purpose of the PSISS. Historically there was a lack of clarity about what roles the PSISS would perform. Clarity was required in documents to define the PSISS deliverables up front. Some respondents thought PSISS infrastructure delivery became entwined with the delivery of the PSISS to clients and customers. It became hard for the provider to separate the two. The governance function was criticised as being “buried in one part of the organisation with limited exposure to other issues” (Respondent 1), with a “reliance on standard DIA governance mechanisms: finance, investment, capital planning, where a shift was required to make the service a true asset for the wider system, for accountability cannot sit within a single agency” (Respondent 1). Another respondent agreed “the intentions were there from DIA, it was just not happening” (Respondent 17). Governance became murky as it was embedded within DIA. The provider tried to “direct and control for outcomes” (Respondent 11), which limited the strategic focus and the ability to deliver customer facing outcomes.

Sectoral outcomes required customer adoption, which in turn required client services. The problem was without a larger number of online client services, customers had “a thin relationship with government” (Respondent 1). They would only use the PSISS once or twice a year, and when they did they would often forget their password, which represented little value.

At DIA the PSISS still struggled to deliver adoption targets. Although client and customer adoption were increasing progress was slow. The provider realised they had introduced a risk developing the PSISS without client services to integrate.

The provider had worked for over a decade to overcome this risk by getting client services integrated and customers adopting the PSISS. They now felt the Executive had gone off the PSISS and was making their role difficult. Service performance and adoption were success factors, however some respondents were unsure about how the PSISS was performing, having “no idea about uptake or services” (Respondent 9).

Clients had reservations about adoption which were reinforced by “historical issues about usability” (Respondent 2). One issue for clients was the PSISS wasn’t user friendly and placed a barrier between clients and customers. There were a lot of technical and operational documents, not much user documentation. Clients found offering digital channels came at a cost, which left them with the option of additional expenditure or the avoidance of digital channels. Clients become emotionally attached to their services, they had committed significant energy to developing and delivering to customers and felt threatened by the PSISS. Clients were “passionate about their initiatives, technical solutions and arguing for them. When threatened they reacted emotionally” (Respondent 11).

Integration concerns between clients, the provider and vendors were ongoing even after the move to DIA. Clients wanted vendors of customer facing services to work with the provider to co-develop pre-integrated services that worked out of the box with the PSISS. This would have removed the additional cost of integration faced by clients for implementation and future versions of services, “however, none of those vendors are willing to connect as they do not see the critical mass for the PSISS” (Respondent 7).

Without central coordination, it would take a long time “to get 120 clients consuming common capabilities, each would have a long and expensive process” to adopt and integrate with the PSISS (Respondent 6). The provider did not have a long time and was under pressure to deliver performance targets based on adoption, which drove the behaviour of the provider to “get volume at any cost” (Respondent 16).

The need to collaborate was a hindrance for delivery of outcomes. The need for a more directive top down approach was cited by a respondent who was “all for benign dictatorships if they get on and do stuff” (Respondent 16).

To overcome client resistance the provider sought government endorsement through a “Cabinet minute that refused the ability to use other options” (Respondent 9). This provided a Cabinet enforced mandate requiring client adoption, meaning if clients “needed authentication it had to be used” (Respondent 2).

The mandate was intended to drive client adoption, which in turn was expected to lead to the “mass creation of customers” enabling the creation of much better, smarter services enhancing data broking and privacy (Respondent 1). “The mandate was restated rather than new and reinforced” (Respondent 16), as it leveraged the same legislative mechanisms as the State Sector Commissioner was provided, reinforced by a Cabinet committee.

The mandate added horizontal accountability to the existing vertical accountabilities between clients and ministers. The provider had the ability to compel public sector client adoption, which changed the dynamic between provider and clients. Previously the State Services Commissioner had attempted to compel adoption but had been widely ignored. “Things have matured since the SSC days. SSC had no overarching mandate, which GCIO now does. The mandate provided more pressure from the centre to collaborate” (Respondent 13).

Adoption increased, however, what the provider found was interfering in the service delivery of clients is not trivial, particularly when you are trying to align clients across the public sector through the adoption of a PSISS. The provider had the ability to compel adoption, however it was not prepared for the changes required to the sector.

The mandate provided a short-term increase in adoption, however, it was believed mandates don’t work in the long term. What was required was a “culture shift in the way the public service does business” (Respondent 13), to where clients have, and want, to use the PSISS. “At the time it was seen to be useful but in the long

run it removed the pressing need to treat public sector clients as stakeholders. It caused conflict” (Respondent 17).

When reflecting on the use of the mandate a respondent, who was still working at the provider, stated when “CE’s have freedom, a mandate is a waste of time. If the ideas are good, you do not need a mandate. People will listen if the idea is good. Once listening they are more likely to adopt” (Respondent 11). Compelling client adoption and integration was seen to “lead to 10 years of pain. A ball of mud architecture. People don’t do their research they pay 10% up front and 90% after implementation. Client functionality of \$1 requires \$4 investment. Sometimes the best idea is smack it on the head and rebuild” (Respondent 11). Given these experiences some clients either paid the tax and avoided integration or just did not develop new online services, which impacted the ability for customers to interact with the government online.

“The mandate had a negative effect. Created odd dynamics, people not wanting to upgrade IAMS technology as it meant committing” (Respondent 3). The provider used the mandate to promote the use of the PSISS by clients even though there were “many projects that have not wanted to do that” (Respondent 7). Public sector clients were made to pay for the PSISS, whether they intended to adopt or not. The plan was to “make them use it. They levied clients to get it built like a form of taxation. Making it optional was not considered” (Respondent 8). Being forced to pay for a PSISS they may not use was frustrating, when the experience of clients adopting the service was also negative it set the wrong tone for collaboration.

Centralised control by the provider limited collaboration across the sector leading to “questions about a federated model” for governance (Respondent 16). Adoption had increased, however the provider still struggled to get certain agencies to adopt. Respondents believed a single agency taking the lead may have been naïve, increased client involvement in governance was needed to increase collaboration.

PSISS adoption had been treated as a transaction. The mandate was intended to drive the transaction. Many respondents believed “mandates poison relationships” as “people do not like being beaten with a stick” (Respondent 11). The mandate combined with top slicing of client budgets was criticised as damaging trust and

the will of clients to adopt and later collaborate. Adoption increased, however, so did client resistance.

Executive intervention was heavy handed and inefficient, and constrained collaboration leading to a belief it was better for the PSISS to be managed by the public sector. Respondents favoured client collaboration over the mandate. “If the ideas are good you do not need a mandate. People will listen if the idea is good. Once listening they are more likely to adopt” (Respondent 11).

The provider initiated a “fundamental re-conception of how the PSISS was going to grow and become successful” (Respondent 1), to turn around a perception of long-term failure and internal criticism. Rather than trying to force all clients to adopt the PSISS respondents favoured a collaborative coalition of willing clients working to deliver performance targets.

For the PSISS to succeed customers needed to have an online relationship with multiple client services using the PSISS. There was an opportunity to provide more flexible identity options through the PSISS which “acts as a keyring holding a number of keys, the PSISS is the keyring itself. I can add string keys to the ring. Clients can ask for other stronger key (held on key chain). Customers can add new keys to the key ring, the keyring identity comes back not the key. Then client investment is zero to use keys as the verification is based on the keyring” (Respondent 5).

The provider identified a need for increased collaboration with clients and vendors. There were “opportunities to grow into an ecosystem with communities that want the PSISS to play nicely” (Respondent 7). Collaboration would require different governance arrangements and participation across the service lifecycle with “a diverse group involved in different phases of the service to try to avoid group think” (Respondent 6). A critical mass of client senior managers was required to influence the sector to gain a critical mass of client adoption.

**Accountability.** After implementation “the key measure was adoption” (Respondent 3). Targets were set in the business case and placed the provider on a set trajectory for years to come. There was no direct connection to customer use of client services. Clients were expected to drive customer use of client services.

Clients were wary of change as cross-sector service delivery is challenging “particularly if you are trying to line up every single agency for the same effect” (Respondent 15). Respondents identified increased client expectations for the provider to deliver identity capability improvements for the public sector. The provider was faced with the challenge of meeting varying client needs with a PSISS that promoted consistency through a one size fits all identity service.

SSC struggled to convince public sector clients to adopt the PSISS. Client buy in was slow coming. The provider was accountable for the PSISS, however respondents questioned whether they had the skills to deliver to their accountabilities. Questions were asked about the capability of the people and governance arrangements, respondents were “not convinced they made much of a contribution. They didn’t do the work to create and enable adoption” (Respondent 11).

The recollections of governance and accountability at SSC as provider were mixed, with some respondents claiming personal responsibility, others citing sector based horizontal approaches and others questioning whether the provider relinquished control. One respondent thought the provider spent the first five years “getting people’s heads around it. Governance in that sense was people playing the roles in relation to their departmental responsibilities, with central agencies having an overview role. Which they don’t have now which is quite ironic” (Respondent 14).

Public sector clients took longer than expected to come on board, which impacted adoption and therefore provider performance. Another manager saw central control as “when I was a manager at the e-Government Unit governance was the central agency” (Respondent 14). Attempts by SSC, as the central agency, to introduce governance were described as pseudo e-governance and inappropriate. Responses showed differing opinions of what governance arrangements were in place, indicating governance and accountability were not clearly communicated or understood.

Performance was based on client adoption. “Things like ease of use were not strong criteria in the thinking at that time” (Respondent 15). After the PSISS was

implemented there were groups who were accountable for the PSISS, however respondents believed what was needed was a single point of accountability.

Whilst the Executive was seen to support the PSISS it was believed “most ministers had a poor understanding of what the PSISS was or could be” (Respondent 1). Similarly, respondents believed the provider had roles mixed up making the PSISS difficult to understand. There was a focus on commodity services rather than collaboration. Subjectivity came into play and the provider focussed upon what was technically best for the PSISS rather than what was best for the sector.

Respondents questioned the existing public sector funding model. The provider was expected to recover costs from clients which created ill will. As one respondent put it “there have been a number of makeshift approaches to investment, including chargeback to clients which created tension” (Respondent 20). Cost recovery was viewed as part of a wider issue of no mature method for investing in system-wide assets.

The provider struggled with lower funding and higher levels of accountability when providing services, which in “public policy are large issues” (Respondent 1). There were “countless reviews which have been critical of the PSISS without addressing the need for investment” (Respondent 6). The provider needed funding for infrastructure but the Executive just wanted client services. As a provider SSC felt “a lot of frustration about the position they were put in, however, in another sense there were no real consequences for not meeting business case goals. I am not sure who was in charge and bore responsibility for not meeting business case” (Respondent 3). This lack of clarity resulted in tension and further frustration.

The provider worked to “increase adoption. The main focus was the core public service departments,” (Respondent 3) although there were ambitions to extend across the public sector. It was fundamentally a sales role defined through job descriptions and the performance framework. It was run like a sales organisation with adoption targets and rewards in place for hitting targets.

The provider believed delivery of the PSISS was all that was required. There was a perceived lack of accountability to clients to meet their needs, leading to client resistance. The provider was accountable to the Executive for meeting adoption



targets, which they failed to meet. Performance metrics were limited which was reflected in limited provider accountability. Respondents believed these factors all contributed to the provider being shifted from SSC to DIA.

The State Services Commissioner backed the GCIO, “when the Commissioner stopped backing the programme it died” (Respondent 17). The time SSC spent as provider “was a disaster, as a policy organisation it struggled with having a large programme running in the agency. Lots of accounting issues distorted their balance sheet. The programme was disproportionate to the purpose of a central agency whose core business was appointing chief executives and evaluating their performance. There was a panic to get it out. The Commissioner was judged on success of programme, the GSN went south and panic set in to get rid of ICT including the PSISS. Results changed the reporting lines. Almost the whole e-Government Unit was shifted” (Respondent 17). The provider became part of “a group in DIA who are responsible for delivery of the PSISS” (Respondent 2).

Managers within the e-Government Unit struggled with the move from SSC to DIA. The roles they performed changed and they had to adapt. The provider was the vehicle to drive the adoption, but they needed additional support from the Executive to provide additional capacity and capability. The provider needed to collaborate with external agencies and vendors. They were making improvements it was just a little slow. The provider hired staff to conduct “promotion, engaging with clients and integration management” (Respondent 19). Presentations to clients were a leap of faith to get client senior management to adopt the PSISS.

Liability was a thorny issue. The argument was clients and customers were using the PSISS for client services meaning the government as a whole were liable, as agency liability is merely one dimension of governmental accountability, which did “not make sense. If a DHB is using a service and get it wrong shouldn't the DHB hold the provider liable? Governance was the solution. The point was not liability, rather how do you fix this than hold parties liable” (Respondent 17).

Governance was seen to be buried in one part of the lead agency with some respondents “amazed how informally (it was) defined. DIA had sole responsibility built into their baseline, providing approval from Treasury to invest. DIA could

run teams, market, product develop with little oversight. Governance relied on standard DIA governance mechanisms like finance investment and capital planning” (Respondent 1).

Respondents debated whether horizontal governance was employed by SSC, however, vertical governance returned with the transfer to DIA with respondents stating it was the provider that did all the work. Respondents identified a need for governance arrangements to change and it was believed the best approach was for GCIO to lead cross-sector governance with client representation.

Clients were slow to adopt, leading to tension between the provider and Executive as performance targets were not met. The provider had limited power to compel client adoption. The PSISS was in place to act as a broker of identity services between public sector clients and customers. As one respondent put it “RealMe is fascinating. I did RealMe 2009 business case review. Before then 5-6 business cases said the same thing. Basically, do you wish for the government singular to have a relationship singular with the public singular. Or agencies to have relationships with different populations” (Respondent 11). There were numerous internal and independent PSISS reviews by central agencies including Treasury, DPMC and SSC, with findings reported to ministers and the Executive. Respondents questioned the value of reviews, which had only concluded that PSISS were difficult to deliver.

Legislative and regulatory changes affected the accountability relationships of client chief executives. “Prior to that chief executives were only accountable for what they did, not for cross-government deliverables. Legal accountability was a key inhibitor for adoption” (Respondent 17). Legislative changes were designed to remove the inhibitor, although compelling use through a mandate raised concerns about liability and the ability for clients to deliver if the PSISS failed. Legislative changes removed Executive liability and opened the service to private sector clients.

The GCIO was leading sector ICT collaboration. The vendor, Datacom, was held accountable for operating the PSISS. The accountability relationship with Datacom was contractual and performance was based on a service agreement. The

vendor had no role in governance, they built what the provider told them to build. New Zealand Post was introduced to work with the provider to productionise the PSISS for use by banks. Liability became even more complex when NZ Post became involved, introducing another party to the existing multi-party accountability.

There was an admission a one size fits all governance approach did not work. Respondents believed the lead agency was considering changes to PSISS governance, and the wider shared services governance arrangements. These changes included increased horizontal mechanisms, customer focus and sector accountability.

**Risk.** Clients had little confidence in the PSISS or the interface they were offered to connect to the PSISS. There were issues with control as they felt the PSISS did not meet their needs or those of their customers, which led to the perceived risk that the PSISS could contribute to the failure of their customer facing services and reputational damage. These factors limited client willingness to collaborate with the provider.

The provider struggled with being a service provider and a government agency. There were challenges with how the provider could handle risk. There was a recognition the PSISS introduced “too much risk to bury issues” (Respondent 9). The provider undertook reviews to identify and address risk. The programme had a risk register and independent quality assurance. Several other reviews were undertaken by Audit New Zealand and the gateway review programme. To combat risk the provider relied on technical evaluations of the PSISS and ensured there was a robust process where “I’s were dotted, and T’s crossed” (Respondent 12).

Risks were identified as occurring between the provider, sector and the government. Governance was put in place to mitigate risks and oversee the delivery of the PSISS. Internal assurance and risk mitigation performed by the provider did not address external risks, particularly the risks that arose from working collaboratively with partners.

The disconnect between provider and clients contributed to the risk of non-adoption. The PSISS introduced cross-sector accountabilities for public sector

client chief executives. The risk posed by these accountabilities was an inhibitor to adoption, which contradicted the intent. The provider did not have a good relationship with client managers, many of whom felt threatened by the impact of the PSISS on their existing and future services. The provider did not get meaningful face time with stakeholders or publish details of future PSISS changes. Time to market for PSISS changes took three or more years. Clients either did not wait for changes and independently implemented their own services or were completely risk averse and held off, leading to an adoption lag. The cumulative result was lower than forecast adoption.

Respondents believed the business case oversold potential benefits. The adoption forecast was not well understood, with the Executive expecting growth would occur quicker than planned. Milestones were changed to camouflage the risk of not meeting adoption targets.

The Executive reduced funding, limiting investment to maintain and upgrade the service as needs changed. Underinvestment was criticised as contributing to a cycle of failure, introducing a risk transformation would not occur for customer services.

Governance arrangements between provider and clients was subject to additional governance from the Executive and central agencies. Numerous reviews were observed as risk avoidance exercises. Executive risk aversion constrained funding needed to deliver system value. The large number of reviews and internal controls added costs to the PSISS, taking money that could have been used for PSISS enhancement, as it was easier to spend money to reduce perceived risk rather than innovate and introduce risk. The provider was required to introduce innovation whilst reducing risk to the Executive and meeting customer's current and future identity needs. The public sector had a "really ugly relationship with risk" (Respondent 11). Governance of the PSISS was risk avoidance with the Executive passing risk back to the sector. It was believed no investment would occur until there was a catastrophic event involving customer identity, until that point there would be minimal investment.

The provider failed to meet adoption targets, which introduced the risk of the PSISS being shut down by the Executive. Clients were concerned about the ability of the provider to deliver, particularly given funding constraints, therefore avoided adoption, increasing pressure on the provider.

The PSISS was not a successful shared service. Client and customer adoption increased, however it was tempered by the time adoption took. Slow adoption by clients and customers introduced risk to the provider limiting their ability to deliver the benefits agreed in performance agreements. The Commissioner responded to the risk of non-adoption by attempting to compel client adoption, which failed to deliver performance targets leading to the PSISS being perceived as a failure. The provider panicked and shifted the e-Government Unit and PSISS to DIA.

The new provider responded to non-adoption by gaining a Cabinet mandate for client adoption. The provider sought to establish control, the mandate helped to overcome some adoption barriers, however it increased tensions and damaged relationships with clients, where collaboration was required. Clients were afraid of losing control and resented central controls, if clients could possibly avoid using the PSISS they would. Large agencies were initially able to hold off the mandate.

Growing dependencies between client and provider services required more collaborative governance. When the PSISS was introduced it only performed authentication, which provided limited benefit. Moving from simple online services to federated passport grade identity was a big jump. The provider had to work with clients to understand the nature of services, interrelationships between services and ensure privacy and security for all customer and client facing services, which was “not something that is done every day” (Respondent 15).

PSISS ownership introduced risk to DIA. An inter-agency governance layer was introduced to mitigate risk, which caused tension within the provider. The provider was subject to centralised controls which were seen by respondents as illogical and contradictory. Conflict between the provider at DIA, programme management at SSC and assurance gateways at Treasury were seen to limit PSISS effectiveness. Centralised controls were a barrier to be avoided, with those delivering the PSISS

focussing upon delivery at any cost rather than changing the PSISS to meet the needs of stakeholders and centralised controls.

The PSISS was designed the early 2000s. Since then the use of online services, and security risks, had increased exponentially. Clients services, and access to customer information were targets for exploit. The PSISS has been enhanced to increase security and privacy, although more investment was required for new functionality and security. Future opportunities, like multi-factor security and voice biometrics, would require collaborative development between provider, clients and vendors; as well as customer willingness to use these new services.

The model of the provider operating an identity PSISS was criticised as out-of-date and adding risk to the Executive. Outsourcing to third party providers were a viable alternative. Respondents believed using a private service provider would reduce the perceived level of risk as ongoing provider failure reflected poorly on the Executive.

**Resistance.** Respondents identified a lack of trust in the provider, and a feeling the PSISS may fail, or cause client systems to fail. Larger agencies played the waiting game resisting adoption, as did some clients involved in governance. Client reasons to not adopt increased when the PSISS failed to meet the needs of clients who did adopt. When the provider failed to meet performance targets the Executive reduced funding leading to a downward spiral.

Limited Executive financial support resulted in the provider having to “nickel and dime recovery costs” (Respondent 20) through the “top slicing of agency budgets which lead to grudges” (Respondent 16). “Cabinet refused direct funding, so SSC had to collect from agencies” (Respondent 2). The provider argued funding was insufficient, it “got to the point where the service did not develop further and stagnated as no one would invest in it due to the large investment required” (Respondent 17). Clients disagreed and viewed the provider as “bloated” and “centrally arrogant” for taking their budgets (Respondent 9). The PSISS was criticised for being over-engineered. “Risk adversity drove that. It is easy to spend money to reduce risk rather than to take a chance and introduce risk” (Respondent

18). As a result, the PSISS was viewed as “a bit of a disaster. Like the most engineered over managed programme of work” (Respondent 18).

The provider “had to dispel that every agency needs it and will jump for it. They will not change until there is a reason, as it costs to change” (Respondent 19). SSC struggled to “convince the public service it was a good idea or get agency buy in” (Respondent 1). They found client “trust was hard to build, easy to lose” (Respondent 18). Clients felt threatened and they reacted emotionally. The limited adoption made it “really, really hard in those early days” as it was “hard to justify investment when there was not many users” (Respondent 19).

The provider attempted to sell the PSISS to large clients, unfortunately “the sales people didn’t sell the benefits to big agencies” (Respondent 8). Larger clients had the ability to play the waiting game to avoid adoption. Some large agencies were involved in governance but did not adopt the PSISS, which frustrated the provider, particularly after including client executives in governance groups. Client executives attending governance meetings were passive aggressive and attempted to block the progress of the PSISS. Clients argued governance groups were set up to meet the provider’s needs as the real power was “held by the senior management” (Respondent 4).

Clients had many reasons why they were unique and could not adopt the PSISS. “Generally there was not confidence in the service or the interface, there was an issue with control as clients felt the service wasn’t good enough” (Respondent 15). Clients who adopted the PSISS complained about the experience, putting other clients off. Others argued they had existing identity solutions meaning the PSISS would add additional cost without any identifiable benefits. The provider was criticised for adding little value to clients and was viewed as “layers of ticket clippers between thinkers and engineers” (Respondent 11).

PSISS adoption was viewed by respondents as optional, with an inference it was mandatory and enforced by the Executive. Clients were not adopting or were agreeing to adopt then pulling out. The Commissioner was frustrated by the lack of adoption and believed he was legislatively empowered to direct adoption so

“was looking for an opportunity to use that power. He issued the direction to the whole public service” (Respondent 17). Respondents felt the directive was required as public sector chief executives needed to be shown the stick to drive adoption. As a result, “provider and clients clashed” (Respondent 17). The client response was to resist and argue about the wording of the mandate to find reasons to avoid adoption.

The Commissioner could not compel clients to adopt, instead he was reliant on ministers, however, sometimes ministerial goals conflicted with shared services, limiting client appetite for adoption. Adoption targets were not met and the PSISS was seen to have failed. The provider was seen to “lurch from crisis to crisis” (Respondent 2). The “Commissioner was judged on success of programme, it went south and panic set in” (Respondent 1). As a result, “almost the whole unit was shifted” to DIA (Respondent 17).

Funding was limited and the PSISS put in a holding pattern. “No one wants to invest until there is a catastrophic event. It costs money to do it well, which eats into crown funding” (Respondent 20). Even with agreements there was a lack of communication and respondents felt they “don't always know what has been discussed with ministers” (Respondent 20).

Back at the provider “there is a mis-connection about what RealMe is and what people expect it to perform. We are trying to limit it” (Respondent 20). Outside the provider people in DIA were “trying to get it to do more and more things, this creates tension as they think RealMe is managing authentication and access controls for all agencies” (Respondent 20). As the Department saw the provider as delivering technology to manage identity they did not see the provider as leading the sector. “The biggest challenge has been people in the Department understanding how we operate as a capability. It is based on managing ministers by pushing a wider agenda of system change” (Respondent 20).

Existing sector funding and controls were frustrated as there “was no maturity on investment for system-wide assets, there have been a number of makeshift approaches to investment” (Respondent 20). The makeshift investment approach



combined with a technical focus led the provider to “invest in the service and not the system” (Respondent 20).

Clients complained the PSISS was “hard for people to integrate with” (Respondent 11). Integration led to increased, often unbudgeted, costs for clients, it got to the point where “people say based on reputation I do not want to participate” (Respondent 2). The provider believed clients were making excuses “two of the main objections are the cost and usability of the service. And the cost of integration against other priorities in the agency work programme. That old chestnut” (Respondent 15).

The provider believed change was inevitable and railed against the illusion of control where clients thought they could “afford to say we will have, hold and love our own tin” (Respondent 11). Liability was a thorny issue, as client services became reliant upon the PSISS, they asked “if the service gets it wrong who is liable? Is there a liability agreement?” (Respondent 17), indicating clients wanted to treat the provider like any other service provider with contractual liability. “The argument was people are using agency services so government as a whole is liable, agency liability is merely accountability. Governance was the solution. The point was not liability, rather how do you fix the service rather than hold liable” (Respondent 17).

Presentations were made to client management where the “value proposition was a leap of faith” (Respondent 19) and client management were pressured to commit. Even with the mandate it was “hard to get commitment and realise benefits” (Respondent 19). It was found that “mandates don’t work generally” (Respondent 13) as they require a culture shift in the public sector.

Respondents identified a need for shared accountability for the wider system, believing system accountability cannot sit with a single organisation. Rather than trying to control PSISS adoption, there was a realisation the role of the provider was to enable clients to “think more creatively about delivering services” (Respondent 20). Upon reflection a respondent admitted “there are some things done better at agency level. RealMe is a small but critical enabling thing. When you lose that focus you will annoy agencies and lose sight of what you are trying

to do” (Respondent 20). The provider’s role changed from developing solutions and driving adoption to “performing an assurance, integrity and reliability function. Most of my work is working with partners, that is where the risk exists” (Respondent 20).

Existing vertical governance arrangements were constraining collaboration. Although the Executive had enabled changes through legislation, BPS and collaborative governance, the “system-wide asset approach can be half baked. I am not sure if New Zealand realise we need system investment” (Respondent 20). Rather than ask “how to get the best investment of government money on a single capability and make savings across agencies,” we should be focussing upon “leveraging capabilities that exist to deliver optimal citizen experience whilst delivering value for money” (Respondent 20).

Funding and the need to recover costs was an ongoing concern. The provider struggled to show improvements with limited resources and there was a view “set up costs need to be written off to national benefits” (Respondent 21). There were fears the PSISS would be wound up or moved to a third party to make savings. In the words of one respondent “this is an enabler why commercialise it?” (Respondent 20).

## Customer

The fourth lifecycle stage is customer where client services are integrated with the PSISS and customer adoption is sought.

**Adoption.** Once clients and customers started using the PSISS, and identifying issues, the provider needed to take a more client and customer centric approach. User experience became significant with functions like system testing not done well, creating a negative impression and impacting adoption. Respondents identified a “need to provide value to clients and customers” (Respondent 1), rather than simply deliver technology. It was asserted the PSISS could provide greater utility and contribute to the public sector however it was not clear how this would occur.

Tensions rose as the provider had to operate within public sector constraints and meet customer needs and wants. Technologists highlighted the technical qualities of the PSISS and became frustrated when “customers would make stupid suggestions” (Respondent 19) as managing technical expectations was difficult enough without adding customer needs.

The PSISS was providing three distinct services: login, address verification and identity verification. Respondents believed having “a centralised login and identity verification service was fundamental to use of the online channel by the public sector” (Respondent 3), and an essential part of developing a secure national ecosystem for digital services. A validated identity would provide increased security, thereby enabling clients to securely offer higher-value digital services. The PSISS could connect digital channels which customers could use knowing their personal information was securely managed.

Customers would have a single secure identity rather than multiple different logins and passwords that would be easy to forget, providing a single identity they could use more frequently. The frequency would increase the use of digital services and reduce the cost to clients for supporting customers. More verified customers would increase client confidence to adopt the PSISS as they would reach more customers. The Executive would have assurance over privacy and security. With customer consent client digital service providers could be granted access to customer identity data in real time.

Verified services increased identity security and gave clients the ability to provide high value digital services to customers. The verified identity had comparable strength to a passport, which could lead to digital on-boarding of flights if enough customers adopted the service. The real benefit to clients came when validating multiple services as the PSISS would enable reusable identity, like adding a new key to a keyring. The provider engaged clients and attempted to gain support by “needling senior agency people to commit” (Respondent 19).

Respondents believed combining the mandate with an increased customer focus strengthened the case for PSISS adoption as public sector clients and their customers would be expected to use the PSISS. Customers and clients remained

hesitant due to uncertainty about the future of the PSISS, so the provider required the Executive to demonstrate a long-term commitment.

The Executive enacted new legislation to promote use of the PSISS, including allowing private sector clients to adopt, with the intention of increasing customer adoption. Private sector clients could consume the PSISS without having to maintain their own identity information, just “like they do not create their own currency” (Respondent 1). The provider partnered with New Zealand Post whose shops provided a physical location for customers to register for a verified account.

The Executive endorsed the Better Public Services programme, new collaborative governance arrangements and the public sector ICT Strategy and Action Plan. BPS outlined 10 priorities for government. The target for Result 10 was to have an average of 70% of New Zealander’s most common government services performed online by December 2017. The PSISS was explicitly identified as key for delivering Result 10.

The Executive had strengthened collective responsibility to improve collaboration with clients to deliver outcomes, including “developing new operating models between CE and minister and the CE and their peers for the delivery of outcomes” (Respondent 2). Changes to governance arrangements included an ICT senior leadership group and working groups, to assist in gaining client chief executive buy in, however, given the transformation of the public sector through BPS the PSISS was not a high priority for all clients.

The provider was expected to help clients understand the PSISS and how it could enable digital service delivery. A system-wide view was required to show client and sector benefits “so it becomes easier for agencies to see value and use the service, more connected, connecting services across government” (Respondent 19).

Some clients resisted the changes. The introduction of the mandate and BPS led to pressure from the centre to collaborate. Governance groups were seen to give the provider increased leverage. The provider’s behaviour when pursuing targets increased client concerns outcomes were being sacrificed. “The same thing is

happening with Result 10. Starting with the 70% adoption figure rather than need to change; for example providing easier integration for services” (Respondent 20).

Collaboration was promoted over the mandate with a call for a compelling argument for adoption rather than compelling clients to adopt. The belief was the provider should listen to client and customer needs and make changes, however “it has taken a long time to resonate” (Respondent 20).

Under BPS the provider saw themselves as a broker between clients and customers, which included private sector clients. Adoption was increasing, however, the provider was not meeting performance targets. Attention was paid to cultivating private sector clients, who remained hesitant to adopt the PSISS. Inclusion of private sector services raised questions about the role private sector clients should play in collaborative governance, however, they were not given a place on governance groups. Performance targets changed to customer adoption, based on the 70% usage set in Result 10. Customers became people who consume digital services related to New Zealand, extending the definition of customers beyond New Zealand citizens to include international people interested in NZ digital services.

The provider changed from a developer, which was primarily how SSC was seen, to a lead agency accountable for the PSISS, which was how DIA was viewed. The Executive controlled finances, with the provider responsible for delivering the strategy of the government of the day. A second accountability was to clients who acted as intermediaries providing services to customers. Client needs included integration, security, shared investment models and system enhancements. The provider was leading the network of consuming clients and overseeing the planning, change and operation of the PSISS. Clients were still predominantly public sector agencies however the PSISS was gaining “minimal private sector exposure through banks” (Respondent 2).

There was a desire to work with clients to develop new digital services to increase customer adoption. Verified accounts were used to provide access to digital services based on customer life events to drive adoption, including tertiary study and immigration. Client services like applying for a new passport were able to be

provided digitally using a verified identity. The provider had increased their “focus on students and immigrants. As people over 30 don't interact with government that much so we targeted students” (Respondent 19). Student adoption made “Studylink a major contributor” (Respondent 16).

Collaboratively working with clients through digital services like Studylink, gave the provider access to a large pool of customers. When customers applied for a digital service they were provided with a tick box to apply for a verified PSISS account. This could be done as they had just provided evidence of identity for a digital service which met verified account thresholds. This tactic added hundreds of thousands of verified accounts.

The large number of education providers maintaining customer information had resulted in multiple identity solutions with fragmentation and data quality issues across the education sector. A federated solution could provide cheaper and faster enrolment processing using up-to-date student information. This realisation led to increased education sector client adoption.

The provider worked with clients to address integration concerns. When clients connected new digital services the provider undertook a three-month early care support programme to resolve client issues. The provider conducted client troubleshooting and created repeatable patterns to enable reuse. An example of troubleshooting for Studylink was “students forget their username and password so we implemented a pin to help them” (Respondent 19). Pin numbers were deployed using smartphone technology, which was something students were comfortable doing.

Sector consultation led to the conclusion customers wanted a PSISS account that was easy to set up and could be issued both securely and quickly by the provider. Ease of adoption and ongoing use was an incentive to customers to engage digitally, with assurances identity information was used by the right people in the right way at the right time. To improve customer experience the provider instituted internal customer satisfaction measures, developed in conjunction with clients. International customer needs were explored resulting in the introduction of a

Mandarin version of the PSISS to enable Chinese people to use a digital immigration service.

Customer adoption was increasing, as was the belief services were better aligned to client and customer needs. When asked if the PSISS was successful respondents felt they could not definitively comment as although performance targets were not being met, the PSISS “must also provide a value proposition as it is still in place” (Respondent 15). Stopping the PSISS would introduce risks to clients and customers using the PSISS as it was embedded in several core government digital services. Folding the PSISS would not be a simple, or cheap proposition. Although the provider felt they were making progress towards Result 10 delivery, the PSISS was “just not there yet” (Respondent 15).

Respondents identified two areas for improvement: improved performance targets and improved channels for customers to get verified accounts.

Performance targets were based upon customer and client adoption, with no reporting on economic value or on privacy and security. Respondents stated a need for performance targets to more accurately reflect system benefits to clients, customers and the nation.

Some respondents criticised NZ Post as a store no-one used anymore. They thought customers would be comfortable using their existing social media applications to manage identity information. Leveraging commonly used systems like Facebook and Google for identity was being explored, however verified identity services would still be required for high value digital services like passports.

**Governance Focus.** The Cabinet mandate made the PSISS the “only way our services can be accessed by customers” (Respondent 7), strengthening the provider’s position and limiting the need for collaboration. The provider was complacent, despite running for several years the PSISS was failing to meet performance targets.

Respondents raised concerns about the internal governance focus. Leadership at the provider were “older males running the show from within” (Respondent 10).

More attention was paid to vendor contracts than system outcomes. Datacom was the vendor and New Zealand Post were the private sector partner. When clients asked questions about the history of part ownership between these parties, respondents dismissed this as client trouble making. The provider was resistant to collaboration which “could have led to more expectations and no ability to satisfy” (Respondent 16). When dealing with clients the provider had “struggled to have a crisp message around value and what it does” (Respondent 5) and was criticised for being “locked into group think” (Respondent 6).

Many respondents identified pressure to move the governance focus from return on investment to system-wide outcomes. Governance had been implementing the PSISS using programme management, followed by a focus on adoption. Results were based on number of clients and customers, nothing about economic value or how the privacy of services was ensured. It was realised the PSISS was providing system benefits beyond the public sector. The Executive were convinced to take a wider system view, endorsing increased digital transformation by providing direction for provider and clients to work together to deliver shared goals and increase adoption. This led to discussions about including private sector clients. Technically there was no real limitation to private sector clients adopting the PSISS to provide online customer services, thereby potentially increasing client and customer adoption. The limitation was legislative. New Zealand Post was charged with developing the brand and engagement in the private sector and with customers. Other central agencies were involved in developing legislation to enable non-public sector clients to adopt the PSISS. The legislative change was followed by initiatives designed to increase collaboration.

The Executive promoted increased collaboration across the public sector through BPS, the ICT Strategy and Action Plan, functional leadership accountabilities and a focus on transformation through life events and digital customer services. The introduction of BPS and customer centred delivery provided a role for the PSISS to enable better outcomes for customers. The ICT Strategy and Action Plan was developed to transform public sector services based on the needs of customers, predominantly through ten result areas using online channels.



The provider reviewed the suitability of collaborative governance arrangements. As the PSISS evolved so did the perceived need for collaborative governance, to promote “a coalition of the willing working with their peers to contribute to the future state, whilst performing their accountabilities” (Respondent 2). Collaborative governance and working groups were created to enable “robust debates about mutual areas of concern” (Respondent 6). Involving clients in governance provided a voice for change. Horizontal governance mechanisms were introduced but did not wholly replace existing vertical governance.

Collaboration was supported by the “partnership group of 55 or so senior leaders from chief executive to tier 3 working together to achieve the accomplishment of the ICT strategy” (Respondent 2). The partnership framework relied on “virtual teams working together” (Respondent 2) across the public sector. The group oversaw changes to strategy or demand through a “collaborative decision-making process (where) no single agency makes all decisions” (Respondent 6).

As provider DIA became the lead agency for Result 10, collaboratively supported by clients with “skin in the game” (Respondent 6) requiring them to adopt and contribute to the delivery of Result 10. An important tool for collaboration was a formal participating client agreement that outlined expectations, committing them to more than regular conversations or informal meetings.

The PSISS was identified as the “key to unlock government priorities” (Respondent 10) through Result 10, which introduced the 70% usage target. The Executive endorsed the target and the new ICT Senior Leadership Group oversaw delivery. Previously PSISS direction was a collection of “vague plans” (Respondent 1), whereas Result 10 provided a measurable target. Results were measured and reported to the Executive, SSC, Treasury and DPMC quarterly.

Technically, the PSISS improved security and privacy, providing customers “a common approach to engage with government on matters that are confidential in a secure fashion” (Respondent 2). Customer experience was a different story with one respondent stating, “I shudder to use it” (Respondent 17) and another stating “it is clunky, and people can’t be bothered” (Respondent 14). There was criticism

from respondents about the speed at which PSISS changes were made to enable new services like mobile phone access.

The PSISS “was born in a different climate, people now are less concerned about a national identity system” (Respondent 6). Respondents believed the relationship between customers and technology had changed since the 2000s. Back then technology and people’s attitudes to technology were simpler. The introduction of widespread internet and social media services had changed people’s attitude to online privacy.

Customers were demanding online public sector services rather than accepting traditional paper or face-to-face service delivery. “People don’t think that way anymore. People don’t want to stand in line anymore” (Respondent 14). Previously the mantra was not to share information across clients, which was reinforced by legislation. The PSISS provided customers the capability to allow their identity information to be shared through system authorisation, rather than having to gain an explicit agreement between clients. “Privacy is important and we need to let the customer decide” what to share to provide ease of access to services they want (Respondent 6).

Similarly, respondents believed the provider needed to change their previous internal, technology centric view to one collaborating with clients to deliver system-wide benefits. Respondents believed “trust is required as well as technology” (Respondent 4) and “issues cannot be buried in the provider (who) can’t afford to hide things, however, covering things up is part of the culture” (Respondent 9).

New ways of thinking were required to understand what shared outcomes were required. The ambition for the PSISS changed from technology product to customer service, where the PSISS was used every day by “New Zealanders to access services from birth to death” (Respondent 10).

The provider tried to improve existing technical solutions to provide customer value. The PSISS provided one password to access multiple services, however customers were only allowed one verified account. Customers could have one login to verify and others for transactions. PSISS adoption was to become “the

first step in a person's unique identity" (Respondent 17), the provider found the "biggest challenge for services is authentication, not identity" (Respondent 17).

The PSISS let customers assert who they are, authentication let them show they are the same person every time by presenting a token or password. The challenge was how to leverage this capability to provide something customers and clients would use. Customers were redefined as "anybody entitled to any government service, members of the public not just citizens" (Respondent 14).

Respondents identified several potential benefits including reduction of paper-based forms, lower transaction costs and the ability to securely share information digitally. As one respondent stated the potential savings from online services, coupled with security of customer information, "means the internationalisation of digital identity becomes key for nations" (Respondent 10). The provider took an evidence-based approach setting up service delivery initiatives with clients to provide metrics of customer experience and satisfaction. Clients began providing services based on customer needs, whereas previously "public policy used to drive behaviour" (Respondent 10). The role of the provider was expressed as responding to customer and client needs with regulations in place to ensure protection and privacy. Respondents presented the need for inter-connected customer centric services where a customer could access multiple client services to complete a life event, rather than having to perform several separate transactions for the same event.

What respondents found was high value services required a greater level of trust, for example a birth certificate, passport or benefits approval where traceability and certainty are required. Security and privacy become more important for authentication of high value client services. The provider needed to present "an identity verification service that enables individuals to assert their identity with passport strength online" (Respondent 9).

Respondents saw the PSISS enabling the sector to open up inter-client processes to deliver new customer services like "electronic on-boarding easy as that (clicks fingers)" (Respondent 5).

Whilst the broad target of 70% online customer usage was acknowledged as important, it was seen by respondents as too broad a goal. There was a belief Result 10 needed to be refreshed to increase focus upon customer life events and advising customers of entitlements, like the ability to vote at 18 and superannuation at 65, which were identified as existing gaps.

The provider “worked with clients to integrate three customer services: voting, births deaths and marriages and student loans” (Respondent 13). Despite the value of new customer services, the PSISS was still under threat in terms of long-term funding and sustainability, hence the ongoing reviews.

Respondents identified personal agendas and personalities as barriers to PSISS success. The provider was seen to be stuck in the middle of the Executive and clients trying to balance all needs through their service. The PSISS needed “long term investment, but what we have is a perception of long-term failure” (Respondent 1). The PSISS was considered “against the business case an abject failure” (Respondent 16).

BPS and the ICT Strategy and Action Plan introduced common goals for the public sector. Previous concerns about lack of clarity resurfaced and some respondents were unsure of the scope of governance groups. The GCIO published regular performance reports as part of wider common capability reporting, however respondents believed there were other reports “however they have not published them” (Respondent 4).

The PSISS was struggling and respondents saw it as a good idea poorly executed. There was a belief “if a new identity offering was released it would take off like wildfire, however the PSISS had too much baggage to be salvaged” (Respondent 7).

The PSISS was compared to a credit card company that needed to satisfy both the needs of clients who provide the services and customers who use the cards. Respondents believed like credit cards, shared identity services required costly large-scale infrastructure which makes establishment and cost effectiveness challenging. Respondent 11 discussed this in terms of mobile technology where a lot of infrastructure is required to support a few users, but with more users it

becomes cheaper. The first few PSISS customer services would not provide a return on investment, it only occurs with critical mass. The provider was constrained by funding and the need to recover costs, particularly when client services to customers were not in place.

The provider realised building the PSISS was uneconomic but necessary, placing them in potential conflict with the Executive, which became more challenging as the provider had “no direct channel to customers consuming client services” (Respondent 3) limiting their ability to influence adoption. Failing to meet performance targets led to increased scrutiny and reduced funding, further limiting the provider’s ability to establish the required infrastructure.

Respondents believed clients were not always working in the best interest of customers or the public sector. “In the private sector you can influence adoption. In the public sector you don’t have the ability to influence as much. You get a lot of people who have the ability to make the right noises and build their careers” (Respondent 8). Partnering with New Zealand Post was intended to provide access to customers through post shops, however it “provided access to stores that no-one goes to anymore. No one visits the post office anymore” (Respondent 7).

The provider hoped an increase in verified accounts would provide encouragement for private sector client adoption providing “a verified identity that can be used online interacting with government, it could be interacting with anyone” (Respondent 8). The introduction of anti-money laundering legislation provided an opportunity for the PSISS to provide identity services to banks, who the provider targeted as an opportunity for driving large scale customer adoption. The benefit to banks would be reduced administration costs with up-to-date customer information and customers could securely navigate between systems without having to remember multiple passwords.

The provider believed, despite challenges, they had done a reasonably credible job delivering services under financial constraints with no security incidents, having “done a better job than SSC” (Respondent 16). They argued the PSISS was a service ahead of its time, which lacked support and through lack of funding and the advancement of commercial identity services had become obsolete.

The Executive questioned the viability of the provider hosting the PSISS. The technology was clunky, however the ability to share identity information securely and in line with the Privacy Act were valued by respondents. The technology used for the “authentication element of the PSISS has done its dash, but have the identity sharing elements of the PSISS done their dash? Absolutely not” (Respondent 11).

The PSISS was a product of a bygone operating model. The core business of the public sector was not technology as “running stuff is a distraction” (Respondent 6). The provider struggled to fit the PSISS into the wider public sector ecosystem. The political agenda changed dramatically, commercial identity solutions proliferated and “New Zealanders’ attitudes changed from locking down identity to something that adds value if shared” (Respondent 6).

Some respondents thought “government should get out of the authentication game and stick to identity. The asset has always been that government is the issuer of identity and will continue to do so. How we leverage the data is what makes it valuable” (Respondent 16). There was a realisation the “asset is not the tin it is the information” and the provider is “not an ICT services organisation, we are a government public sector organisation, we should go to market for what we need” (Respondent 6).

Respondents saw outsourcing the PSISS as an option as “federated solutions are commercially at a dead end, it only works for big players like Google or MSN” (Respondent 16). Google and Facebook handle identity management for large numbers of customers. It was felt that a larger number of public sector clients in New Zealand would use them rather than the PSISS, although “there are issues with trust with things like Facebook” (Respondent 20).

Respondents viewed the PSISS as a valid interim step towards the delivery of identity services, believing the PSISS technology should be retired, with commercial or social media-based identity solutions picking up the identity function for online customer services. The GCIO could provide the scope, demand expectations and outcomes to commercial providers who then report results to central governance, led by GCIO. New Zealand could then “sell the brand overseas or provide complimentary services” (Respondent 2).

Stakeholder input was required to understand how they were directly impacted by changes to the PSISS. While governance was observed as more mature there were areas that still required attention including lifecycle management and tighter governance around build and review cycles.

Adoption of the PSISS by studylink and the Electoral Commission led to a wave of enthusiasm at the provider for the future of the PSISS. The creation of sector governance groups had “been successful in creating discussion about what the future state should be” (Respondent 2). A closer working relationship was also seen to contribute to increased client adoption.

**Accountability.** When the PSISS was moved the provider believed they had been put in a box and buried in DIA. The buck was meant to stop with the Executive who were ultimately accountable for the PSISS. Direction was set by the Executive through business cases and performance targets, which drove a focus upon adoption. Ministers spoke about supporting the PSISS, although this was not consistent. Executive involvement in governance was viewed as only occurring when things went wrong, mostly through reviews, contributing to tension between provider and Executive. Constant reviews placed the PSISS “under threat in terms of long-term funding and sustainability” (Respondent 1). The reviews were avoidance of risk by the Executive, which in turn placed risk on the provider which led to lost credibility with clients.

Questions were raised about continuity of reporting. “There used to be service reporting going to ministers. I am not sure if reporting is happening now” (Respondent 15). There was a yearly dressing down when annual reports were presented, and the provider was held to account for not meeting performance targets, which led to sanction through reduced funding. The provider was accountable for non-adoption by clients but could not compel client adoption. Tensions between provider and clients were further increased by top slicing of client budgets to fund the PSISS. Something had to change.

The Executive set an expectation of collective responsibility requiring clients “to work together more closely” (Respondent 20), through a Cabinet minute mandating PSISS adoption enforced by a Cabinet committee. The Executive was showing

“support for the idea clients had to collaborate. The mandate was core government agencies being sent that message” (Respondent 17). Clients adopted the PSISS because they had to adopt, not because they wanted to adopt.

Respondents identified several collaborative governance groups and initiatives that were set up, and endorsed by the Executive, to oversee delivery.

The Executive endorsed BPS which introduced and outlined ten priorities for government services. Each priority was to be allocated a lead agency accountable for delivery. BPS was supported by the ICT Strategy and Action Plan which presented ICT focus areas to enable delivery of outcomes.

The GCIO at DIA struggled with the question “how do we ensure the customer experience of government services is effective?” (Respondent 16). A senior leadership group was established consisting of a cohort of chief executives from across the public sector to facilitate transformation of services and collaborative delivery. The senior leaders were supported by working groups to oversee implementation of the ICT strategy with GCIO as the functional leader. Respondents believed the actual “governance group was the ICT senior leadership group” who oversaw implementation (Respondent 2).

The Service Innovation Working Group, consisting of tier 2 reports from the provider and clients, was accountable for setting direction and overseeing the delivery of Result 10. Under Result 10 clients were expected to deliver customer facing services through online channels with identity provided by the PSISS, reinforced by the mandate. As DIA was the lead agency, the provider was made accountable for delivering Result 10 whereby 70% of New Zealander’s most common government services would be performed online by 2017. There was now a shared direction and plan endorsed by the Executive requiring provider and clients to deliver customer services using the PSISS. The lead agency was expected to oversee “service delivery to drive the outcomes” (Respondent 6).

Respondents argued accountability could not sit only with the provider, and reviews would highlight the need for multi-party accountability. Public sector clients participated in sector working groups and were expected to assist delivery of Result 10. Accountability was observed across the wider ecosystem. “DIA is



leading the change as lead agency, although every stakeholder has skin in the game. From the Minister of Finance to NZ Post, agencies who are consuming and suppliers in the value chain. They all have stakes in what it may look like” (Respondent 6).

New governance arrangements were in place, however, there was a concern Result 10 metrics did not accurately reflect sector needs. Respondents asserted the 70% customer usage target was based on existing services which provided little incentive to integrate new services. Furthermore, the provider was seen to be “gaming the system to meet deliverables” (Respondent 20) to ensure ongoing investment in the existing PSISS, rather than in new services. This identified a gap in existing accountability arrangements and a missed opportunity to leverage the existing PSISS investment. Respondents believed sector clients had a role to ensure this gap was identified and resolved, particularly under the mandate. An example was provided where education sector clients worked with the provider to “nudge RealMe from its path into something with a slight customisation, which would make it a more attractive service for other sectors” to adopt (Respondent 21).

**Risk.** The Executive had taken a risk approving the PSISS as they “will not get elected for an identity system but will get political damage for a poor system” (Respondent 20).

The PSISS was not successful when measured against the business case, however, respondents believed stopping the PSISS would impact the credibility of New Zealand as a nation state by removing a key part of online service infrastructure. This placed the Executive and provider in a quandary. Any changes would require bravery from the Executive as there was “more political risk than potential gain” (Respondent 20). With limited client adoption the provider was forced “to keep going back for money. Reputationally it affected how clients see them or perceive them” (Respondent 15). The provider had “spent hundreds of thousands of dollars and needed investment to keep the service up-to-date and meeting customer and client needs. The underinvestment led to another cycle of failure” (Respondent 20).

The provider was failing to meet performance targets and the Executive was concerned the PSISS was becoming a white elephant. One option to increase adoption was to open the PSISS to private sector clients, but this introduced several risks including privacy and liability. Legislation was introduced to extend PSISS adoption to clients beyond the public sector and to overcome privacy and liability risks.

Respondents believed the Executive had reduced one set of risks through legislation, however they had introduced another through increased PSISS reliance by public and private sector clients, not to mention customers who were also voters.

PSISS failure would impact client operations, and with hundreds of thousands of customers using the PSISS the reputational risk to the Executive would be sizeable. The provider was responsible for “minimising risk to ministers of getting it wrong” (Respondent 12), which increased the risk averse nature of the provider and limited the funding available for PSISS changes.

Adoption was increasing, but the Executive were making it hard through reviews and limited funding. Financial support was limited to 12-month periods, with caveats the provider had to ensure investments reduced Executive fiscal exposure. The caveats required expenditure on internal controls, rather than investment in technology and development. Internally it was believed the provider required a four-year investment for improvement and continuity of the PSISS.

Underinvestment meant the provider could not keep up-to-date with new methods for improved service provision to customers. As a result, the provider explored outsourcing the PSISS. Some respondents were wary, believing the PSISS was a “strategic imperative so can’t get outsourced” (Respondent 6).

The PSISS came under threat from new methods of authentication like Google and social media. These services had a lower threshold of security than the PSISS, however that was not always understood by customers or clients. Respondents were concerned the Executive would look for a cheap, simple solution to a complex problem. By handing the national identity solution to a social media company the Executive would be risking losing an asset of national importance and exposing customer data.

**Resistance.** Respondents indicated the relationship between provider and clients had a low level of trust and clients were resentful of limited collaboration and additional integration costs. At an outcome level the PSISS had the potential to provide sector efficiencies, and improved customer services but respondents saw it failing to deliver these benefits. Performance targets may have identified potential benefits but respondents observed the provider failing to deliver.

Client adoption was a prerequisite for outcome delivery as client services were required for customer adoption. Client resistance was identified as a barrier the provider would need to address. The Cabinet mandate was coercive, without introducing reciprocal client incentives for adoption. Despite increased enforcement respondents believed clients did not trust the provider and still actively resisted adoption. Customers required a reason to adopt but with only limited client services the PSISS provided limited customer benefits. Respondents identified examples where the provider believed they knew what was best for customers. “We are government and have to follow standards, we have better process for managing change and how to do it safely” (Respondent 19).

The provider attempted to “resolve issues at service, agency and sector level” (Respondent 20). Issues ranged from “changing a password used to be a nightmare. There are corresponding technologies now to help password refresh” (Respondent 18), to being “cognisant of the end-to-end customer experience, we have nearly 100 services and not all have modern interfaces range from nice new mobile UI to another agency having any old rubbish. We need to get control over the end-to-end customer experience” (Respondent 20).

Education agencies found “current arrangements around RealMe were not going to work” (Respondent 21). They were frustrated students had to perform multiple interactions “for what they consider the same process, e.g. getting a student loan and passing information to IRD” (Respondent 19). The provider needed customer adoption, providing the education sector leverage “to make RealMe a better fit for what we wanted” (Respondent 21). After lengthy negotiation the education sector “bankrolled the tertiary work to nudge RealMe from its path into something with a slight customisation, which would make it a more attractive service for other sectors” (Respondent 21).

Education sector clients believed “there are a lot more things people could spend money on than processing student enrolments. Quicker cheaper and easier for education providers will transfer into better services for students” (Respondent 21). Some respondents believed this was the role the PSISS should play as a system asset. Through collaboration the provider and clients approached education as a joined-up sector providing a “technology bridge to tertiary” (Respondent 21). Respondents saw service improvements providing benefits to clients, customers and the provider. Students could carry their identity between schools and tertiary providers, clients gained access to up-to-date customer information and customer adoption figures swelled when large numbers of students signed up to apply for funding through studylink.

The provider struggled with Executive resistance. With limited funding the PSISS was “behind where we should be” (Respondent 20). There was frustration the provider had to pitch to the Executive to make changes like mobile enhancements that were common in commercial offerings. The provider delivered the PSISS with a small team “run on low resources over the years. Most of the money goes into development, the budget for resources is really small” (Respondent 19).

The provider was given Executive support through BPS approval and the ICT Strategy and Action Plan. Many respondents were frustrated by ongoing reviews and limited funding. The provider had to undergo reviews when requesting funding, placing the future of the PSISS in doubt. Despite the number of reviews, it was believed “none of the reviews have done more than broadly conclude this is hard and there are no easy options” (Respondent 20).

The provider struggled to present system benefits in dollar terms. The PSISS enabled other services to be provided, however making it recover costs was viewed as counter-productive. Although “more systems and clients are adopting” (Respondent 18) the PSISS had “not been successful for a collaborative service” (Respondent 1), with respondents critical of the time it had taken. It was believed clients adopted because the mandate said they had to adopt, which raised concerns as future collaboration would require the provider “to act in a socially successful and empathetic way, not telling people what to do” (Respondent 1).

Chapter six presented the results of my analysis, bringing about the construction of a grounded theory which found respondents perceived PSISS governance as a process in practice. This finding was supported through construction of a rich practitioner narrative on PSISS governance which explored the four stages of the governance process using the categories generated through grounded theory analysis. The practitioner perspectives captured in this narrative were analysed using the governance framework and governance characteristics model from my literature review in Chapter two as sensitising concepts, which resulted in the identification of eight themes from the practitioner perspectives on PSISS governance which are reflexively explored in Chapter seven.

## Chapter Seven. Discussion: A Governance Practice Narrative

This chapter creates the first iteration of theoretical integration brought about through reflexive comparison of the practitioner perspectives in the grounded practitioner narrative in Chapter six with theory and the official narrative in Chapter five. The term participant was used to describe the combination of practitioners from both narratives used to create this governance practice narrative.

Theoretical integration was organised using the conceptual governance framework developed in my literature review. Eight themes of theoretical interest emerged from this process: 1) Conflicting ideas of governance; 2) Fluid governance boundaries; 3) Protecting our privacy; 4) Implementing systems or outcomes?; 5) Accountability deficits; 6) Mandating collaboration; 7) Is technology different?; and 8) Collaborative governance, the art of the state. I discuss each of these themes in turn, in the light of existing scholarship and theory.

### Theme One: Conflicting Ideas of Governance

Participants talked a lot about governance, but it became evident they did not talk about governance in the same way. For example: when the PSISS was being built at SSC, governance was identified as an internal provider-based ICT and programme management process; other participants pointed to what the Executive and cross-agency governance groups did as governance; and others pointed at the Cabinet mandate as governance. These different takes on governance reflected in-practice notions of governance, similar to those seen in theory.

Discussions of governance in the literature reveal a contested concept with a range of different definitions (Frederickson, 2005). The practitioner perspective appeared to reflect confusion occurring among participants about what governance meant for the PSISS and mirrored the differences in corporate governance, IT governance and collaborative governance literatures. Elaborating on these distinctions, corporate governance occurs within an organisational boundary and is commonly characterised as vertical in nature with clear delineation between the roles of the board and management presented in codes of practice. The board sets the direction and puts controls in place to ensure delivery of the direction by

management. A key focus of corporate governance is risk management to reduce potential liability for the shareholders and board members.

Information technology governance in contrast has procedural characteristics giving the impression of a set of processes and controls reported to the board to assist in the delivery of organisational goals (ITGI, 2005a, 2008a). It is commonly presented as supporting organisational, predominantly corporate, governance. There is agreement that ICT requires direction and control (Van Grembergen, 2004), however, there is confusion about who performs IT governance. IT governance is commonly performed by a combination of executives and management which has contributed to challenges for developing common definitions of accountability. Finally, collaborative governance spans organisational boundaries and introduces non-hierarchical governance. The focus of collaborative governance is delivery of outcomes that single organisations could not deliver alone. The use of collaborative governance has been promoted for transformation, innovation and provision of customer centric services (Ansell & Gash, 2008; Rogers & Weber, 2010).

My analysis turned to whether these governance forms relate to PSISS in practice. Public sector ICT shared services were identified in my literature review as an opportunity to improve processes and enable collaborative improvement of customer services, shared outcomes and even democracy (Brewer, 2006; Janssen et al., 2012; Banoun, Dufour, & Andiappan, 2016). My grounded practitioner narrative showed participants highlighting the significance of collaboration, risk, vertical direction and controls in the governance of the PSISS.

In the concept phase practitioners portrayed a focus was on public sector collaboration to deliver a system asset that would benefit clients and customers. The PSISS started as part of the e-government programme and SSC intended to use cross-sector collaboration to create improved services for customers. The Executive provided the State Services Commissioner legislative authority to lead e-government initiatives and approved a programme of service creation. Further Executive support was signalled through ministerial press releases promoting shared services (Mallard, 2003, 2004). SSC established the e-Government Unit and it started a process of collaborative consultation with the sector on the creation

of the PSISS. The Commissioner stated e-government initiatives were intended to deliver business value rather than be a big ICT project. This statement appeared to be attempting to allay concerns about large public sector ICT failures (State Services Commission, 2001). This collaboration facilitated the development of a business case providing the specification for the PSISS, which the Executive approved.

Later, during the implementation phase participants observed the provider reverting to vertical ICT project governance to develop and release the PSISS. Some participants believed this was driven by risk aversion. As evidenced in literature, collaboration is challenging and can be time consuming (O'Flynn, 2009). Practitioners believed the provider had paid lip service to collaboration and changed tack under pressure to deliver. The provider had a vertical accountability relationship to the Executive and was accountable for delivery of the PSISS. The provider had no experience of delivering online services and project success had by then become identified as delivery of a PSISS as specified in the business case. Practitioners believed these pressures made delivery of the ICT project the prime focus of the provider during the implementation phase. To manage doubts about SSC's project capability the provider engaged a third party to develop the PSISS. The provider's belief at this time appeared to be once the PSISS was built, clients would use it even though collaboration with clients ceased. The apparent focus on risk and vertical governance between the Executive and provider shows characteristics of corporate governance.

Despite the earlier assurances of the State Services Commissioner, the PSISS was being governed as a large internal ICT project. In the implementation phase governance was observed as residing internally within SSC and reliant upon programme management controls. The use of programme management and a focus on ICT deliverables indicated a procedural IT governance focus. Even the use of the term implementation by participants indicated a bias towards an ICT project delivery, rather than the broader use of implementation we see in public administration literature which has an outcome focus (Hupe & Hill, 2015).

Practitioners believed client trust was brittle as a result of governance changes as clients were shut out of the development of the PSISS. There was only limited



collaboration and clients were unsure what was expected from them. It manifested little appetite from clients to adopt the PSISS. As a consequence, when the PSISS was released clients did not have customer facing services ready to connect. Despite the lack of client readiness participants said the provider ploughed on to deliver the adoption targets defined in the business case. Participants mentioned concerns within the provider that performance targets were overly optimistic. This was borne out when the provider failed to meet initial targets and clients showed active resistance to adoption. Client resistance increased when clients had poor integration experiences with the PSISS. Several reasons that contributed to the poor experience were seen to be unbudgeted costs and difficulty integrating with client existing third-party applications, many of which had built in identity solutions that had to be redesigned to accommodate the PSISS. This indicates misalignment between the provider and clients. The provider saw the E-ID as identity, which met their needs to integrate between systems, whereas clients needed additional identity functionality to authenticate users and other resources. The success of the PSISS depended upon client adoption and clients resisted adoption by leveraging existing vertical governance arrangements. Negative adoption experiences also contributed to an erosion of trust between clients and provider.

Practitioners believed existing vertical governance relationships with ministers strengthened client resistance to adoption. Clients were accountable to their responsible minister for delivery of contractual obligations. Client ministers had more clout than the Commissioner. Clients were seen to have little incentive to adopt the PSISS. Adoption appeared to introduce risks to clients' vertical deliverables. When faced with a choice between using their limited resources to deliver their vertical deliverables or taking on additional risk and collaborating by adopting the PSISS, clients shied away with the full support of their minister. Practitioners observed these mixed signals and questioned whether the government was fully behind the PSISS.

The PSISS failed to deliver the business case benefits, creating reputational risk for the Commissioner arising from increased Executive scrutiny through reviews and limited funding. The risk increased after the failure of another PSISS, GSN,

leading participants to conclude that the e-Government Unit had failed. SSC's apparent failure as provider was viewed as particularly embarrassing as because of SSC's system-wide responsibility for advising agencies how to run large projects (State Services Commission & Treasury, 2000, 2001; State Services Commission, 2011). The State Services Commissioner panicked and reacted to shift the risk of shared service failure. Implementation of the PSISS and other shared services were moved to the Department of Internal Affairs. SSC as provider was held to account for poor client adoption, although participants believed the provider did not have the authority to enforce client adoption resulting in an apparent accountability deficit (Schillemans, 2011).

The failure drove Executive risk aversion and the strengthening of vertical governance arrangements. In 2010 the Executive introduced a mandate, enforced through a Cabinet committee, to compel client adoption indicating increased vertical governance. Participants identified the mandate as a mechanism to increase client accountability backed up by an Executive committee as an accountability forum.

In response to the global financial crisis at that time, the Executive expected the public sector to 'do more with less' (Small, 2009b). Post mandate changes strengthened the vertical relationships between Executive, provider and clients, and provided opportunities for increased collaboration. Participants saw these were legislative reform, Better Public Services, the ICT Strategy and Action Plan, new governance groups and the introduction of blueprints and result areas, particularly Result 10 which directly reinforced client adoption of the PSISS.

The PSISS had started as a collaborative initiative but when risks emerged the Executive, provider and clients were all observed to revert to vertical governance arrangements. The corporate and information technology governance forms observed in practice appear to have reinforced the vertical governance arrangements. Tight vertical governance appears to be a common response to risk reinforced by the risk averse nature of the public sector. Both the SSC and Executive reverted to vertical governance when collaborative methods became difficult and the potential risk of failure increased. Collaborative methods were promoted by the Executive and provider, however participants saw the Executive,

provider and clients relying upon vertical governance, particularly direction and controls when risk arose.

Limited trust in the provider to deliver may have contributed to low client adoption, particularly before the second mandate and Executive level accountability forum were introduced. After the mandate was introduced most clients did not trust the provider or PSISS to meet their needs, however they were compelled to adopt. In the years since the Cabinet mandate, client adoption and integration of customer facing client services have increased.

In summary, PSISS governance was observed to change modes over time, and so too the governance roles played by the provider, clients and Executive. The provider and clients were observed playing both governance and management roles, begging questions about the distinction, particularly in the public sector, which is picked up in the next theme.

## Theme Two: Fluid Governance Boundaries

In my discussions with participants on the influence of governance on the PSISS I noticed differing perspectives about who was performing governance. Governance arrangements appeared to be changing over time and participants did not provide a clear, common understanding of who was performing governance and where the boundaries between governance and management were.

My literature review identified lack of clarity about governance and management as problematic and leading to conflicts of interest. In corporate governance, the board performs governance, setting direction for management to follow. In IT governance a combination of executives and management perform governance. Collaborative governance crosses organisational boundaries and introduces governance mechanisms that may be performed by separate and multiple organisations.

With the introduction of collaborative inter-organisational governance, participants can be asked to perform multiple, sometimes conflicting, roles for a shared service. In practice participants identified examples of governance being performed by the Executive, the provider and clients. For example: the provider undertook

governance during implementation of the technology, the Executive passed legislative and regulatory reforms including mandates and clients were involved in initial consultation and cross-sector governance groups. These roles occurred at different stages of the lifecycle meaning governance arrangements were changing over time.

Practitioners saw changes in who was performing governance contributing to reduced role clarity and blurring boundaries for governance. This was problematic in two ways:

- participants were performing multiple potentially conflicting roles, and
- participant confusion about who performs governance (the Executive, provider or clients).

Participants also identified potential conflicts of interest for the Executive, provider and clients. These are shown in the following examples.

The provider had a role to deliver shared services that contributed to outcome delivery, thereby meeting the needs of stakeholders including the Executive, clients and customers. An example of conflict occurring when trying to meet these different stakeholder needs was highlighted in the concept and implementation stages of the PSISS. Having been empowered by the Executive, the provider consulted with clients to collaboratively develop the concept of the PSISS to business case. The provider was then expected by clients to perform the role of collaborative partner and system developer. However, the provider's primary focus then became delivering an ICT project as defined in the business case rather than collaboration with clients to meet their needs. According to participants the provider was preoccupied with IT governance through internal controls and meeting the Executive-directed performance measurements in the business case and collaboration was ignored. The absence of client collaboration then led to client resistance and was not addressed by governance.

In the official narrative, a conflict of interest is seen between Executive intention for clients to adopt the PSISS and client's need for deliverables. Participants identified situations where client representatives were involved in a governance group for the PSISS and advocated adoption of the PSISS; while at the same time

in their own organisation, made decisions not to adopt the PSISS as a client. This was known as the “curse of the smiling faces” (Respondent 15). Clients prioritised their activities based on their vertical accountabilities to their own organisation and their minister. Ministers seemed more focussed upon their portfolio interests than unanimity to support a public sector goal when it came to PSISS adoption.

The Commissioner did not have the ability to compel client adoption and individual ministers chose not to compel adoption by their departments, revealing a potential gap in governance oversight. The Executive moved to close this jeopardy through use of the Cabinet mandate and introduction of an Executive level accountability forum, which participants said improved accountability and role clarity by compelling client adoption. It also had the effect of enforcing unanimity among the Executive, potentially addressing the erstwhile accountability deficit among ministers (Schillemans, 2011).

The common practice for management to escalate issues to governance for resolution is evident in the literature. Lack of role clarity, and uncertainty about who performs governance can affect escalation (e.g. Hilmer, 1993). As shown in the first conflict of interest example the provider believed they were performing governance, however neither they nor the Executive appear to have addressed the issue of collaboration to reduce client resistance. In the second example the Executive did eventually use their governance role to address client adoption and the accountability deficit.

A lack of clarity about who performs governance, particularly between governance and management can be dangerous. There are numerous examples in the literature where lack of role clarity has led to large public sector ICT failures often costing millions (Gauld, 2006). Elsewhere failures led to legislative remedies including the Sarbanes-Oxley Act which introduced codes of conduct incorporating role clarity (McGowan & Brisendine, 2003; Damianides, 2005). These legislative changes are comparable to the PSISS where legislative change, mandate and an Executive level accountability forum were put in place with the effect of moving governance mechanisms from the provider to the Executive.

The Executive also oversaw structural changes to governance arrangements: the introduction of new governance groups at the Executive, chief executive and deputy chief executive levels. The group with ministers was explicitly called governance whereas the other two were referred to as leadership groups in publications (Department of Internal Affairs, 2017c, 2018b). The leadership groups were provided autonomy to set service direction through creation of charters and blueprints for the ten result areas (Scott & Boyd, 2017). Although charters and blueprints increased role clarity, leadership groups appear contrived, sitting somewhere between governance and management, resulting in some role ambiguity (Hammond et al., 2019).

### Theme Three: Protecting Our Privacy

Privacy is particularly important for governments with personal information a form of currency in the digital age (Polykalas & Prezerakos, 2019). The PSISS holds personally identifiable customer information about New Zealanders and others requiring authentication for government and non-governmental customer-facing client services. This makes the PSISS valuable as a national asset and makes it a potential target.

New Zealand's unique privacy legislation was a hurdle for the PSISS. A participant stated whilst privacy could have been identified as a barrier and cut out of project scope, collaboration with the Privacy Commissioner appears to have increased the public value through endorsement of the PSISS by the Privacy Commissioner as a "privacy enhancing service" (Office of the Privacy Commissioner, 2019).

Having built an identity solution that enhanced privacy obviated the need for many of the recent data privacy issues raised by legislation like GDPR which required governance controls over privacy, particularly for citizen's personally identifiable information (Bennett, 2018). It also means in theory that identity needs only be changed once rather than by every client. The centralised PSISS identity information has the potential to be the most up-to-date identity information for an individual. The individual updates their information only once for multiple client services. Providing the customer with the ability to decide which clients have access to their information also allays some privacy concerns. Customers can opt

to use services, or not, which places the control of personal information in the customer's hands.

The combination of international legislation, the value of the information in the design and delivery of services and the need to protect citizens' personal information require governance assurance of privacy and adequate security mechanisms to protect the information. In my grounded practitioner narrative we saw that the PSISS was contractually developed and run on behalf of the provider. Later the provider partnered with New Zealand Post to enable access to post shops for creating verified identities. Internationally other contractual mechanisms have been used to provide identity PSISS. Examples include: consortia delivering a single identity PSISS and multiple vendors providing identity PSISS centrally regulated by the provider (Eaton et al., 2017; Stalla-Bourdillon et al., 2018).

Providers do not always have the resources or expertise for in-house development or operation of PSISS, and public sector organisations are commonly under pressure to reduce costs. Participants identified cloud computing as providing cost-effective outsourcing models for providers to oversee delivery of PSISS. Whatever the model selected, personal information is an asset to be protected, which is reflected in the Privacy Act (1993). The provider is accountable for ensuring the PSISS meets the legislative requirements of the jurisdiction. The damage that can be caused when outsourcing agreements fail to protect national identity information is highlighted by international failures such as the leak of confidential identity information from Sweden including driver licence, vehicle and military information undermining confidence in the government (Anderson, 2017).

The impact of introducing ICT services into the public sector, and through government services to customers, needs a holistic perspective. Academic literature provides numerous examples where project management, particularly technology projects, can focus on development and release into a production environment without considering the wider impact over time (Gauld, 2006; Stephen et al., 2011; Hodgson et al., 2019). This appears to be particularly important for PSISS where the three domains and governance forms intersect in practice.

## Theme Four: Implementing Systems or Outcomes?

Participants had different views on what was meant by implementation. The academic literature provides insights into understanding the different views, and how they may have contributed to issues in practice.

Public administration literature identifies implementation as the realisation of policy goals or outcomes (Hupe & Hill, 2015). In information systems literature the term implementation is commonly used as part of a lifecycle to mark the development and delivery stages of an information system to operational support in a production environment (Lainhart, 2012). Although IT governance is intended to ensure alignment with wider corporate goals (Weill & Ross, 2004), failure to think beyond the delivery of a project and consider the wider outcomes or needs of customers has led to criticism of IT governance (Gauld, 2006; Provost, 2012). Achieving outcomes appears to become even more problematic when meeting the needs of multiple organisations through shared services.

The term implementation was used by practitioners to refer to the development and deployment of the PSISS into operation. They stated PSISS development, under SSC as the provider, was conducted using project management and overseen with programme gateways. They viewed the delivery of the PSISS through a project or software lifecycle lens identifying governance as a process. Use of the notions of gateways and lifecycles shows the influence of IT governance and information systems literature on PSISS governance.

The lifecycle approach to PSISS governance appears to have led to a focus on delivering the next stage of the technology project without consideration of any wider system outcomes. The implementation phase was internally governed and did not involve clients. This contributed to “perverse incentives” where people at the provider were rewarded for delivering technical solutions. In client adoption, the participants believed clients were not involved in system implementation, with the risk that clients were unprepared for adoption as they would have little or no experience of the PSISS.

When the PSISS was created clients were not ready, and in some cases were unwilling to use the PSISS. Clients did not have specific performance targets for



the PSISS, limiting their accountability and desire to participate. These factors were identified as contributing to the provider failing to meet performance targets.

Focusing on client adoption in isolation appears consistent with a lifecycle approach where focus is on the current stage of the lifecycle in isolation from the end outcome. Basing provider performance targets on client adoption alone acted to incentivise the delivery of technical solutions in the system implementation phase. It might have made sense when looking at the lifecycle stage in isolation but as Respondent 11 put it they were “doing the wrong thing but doing it really well.”

Clients were not implementing the PSISS, and in some cases actively resisting adoption. Active avoidance, involving clients not providing online channels if it meant integrating with the PSISS, was counterintuitive as customers suffered.

The PSISS was missing an outcome focus. New online services, one of the outcome objectives, were not occurring because of internal public sector conflict. In the view of participants, a long time was spent getting from system implementation to client adoption and this, it was argued, diminished the outcome focus. While clients and the provider were debating client adoption, the PSISS was doing little to contribute to outcome delivery, shared or otherwise.

The influence of three domains and governance forms appears to have contributed to fluid governance boundaries, as shown in the use of the term implementation. The term implementation was employed by the provider based on an ICT perspective, incorporating elements of project management. Instead, if a public administration perspective had been taken the policy direction might have remained in focus through to delivery of the policy outcome or customer value.

In practice there appears to have been an information technology governance focus and attempts to deliver the PSISS using ICT service delivery and project management methods. The definition of implementation as delivery of the system limited the focus on customers. This appears to have been reinforced by a push to get clients to adopt the PSISS rather than customer services delivered, because customer performance targets were not present until the 2010 annual report. The

actual use of online services by customers was not a reported performance metric until 2012 when new governance arrangements were approved by the Executive.

The provider required client adoption and service integration to deliver outcomes. The introduction of the 70% target made the reliance on clients more explicit. Although the provider was accountable they had limited ability to influence client adoption, raising questions about the applicability of accountability mechanisms used for the governance of PSISS. Clients argued for simple, cost effective PSISS integration before adoption. Limited integration funding or other incentives were provided to clients. Clients were compelled to adopt the PSISS through the Cabinet mandate, which was enforced by the Executive. Participants indicated there was little need for the provider to make changes to the PSISS as consultation involved reminding clients of the mandate.

Clients intervened to make PSISS integration easier. The education sector used the provider's failure to meet performance targets as an opportunity to negotiate, offering to create services for tertiary students that would require them to use the PSISS in exchange for changes that would make integration with the PSISS easier. The clients successfully negotiated the change, however the provider probably should have considered client and customer needs as part of system implementation without having to negotiate after the PSISS was in operation.

The PSISS concept stage started in 2001 and it took 17 years to get close to reaching the 70% target. PSISS delivery would have benefited from a more explicit outcome focus from concept to customer adoption, rather than the next stage of the lifecycle in isolation. IT governance, through the use of ICT and project management methods, appears to have contributed to a fragmented approach to PSISS delivery. Because it focussed upon deliverables for each stage in isolation, the interdependency between the stages was not recognised and, in the end, appears to have increased the time to deliver. These factors also increased risk and cost, whilst decreasing the ability to deliver outcomes in a timely manner.

## Theme Five: Accountability Deficits

Participants raised concerns about collaboration as clients and providers relied upon each other to meet performance targets, but they did not trust each other. Each party wanted to hold the other to account for non-performance.

Provider performance targets were dependent upon delivery of client services to customers, raising concerns about the provider's inability to influence client adoption or hold clients to account for non-adoption. Participants questioned whether the provider could be held accountable for the actions, or lack of actions, of clients. Conversely clients raised questions about liability, in the event of a PSISS system outage resulting in customer service failure with financial and reputational damage. Clients wanted the ability to hold the provider to account for non-delivery or damages like they would with a private sector service provider. Participants questioned whether clients holding the provider to account was practical in the public sector.

Other participants questioned whether a focus on accountability was too litigious for collaborative delivery of shared outcomes, preferring shared outcomes where accountabilities could be shared by multiple parties. This appears to contradict accountability literature where accountability is about providing an answer for actions that were or were not taken by an individual (Gregory, 2007). In this literature accountability commonly has an agreement that defines what is to be delivered, who is delivering, whom they are delivering to and the specified performance level (Bovens, 2007). This enables enforcement through an accountability forum where performance can be rewarded or sanctions imposed (Sorensen, 2012). I explored this using accountability literature from the three governance forms.

Corporate governance is generally undertaken by a board who represent the needs of shareholders or stakeholders. The board sets direction and oversees the performance of management in delivering that direction, holding them to account for their performance, with board members ultimately held to account by shareholders (Hilmer, 1993). In contrast, IT governance defines processes and roles accountable for delivery (ITGI, 2006). The governance group set objectives

and accountabilities which are monitored and reported to enable performance assessment (Lainhart, 2012).

In public administration literature, the relationship between accountability and performance is often expressed in terms of an accountability framework where agencies, in this case provider or clients, are delegated the authority to make decisions and held accountable for attaining a specified level of performance (Cook, 2004; Gregory, 2007). Formal agreements are established to specify performance expectations, with controls put in place to measure performance (Schick, 1996; Norman, 2003). Performance measurement is used to track progress towards attaining specified performance goals, which are usually expressed in terms of outputs and outcomes. The provider and clients are afforded autonomy to perform their day-to-day roles without intervention from the Executive (State Services Commission, 2008c).

The selected accountability literature from the three governance forms reflects vertical governance, and appear to draw from principal-agent theory (Hart, 1995; Broadbent, Dietrich, & Laughlin, 1996). Accountability is defined through formally defined governance mechanisms including roles, processes and performance agreements. Performance is monitored and the agent held to account for delivery, or non-delivery. Some scholars have questioned the suitability of these vertical governance mechanisms in the public sector, particularly for collaborative initiatives (Boston & Gill, 2011; Bryson et al., 2014).

Schillemans (2011) questioned whether vertical accountability mechanisms were sufficient to meet the accountability needs of horizontal relationships. His belief was if vertical accountability mechanisms were insufficient they created an accountability deficit, which may be resolved through the addition of horizontal accountability mechanisms.

The PSISS crosses organisational boundaries and the relationship between clients and provider is horizontal, given that neither party can direct the other. Although there were horizontal relationships in play participants noted that the provider and Executive reverted to vertical accountability mechanisms and sanctions for performance management and to increase adoption, which may have affected the

inability to enforce create horizontal accountability arrangements thereby creating an accountability deficit (Schillemans, 2011).

Participants identified accountability tensions between the clients and provider, which may indicate the presence of accountability deficits. The provider wanted clients to be held to account for non-adoption of the PSISS. Clients told participants they wanted the ability to hold the provider to account for poor PSISS performance or damages due to PSISS failure impacting their customer facing services. Participants identified accountability deficits for both parties, reflecting the two-way relationship between provider and client.

The first deficit is the ability of the provider to enforce public sector client adoption of the PSISS. The provider sought and obtained vertical mechanisms in the form of two separate mandates to enforce client adoption. Despite the mandates, participants observed clients resisting adoption and not integrating customer facing services with the PSISS.

The second deficit is the ability for clients to hold the provider to account for the performance and continued provision of the PSISS. There were concerns the PSISS would be shut down, leaving clients with a bill and no identity service. Other concerns were the service would not meet performance requirements leading to a poor customer experience which the clients would have to front, even if fault could be attributed to the PSISS. Participants identified a desire by clients for contractual enforcement which is common for ICT service provision. It is questionable whether a public sector organisation would seek legal remedy from another public sector organisation for damages. As the PSISS is provided to public and private sector clients, there could be an argument for damages caused by a PSISS provided to private clients. In the case of the PSISS the legislation limits the liability and states there is no cause for action to recover damages. Participants believed clients were frustrated that they had to adopt the PSISS and were potentially held accountable by customers for service failure of a service they had no choice but to use.

Boston and Gill (2011) explored accountability design in the New Zealand public sector using both vertical and horizontal mechanisms. They identified the residual

impact of the NPM reforms and reliance upon vertical accountability relationships given the risk averse nature of the public sector. What they observed was an apparent inability for vertical arrangements to adapt to dynamic situations. Vertical accountability mechanisms require consistency of measures and methods to enable comparison over time, making them suitable for stable environments (Gregory, 2006, 2007).

Participants observed changes to the PSISS since the concept phase began in 2001. The name and scope of the PSISS have changed several times, strategies have been re-written, private sector clients have been included and the provider has changed. The performance focus has changed from creating a business case, to building a system, to client adoption and finally customer usage. Vertical mechanisms were used for accountability, resulting in tensions between provider and clients. Clients were compelled to adopt the PSISS and appeared to have little leverage to influence change.

#### Theme Six: Mandating Collaboration

The use of mandates was a hot button for participants, soliciting passionate responses for and against the use of a mandate to increase client adoption. There were two situations where an Executive mandate was issued for client adoption of the PSISS. In the first situation SSC was the provider and the second occurred after the PSISS was moved to DIA. Participants, particularly those involved in governance when SSC was the provider, believed a mandate was a waste of time. One participant, involved in governance when DIA was the provider, believed the mandate was useful for mopping up resistance. As performance targets were not met under either mandate, I have looked to the literature for explanation.

Collaborative governance literature focuses upon horizontal governance across organisational boundaries and the interaction between the organisation, participants and the external environment (Osborne, 2010; Ansell et al., 2016). Scholars have promoted collaborative governance for services like PSISS that cross organisational boundaries (Janssen et al., 2012). That said, the increased focus on horizontal inter-organisational governance has not removed vertical governance arrangements in the public sector, which is similar to how NPM did not fully replace the bureaucratic form (Dunleavy et al., 2005). These assertions are

supported in my grounded practitioner narrative which identified vertical and horizontal governance mechanisms in practice.

In the public sector the Executive can issue mandates to influence implementation of public policy. A mandate can provide Executive direction for agencies to follow, which can be viewed as vertical governance (Hill & Hupe, 2009). This raises questions about using vertical governance mechanisms for collaborative initiatives, which I explored by contrasting my analysis of responses with academic literature, particularly a group of studies on mandates in the New Zealand public sector in the 1990s.

May et al (1993, 1995; 1996) identified two types of mandate: coercive and cooperative. May questioned the applicability of coercive mandates to the New Zealand public sector due to the autonomy of clients which had been provided through the reforms of the 1980s and 1990s. Rather than coercive mandates, cooperative mandates were recommended as they provided technical and financial assistance to clients to increase commitment. Participants believed the mandates were coercive and resulted in conflict, with neither offering incentives for client adoption. Use of these coercive mandates damaged trust between client and provider and limited the willingness of clients to create new services.

May went further to identify three mandate design considerations, which I have adapted to explore the two mandates:

1. State clear goals and how they will be implemented.
2. Maintain focus beyond the technology solution to the desired outcome.
3. Consider both provider and client commitment and capacity to deliver.

The first design consideration proposed by May was stating goals and how they will be implemented. The complexity of cross-sector changes requires clearly stated goals and specified implementation mechanisms and processes. Case studies have shown inconsistent goals, weak oversight and limited resources can force clients to decide whether to comply with mandates (May, 1993).

The first mandate was created before the PSISS was released. Participants believed the PSISS started from a general belief that something had to be done about identity

and they were feeling their way in the dark. Performance was based on delivery of technology and there were concerns about perverse incentives with success being seen by participants as delivering technology. The second mandate was created after the move to DIA, which participants attributed to the failure of SSC as provider. Participants believed the mandate placed stronger sanctions upon clients to force adoption. Participants identified changes that built upon the initial mandate including the introduction of new governance groups, legislation, the ICT strategy and result areas which provided guidance on implementation and accountabilities.

The second design consideration is maintaining focus upon outcomes rather than technology. Cross-sector mandate design needs to incorporate policy, provider and client co-operation and implementation concerns, particularly costs (May, 1995). Mandate design for cross-sector initiatives like PSISS need to maintain an outcome focus beyond the immediate technology deliverable.

Under the first mandate participants observed an initial outcome focus in the concept phase where provider and clients collaboratively developed the business case for the Executive. They believe that changed when the provider began system implementation without clients. The participant assertion the provider had developed the PSISS without client input probably contributed to the lack of planning for integration costs. Focussing upon the delivery of technology limited the ability to deliver outcomes which depended upon client and customer adoption.

The second mandate strengthened sanction enforcement through an Executive level committee. Participants believed client resistance was to be mopped up through the mandate. Participants indicated reliance upon clients to produce online services using the PSISS, combined with client resistance led to client agreement to adopt the PSISS however some clients simply did not create new online customer services. Client adoption may have occurred in principle, however outcomes for customers do not appear to have been realised.

The third design consideration was the capacity of provider and clients to deliver. Clients operate under financial pressures with limited resources constraining their ability to deliver their existing programmes. Adding cross-sector deliverables to their existing programmes increases the pressures on clients potentially placing



them in a position where they are too stretched to comply with the mandate (May, 1993).

Under the first mandate participants believed client resistance grew when clients were expected to fund unexpected integration costs from their existing funding baselines. Similarly, participants found the provider believed they were underfunded and complained that they could not fund changes to keep the PSISS current. The Executive response was for funding to be drawn from client baselines, which clients saw as a PSISS tax, increasing client resistance. Clients were faced with conflicting goals, either the PSISS or their existing targets, and no more money. Limited financial incentives appear to have damaged client and provider commitment and trust. The curse of the smiling faces reflects May's assertion the use of coercive mandates in a low trust environment results in "reluctant compliance marked by delay and half-hearted efforts" (May, 1995, p. 90).

The second mandate was enforced by a Cabinet committee which participants viewed as a stronger sanction. Participants were concerned that despite the mandate clients were still resisting the adoption of the PSISS. Integration had been a particular pain point with clients expected to use their existing baseline funding to pay for integration. Compelling clients contributed to low trust between clients and provider which led to concerns about limited collaboration. The second mandate created a virtual monopoly where clients had to adopt the PSISS, regardless of whether it met their needs or was cost effective. The provider had little incentive to provide better services and the provider was not funded to update the PSISS or provide enhanced services. Clients appeared to be left with a service that was not easy to integrate with, which may become out-of-date, and they had to use.

### Theme Seven: Is Technology Different?

In reviewing the literature on information systems, governance and public administration I canvassed some debates about the role of technology. Despite some thought in information systems literature that technology determines strategic direction, it is commonly held ICT is best suited to enable delivery of organisational objectives. This view was supported by the Auditor General who found clear organisational objectives were required to guide the ICT selection after

reviewing large scale project failures in the New Zealand Public Sector (Provost, 2012). She found successful projects focus on strategic or customer outcomes they are trying to achieve, whereas projects that failed commonly focussed on getting the technology right at the expense of outcomes and consequently did not deliver the stated outcomes or needs of customers.

In the official narrative, SSC created the e-Government Unit with aspirations to convert public administration processes and culture to an all-of-government approach. Yet we also have many participants criticising SSC for adopting a technology centric approach to PSISS delivery. Thus, the State Services Commissioner, perhaps channelling the concerns highlighted by the Auditor General, had a generalised fear about e-government initiatives his agency was responsible for delivering becoming large technology centric projects and failing.

In the early days of the PSISS many participants observed the provider collaboratively working with potential clients to develop the PSISS business case. However, once the case was approved by the Executive the provider's stance changed. Participants observed the outcome focus all but disappeared and technological considerations then set the PSISS direction. They also believed this shift in stance was leading to perverse incentives for delivering technology. The technology-centric approaches to governance and implementation, discussed in the previous sections tended to reinforce this view. To the contrary participants believed technology should meet client and customer needs, rather than be an end of itself.

From participant accounts and document analysis, it appears governance of the PSISS system implementation followed IT governance practices using project management and internal process-based controls for development. The provider saw themselves as primarily accountable for technology delivery, contracted through a third-party developer. Some participants thought the provider focussed upon delivery of the PSISS at the expense of clients and customers, which appears short sighted when the provider was reliant upon client services to increase customer adoption.

Combining project management and internal process controls with a technology centric view, as we saw in the narratives, can result in the governance focus also being on technical deliverables. Project scope was set by the business case. This gave SSC an imperative to deliver on the business case without delay or fail, providing incentives to deliver a technology product rather than an outcome. Some participants believed the provider focus on delivering technology through project management with internal process controls limited client involvement. Although the PSISS was tested using three services, the way this was done did not add credibility and confidence in the technology to deliver business outcomes. Participants noted that two of the services used for testing were SSC-internal services where the PSISS added an extra layer of authentication and the third was a client service that stopped using the PSISS after testing.

Limited client involvement amplified the problems arising from the focus on technology rather than business outcomes. When the PSISS was released clients did not appear to be ready to adopt the PSISS and this was attributed by participants to the lack of client involvement during the technology build. Even worse participants remarked that the first clients who attempted to adopt the PSISS became burdened with unbudgeted costs and integration issues which increased their time and cost of PSISS adoption, and further deterred other would-be clients. The participants observed increased adoption time and cost leading to resentment from clients who were adopting the PSISS and avoidance from clients who were considering adoption.

Low adoption rates in turn triggered Executive reviews and funding limits for the provider. A vicious cycle was described by one participant where the provider was responsible for an expensive information system liability rather than a system asset capable of delivering the strategic outcomes sought by SSC. Instead the pressure was on SSC as the technology provider to increase client adoption without regard to the original business outcome.

Most participants believed by the time the PSISS was moved to DIA there was open client resistance to PSISS adoption and latent hostility between clients and provider. A Cabinet mandate was used to compel client adoption, which many participants believed only increased client resistance. On the other hand, other

participants reflected concerns that the mandate made the provider bloated and removed the need for the provider to make client adoption and integration easier.

The governance focus on internal processes and technology with limited client involvement led to poor client experiences and resistance. Client resistance further fuelled unwillingness to collaborate, which was significant as the desired outcomes required the PSISS to integrate client services to provide customers an incentive to use the PSISS. Client resistance contributed to low adoption, which put the provider under financial pressures and the PSISS under constant review. The mandate used to increase client adoption failed and the provider continued not to meet many of its performance targets.

### Theme Eight: Collaborative Governance, the Art of the State

Whilst the provider was criticised for poor collaboration with clients during system implementation, many participants were positive about collaboration between SSC and the Privacy Commissioner, which was described as contributing to a privacy enhancing identity PSISS.

Privacy settings in New Zealand were initially a barrier to PSISS introduction. The legislation and powers of the Privacy Commissioner set a high bar for the PSISS to attain. Participants who raised this point believed consultation with the public and Privacy Commission in the concept phase coupled with collaborative design of the PSISS with the Privacy Commission ensured privacy and security concerns were included in system requirements and how the system was implemented. The Privacy Commissioner has continued to act as an advocate promoting and endorsing the PSISS as a privacy enhancing identity service.

It is curious then why the two examples of collaboration involving the provider during the system implementation phase described here played out so differently. Upon reflection on my data, it seems the Privacy Commissioner and provider had a common outcome they were seeking which was ensuring the privacy and security of personal information. Under the Privacy Act (1993) the Privacy Commissioner was responsible for monitoring the impact of technology on privacy and investigating privacy breaches. The provider was introducing a new PSISS for customers to access public sector services online using personally identifiable

information. As evidenced in my literature review introduction of common goals as shared objectives was a prerequisite for inter-organisational collaboration (e.g. Vangen & Huxham, 2012). This appears to have been provided through the collaborative agreement of principles and in more detail through development and testing of privacy requirements for the PSISS between the provider and Privacy Commissioner. In contrast although the provider collaboratively developed the business case with clients during the PSISS concept phase, collaboration stopped when system implementation started.

Development and testing of an information system against detailed requirements are safeguards used to reduce issues for system clients and customers (Langer, 2008). Collaboration with the Privacy Commissioner allowed a perspective on privacy requirements the provider may not have considered. Collaborating with clients also might have introduced client requirements, for example integration, as part of system design and enabled testing against those requirements. The business case provided a high-level agreement between clients and the provider. This was insufficient for success when it appears the devil was in the detailed requirements and testing. The experiences of other New Zealand projects, where successful delivery of shared outcomes and customer needs requires detailed interaction as well as a high level agreement of direction, should have led the provider (e.g. Ryan, Gill, Eppel, & Lips, 2008). I continued to explore these assertions through the governance arrangements introduced after the Cabinet mandate.

My governance practice narrative shows the PSISS continued to fail to meet performance targets even after the imposition of mandatory client participation. That clients were resisting adoption and exhibiting a low level of trust in the provider's client focus and their technology product that they had no ownership in, is linked to these failures.

After the Cabinet mandate there were changes to governance arrangements as well as some public-sector wide changes such as the introduction of Better Public Services, new legislation, the ICT Strategy and Action Plan, new governance groups and result areas. These were identified as improvements in the coherence of the public administration and IT governance which contributed to increased adoption and client focus.

We saw in the literature that a lack of direction, controls or inadequate governance structures can result in misuse of power, particularly in the public sector (e.g. Collier et al., 2001). When SSC was the provider they were accountable for performance targets including client adoption. The curse of the smiling faces was cited as an example of clients appearing to indicate agreement to adopt the PSISS in governance forums, but not adopting it in practice. Many participants believed clients did not have to adopt, so they didn't, and the SSC could not compel adoption. When performance targets were not met the SSC was deemed to have failed and the PSISS was moved to DIA. The Executive introduced the second mandate which provided the ability for the provider to seek Cabinet sanction, although it was seen by participants as increasing client resistance.

When the outcome focus changed from being about the technology to being about the PSISS enabling customer centric services, the PSISS outcome began to change. With DIA as the lead agency, supported by seven other client agencies who made a commitment to deliver Result 10 as the Service Innovation Group, DIA was enabled to deliver. The collaborative development of the Result 10 Blueprint which detailed the activities to be performed to deliver Result 10 through the PSISS, gave provider and client commitment to a common set of goals. These activities were also viewed as part of Better Public Services, which was a whole of government priority, and aligned with the ICT Strategy and Action Plan which also linked to Result 10 as an all-of-government direction. This in turn enabled performance figures to be set for customer usage based on the agreed 10 common transactions delivered through client services. So by this time in the PSISS life we saw some mutual reciprocity for results emerging in the process, a factor often highlighted in the collaborative government literature (e.g. Emerson et al., 2011). It took the form that the common Result 10 goals were converted into organisational goals where the lead agency was accountable for the delivery of the blueprint activities with clients accountable for increasing online usage of their services. The new governance arrangements establish individual accountabilities for clients and provider which worked in a way that had reciprocal benefits for the PSISS in all the organisations concerned: the PSISS outcome is aligned with the Result 10 goals, and with a wider all-of-government direction.

The issue of new service integration was still outstanding. Some participants believed the Service Innovation Group maintained an insular view focussing on the performance targets rather than new services. Although the blueprint discussed introduction of new client services it took direct negotiation with tertiary education agencies to address integration concerns. As a result, customer adoption results surged and the RealMe website has a large section for tertiary students indicating they are a significant group of customers adopting the PSISS (Department of Internal Affairs, 2019b).

New client services were not included in reporting, and online reporting was archived before the 2017 deadline (Department of Internal Affairs, 2017d). As shown in Chapter two, public sector accountability was criticised in theory for changing performance measures leading to an inability to compare results over time (e.g. Gregory & Lonti, 2008). There are several examples where performance targets have changed from year to year or been modified when targets were not met. This raises questions about gaming of the system (e.g. Hood, 2002) or whether PSISS operate in a dynamic environment where accountabilities need to change to meet the needs of stakeholders (e.g. Banoun et al., 2016). My grounded practitioner narrative highlighted examples of both of these occurring in practice. Reflecting on literature and practice has highlighted a need to ensure accountability design includes enough flexibility to ensure changing client, customer and Executive needs are met; whilst ensuring this flexibility does not lead to system gaming where performance targets are changed, or reporting stopped to reduce accountability or transparency.

The construction and reflective exploration of the eight themes in light of academic literature provided insights into gaps between theory and practice. Starting with memo writing to explore the interplay between themes I have developed these insights in the following chapter where I conduct further theoretical integration, to enrich my mid-range theory and create models to inform theory and practice.

## Chapter Eight. Theoretical Integration: Refining the Theory

The synthesis of the official and grounded practitioner narratives in the previous chapter did not always connect cleanly making the picture more of a collage than a neatly fitting jigsaw. Pulling back from the collage to try to make sense of the governance picture, in this chapter, I identify some recurring patterns that represent potential governance issues. Finally, I examine the critical governance issues this process brought into focus, conducting reflexive analysis of these issues against current academic literature, concluding the chapter with a table outlining insights for academic knowledge.

I found governance roles could be viewed from three perspectives. The first perspective is based on agency theory, and is reflected in the accountability framework, where the provider acts as an agent for the Executive delivering services to clients and customers. I have decided to call this perspective delivery. A second perspective was reflected in performance documents and through reviews of the PSISS and sector ICT. In these documents there were numerous assurance functions designed to minimise risk to both provider and Executive. I have decided to call this perspective assurance. A third perspective focussed on roles apparently intended to increase sector alignment and, in some cases, improve the emphasis on outcome delivery rather than delivery of a service in isolation from its intended purpose in terms of system change. I have called this perspective system strategy.

In this chapter I use the three perspectives: delivery; assurance and system strategy to further explore PSISS governance issues, as shown in Figure twenty one.

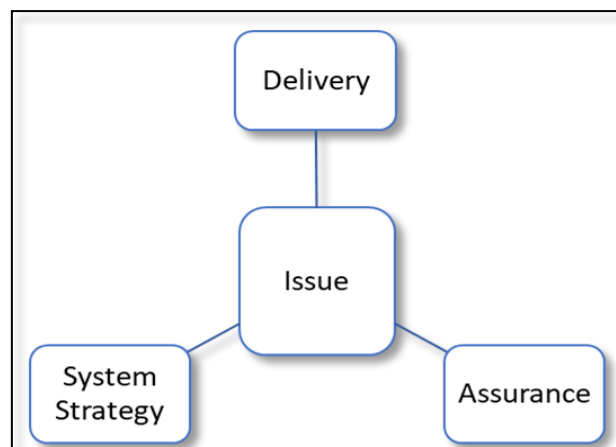


Figure Twenty One: Three Perspectives Governance Model



When considering an issue, the perspective tends to influence the actions and interactions that are emphasised and therefore the results. The three perspectives help us to see the extent to which governance is multifaceted in the way it is required to operate to address numerous issues at one time. While considering all three perspectives in an integrated way, I began thinking of this three perspectives governance model I had developed as an analytical device with three different lenses each capable of seeing an issue from a particular perspective, while the other perspectives remain in view. Thus, my governance metaphor is that of a multi-sided lens where each face has three points representing my three governance perspectives. Issues can therefore be explored individually or as groups from all three perspectives.

I began writing memos on governance issues raised in the eight themes and linked theory and practice (Corbin & Strauss, 2008). This process surfaced seven critical governance issues to explore through the three perspectives to increase the understanding of why certain actions were taken and explain why things may have unfolded in the PSISS the way they did (Charmaz, 2017). This process was assisted by my deeper contemporary re-immersion into academic and secondary documentation, synthesised in the final part of Chapter 2, to further insight derived from my theoretical integration. In the sections that follow, I explore the seven critical governance issues in turn:

- Issue One: Public sector governance
- Issue Two: Conflicting interests
- Issue Three: Coverage of Cabinet direction
- Issue Four: Accountability
- Issue Five: Misaligned expectations impacting collaboration
- Issue Six: Is ICT different? and
- Issue Seven: Privacy and security

### Public Sector Governance

PSISS governance sits within a wider public sector governance frame. Practitioners identified governance as a process to deliver the PSISS, similar to project management or a service lifecycle, reflecting the influence of IT

governance. As shown in my literature review, IT governance evolved from corporate governance, with alignment viewed from an organisational rather than public system lens, stopping at the organisational boundary (Rusu & Viscusi, 2017). The primary parties involved in PSISS governance were identified by practitioners as the Executive, provider and clients. These parties do not reflect the external sector, service users or assurance roles, indicating the focus was upon delivery by the provider.

The official narrative identified public sector initiatives intended to deliver outcomes (e.g. MFO, BPS) led by the SSC. At times explicit linkages were made between the PSISS and wider system outcomes, although this appears to have been constrained by PSISS governance. Similarly, participants commonly complained about the assurance role played by Treasury which was focussed on funding rather than outcomes.

PSISS governance occurs within wider public sector governance arrangements. The official narrative identified additional roles involved in wider public sector governance, particularly in public system leadership and assurance. These roles do not have the same level of influence on the private sector organisations, information systems or management domains, which inform the corporate governance and IT governance forms. The system leadership role of the SSC as distinct from its provider role and assurance roles are cases in point. Public sector assurance functions external to the provider include the Auditor General, Ombudsman, Treasury, Privacy Commissioner and Government Communications and Security Bureau (GCSB) who all place additional assurance requirements on public sector services.

The use of IT governance and corporate governance forms appears problematic without considering the wider public sector governance arrangements. Sector alignment is more complex than corporate alignment given the number of stakeholders, and the additional assurance requirements requiring consideration for PSISS governance arrangements.

## Conflicting Interests

Practitioners identified tensions between parties, outside of the Executive, performing public sector and PSISS governance. My triple lens model allows examination of the governance focus through the perspectives: delivery, assurance, and system strategy. There appears to be a tension, if not conflict, between these perspectives; for example: it would be challenging to reduce risk, deliver services and align sector activities all at the same time. The academic literature about project management also predicts tensions, and conflict, between the delivery of time, cost and quality (Babu & Suresh, 1996). Roles were explored to provide insight into the tensions within and between perspectives.

Tensions were observed occurring within organisations and across organisational boundaries. Six governance and delivery roles were identified. The system strategy perspective had guidance and monitoring roles. Assurance also had guidance and monitoring roles. The delivery perspective had a role providing the PSISS to clients and customers. A sector ICT leadership role was identified by participants, however, it is unclear where this role should reside. Participants identified tensions between perspectives, and between perspectives and the sector ICT leadership role, these included:

- Delivery and Assurance
- Delivery and System Strategy
- System Strategy and Assurance
- Sector ICT and System Strategy
- Sector ICT and Delivery and
- Sector ICT and Assurance.

The tensions also morphed across the three timeframes where PSISS governance arrangements changed, particularly perspectives and roles. These timeframes are shown in Figure twenty two.

1999-2008	2008-2015	2015-Present
<p><b>System Strategy</b></p> <ul style="list-style-type: none"> <li>• Guidance SSC</li> <li>• Monitoring SSC</li> <li>• Sector ICT SSC</li> </ul> <p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• PSISS SSC</li> </ul> <p><b>Assurance</b></p> <ul style="list-style-type: none"> <li>• Guidance SSC/Treasury</li> <li>• Monitoring SSC/Treasury</li> </ul>	<p><b>System Strategy</b></p> <ul style="list-style-type: none"> <li>• Guidance SSC</li> <li>• Monitoring SSC</li> <li>• Sector ICT DIA</li> </ul> <p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• PSISS DIA</li> </ul> <p><b>Assurance</b></p> <ul style="list-style-type: none"> <li>• Guidance SSC</li> <li>• Monitoring SSC</li> </ul>	<p><b>System Strategy</b></p> <ul style="list-style-type: none"> <li>• Guidance SSC</li> <li>• Monitoring SSC</li> <li>• Sector ICT DIA</li> </ul> <p><b>Delivery</b></p> <ul style="list-style-type: none"> <li>• PSISS DIA</li> </ul> <p><b>Assurance</b></p> <ul style="list-style-type: none"> <li>• Guidance Treasury</li> <li>• Monitoring Treasury</li> </ul>

Figure Twenty Two: Governance Timeframes

In the first timeframe sector ICT and delivery resided at SSC and assurance was shared between SSC and Treasury. In timeframe two sector ICT and delivery were transferred to DIA, and SSC led assurance. In timeframe three assurance was transferred to Treasury.

The distinction between system strategy and sector ICT presents opportunities for further investigation as shown in Figure twenty three. Practitioners observed tensions in the movement of the sector ICT (GCIO) role to DIA. The original intention was to move the PSISS delivery function to DIA but retain the sector ICT role at SSC. This appears consistent with Westminster public sector literature separating the policy and implementation functions. However, the perceived failure of the GSN, and by association other PSISS, saw both delivery and sector ICT moved to DIA. While public sector capability development remained at SSC, sector capability to deliver ICT was the responsibility of a different organisation.

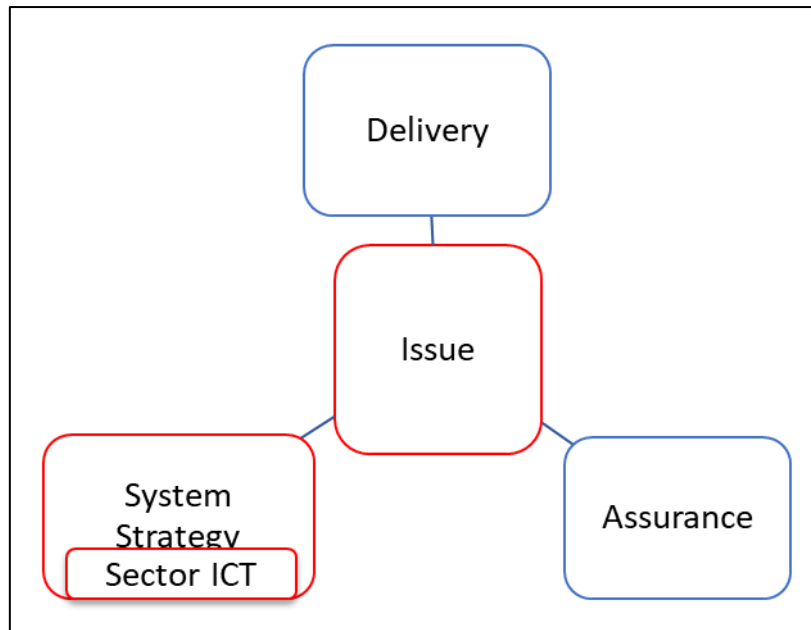
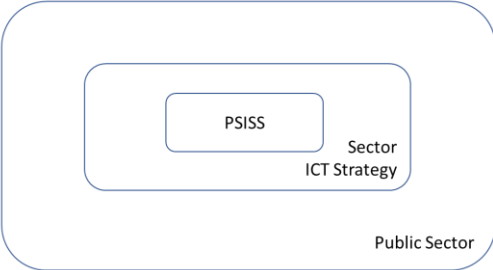
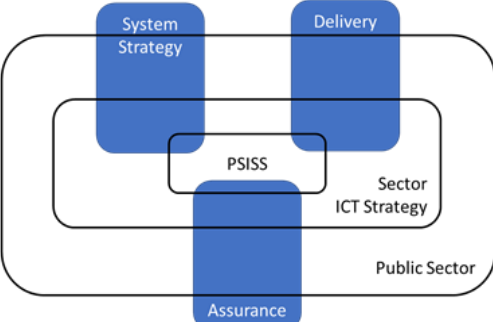
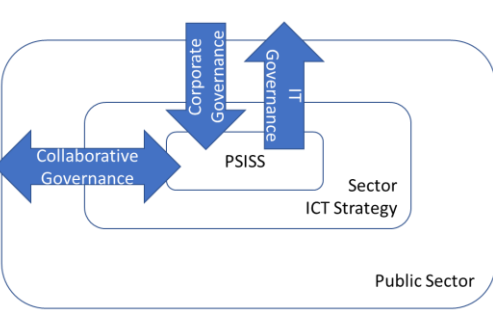
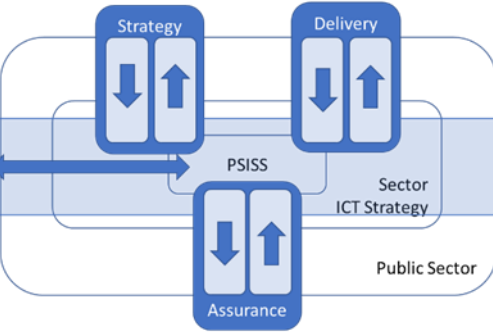


Figure Twenty Three: Sector ICT

Examining the changed governance arrangements led me to think about the link between governance more generally and IT governance. As noted in the literature review there is a tension between IT governance and corporate governance with questions asked about whether IT governance should be considered as part of the corporate governance arrangements or as a separate discipline (De Haes & Van Grembergen, 2009). The prevailing view, and the one adopted for this research, is that IT governance supports corporate governance (Weill & Ross, 2004). Similar questions arise when placing IT governance in a public sector context. The challenge is that, in the literature IT governance, and alignment, is commonly viewed through an organisational, rather than sector lens (Rusu & Viscusi, 2017). This appears problematic for collaborative public sector governance arrangements and public sector ICT shared services and is a gap not addressed in the literature.

Reflecting upon my governance practice narrative I observed tensions where sector ICT was treated as distinct from system governance arrangements. Additional tensions were observed as emerging from Executive initiated changes to governance arrangements. This reflection led to the construction of an extended public sector governance model, which was used as a lens to reflexively identify and analyse critical governance issues. The extended model is constructed diagrammatically in Figure twenty four: Extended model construction.

 <p>Government</p> <p>PSISS</p> <p>Sector ICT Strategy</p> <p>Public Sector</p>	<p><b>Operating context.</b> The Government authorised the PSISS as part of wider sector ICT strategies to deliver shared services to the public sector.</p>
 <p>Government</p> <p>System Strategy</p> <p>Delivery</p> <p>PSISS</p> <p>Sector ICT Strategy</p> <p>Assurance</p> <p>Public Sector</p>	<p><b>Sector governance functions.</b> System strategy, delivery and assurance governance functions were identified as spanning the operating context in the governance practice narrative.</p>
 <p>Government</p> <p>Corporate Governance</p> <p>IT Governance</p> <p>Collaborative Governance</p> <p>PSISS</p> <p>Sector ICT Strategy</p> <p>Public Sector</p>	<p><b>Governance forms.</b> Collaborative, corporate and IT governance forms were observed in governance arrangements. These forms were all observed as containing strategy, delivery and assurance in practice.</p>
 <p>Government</p> <p>Strategy</p> <p>Delivery</p> <p>PSISS</p> <p>Sector ICT Strategy</p> <p>Assurance</p> <p>Public Sector</p> <p>S D A</p>	<p><b>Governance functions and forms.</b> Governance arrangements were observed as bi-directional with nested public sector, sector ICT strategy and PSISS governance.</p>

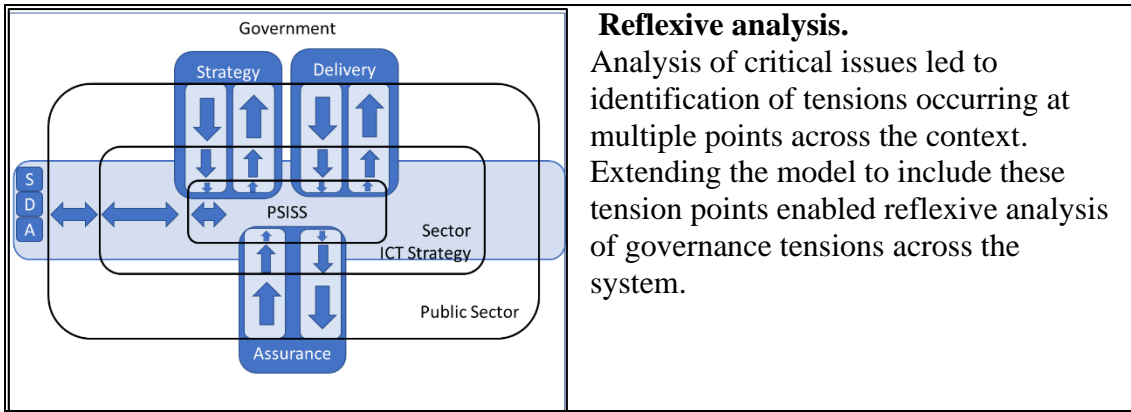


Figure Twenty Four: Extended model construction

I have used the extended model in Figure twenty five to present practitioner identified tensions identified through the previous exploration of conflicting interests to illustrate the inter-related nature of public sector governance arrangements.

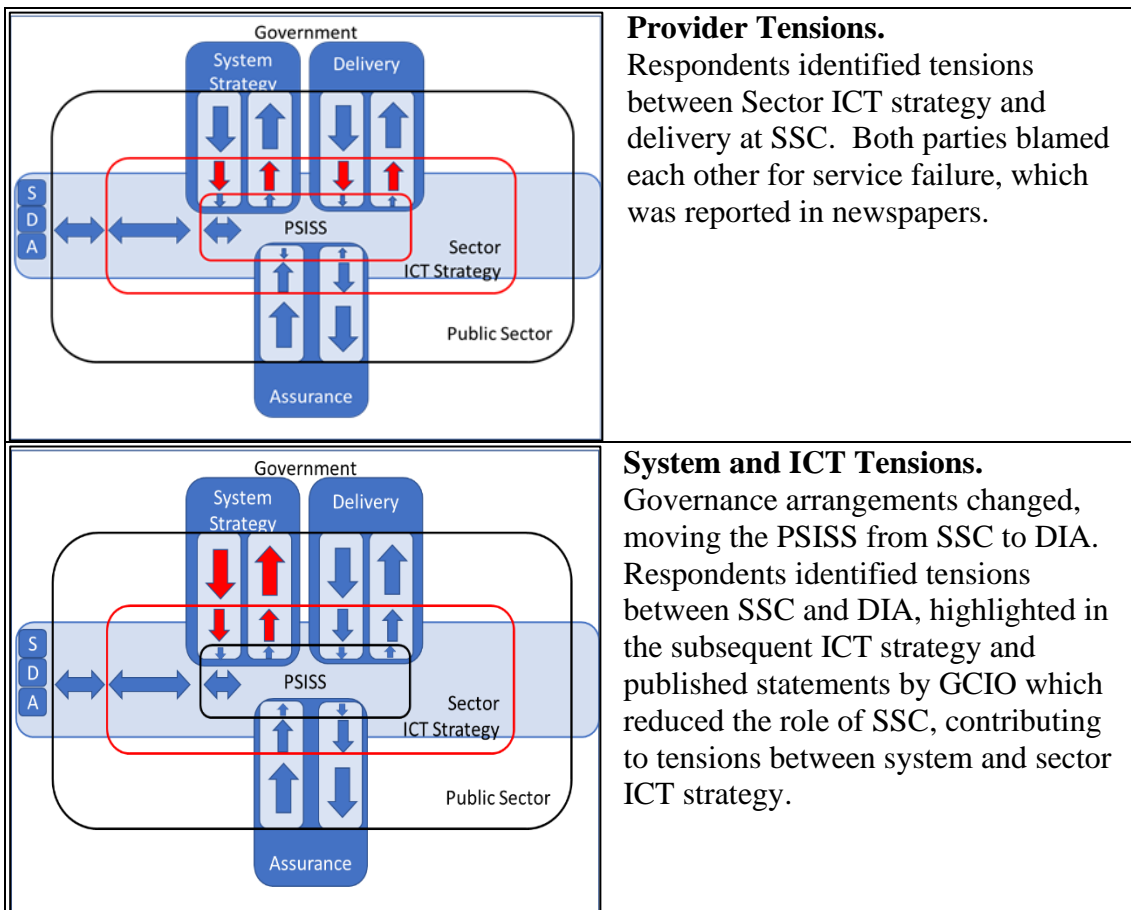


Figure Twenty Five: Extended model tensions

The extended model has been used to illustrate the remaining critical governance issues, to provide insights into the relationship between governance arrangements and tensions.

### Coverage of Cabinet Direction

Over the life of the PSISS Cabinet issued numerous directives to parts of the New Zealand public sector. Practitioners found these directives problematic for PSISS governance arrangements, particularly for gaining both client adoption and trust. Directives required clients to adopt the PSISS, provide their ICT strategic plans to the sector ICT functional leader (in DIA) and to comply with guidance and monitoring requirements for projects and investment. My models' three perspectives: system, delivery and assurance, allow exploration of issues arising from these directives. I begin by identifying the different parts of the New Zealand public sector and then explore the coverage of directives and potential implications.

Governance literature, particularly corporate and IT governance forms, use direction and controls to ensure direction is followed. Assurance, in the form of monitoring and reviews, are employed to review compliance with direction and controls. Oversight of direction, controls and assurance is conducted by a governance group, commonly the board, enabling consistency and transparency.

The outcome purpose of the PSISS direction was observed in sector ICT strategies, controls in the mandates compelling adoption and assurance in project guidance and monitoring. These were used to cover the Executive expectation sector ICT alignment is directed, the PSISS is used and assurance is provided. Consistency and transparency were required to ensure the people expected to deliver are provided direction, covered by controls and their actions are monitored.

I chose to review coverage of direction, controls and assurance using three common-use groupings for the New Zealand Public Sector, namely: Public Service, State Services and State Sector (State Services Commission, 2019b). These groups are increasingly inclusive subsets of public sector entities represented in Figure twenty six:



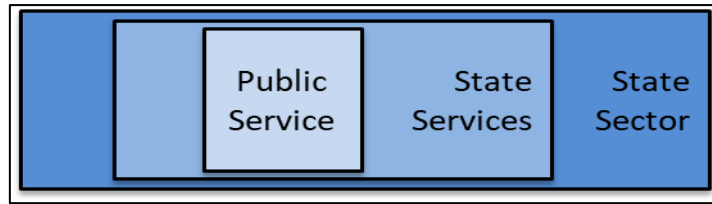


Figure Twenty Six: Public Sector

Table thirteen identifies changes to the governance coverage of the three perspectives.

Year	Sector ICT	Delivery (Directed Adoption)	Assurance
2001			Public service, and part of state services (crown entities as directed)
2006	State services invited to use		
2007		Public service and parts of the state sector	
2008		Public service and parts of the state sector (crown agents)	
2010		Public service directed, state service invited to adopt.	
2011			Public service and part of the state services (crown agents)
2012	Public service and part of state services		
2013	Public service and part of state services (crown agents with exceptions)	Public service and part of state services (crown agents)	
2017			State services with some exceptions

Table Thirteen: Governance Coverage

The first observation regards the extent of coverage. The maximum coverage for any of the examples is state services and there appears to have been no intention of

directing the entire state sector. My second observation was the difference in coverage over time. The directives do not appear to have been designed to provide consistent coverage for: PSISS adoption; ensuring the PSISS was included in strategic plans; or assurance to ensure the PSISS was included when clients invested in new systems or made changes to existing systems. From this we could infer the lack of a consistent process for ensuring PSISS adoption over time, which amounts to a governance oversight or gap.

Looking at the coverage individually, direction for adoption began before the PSISS was released as the GLS. Direction was issued to public service departments in 2007 and was increased to include all crown agents the following year. Although there was some confusion after the 2010 directive, the direction to use the PSISS appears to have covered the public service and crown agents until the present day indicating a consistent focus upon delivery.

Sector ICT alignment was merely encouraged until a directive was issued in 2012. This highlights a misalignment between delivery and system in that early period. Although clients were directed to adopt the PSISS there was little oversight of client strategies to enable strategic alignment or have assurance mechanisms in place to ensure PSISS adoption. Clients could independently plan system changes, meaning misalignment might not be observed until projects were well underway and difficult to stop. At that later stage PSISS adoption would require additional planning and funding, or avoidance which is what was observed in practice.

Misalignment was particularly marked when the project delivery, system leadership and assurance functions all resided at SSC. Sector ICT strategic alignment was not directed until the PSISS and sector ICT role moved to DIA. Even then, the coverage of the directives remained inconsistent between adoption and sector ICT alignment. The coverage of project guidance and monitoring appears to have remained constant whilst at SSC, with the direction increasing coverage from the public service to the state services, with some exceptions, after assurance moved to Treasury.

The lack of coverage indicates a reduced ability to enforce PSISS adoption across the state sector, with the inconsistent coverage indicating a lack of alignment across

governance controls to monitor whether clients are following the directive to adopt the PSISS. The inconsistent governance arrangements at public sector level contributed to sector ICT strategy and PSISS governance tensions, which is highlighted in Figure twenty seven.

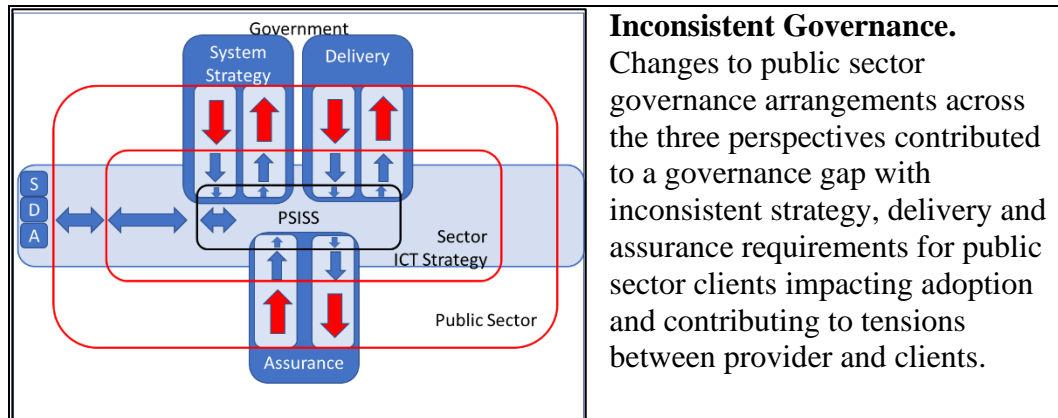


Figure Twenty Seven: Inconsistent Governance

### Accountability

A lack of accountability has been identified as a governance issue contributing to PSISS failure (National Audit Office, 2012). Accountability was defined from theory as a relationship where someone is accountable for something to someone. The accountable party is delegated the authority to deliver the specified deliverables, with performance evaluated resulting in sanction or reward. Failings in these can result in an accountability deficit, which is treated through changes to accountability mechanisms (Schillemans, 2011)

The official and grounded practitioner narratives identified two key accountability relationships: between the Executive and the provider; and between the provider and clients. The Executive provider relationship was vertical in nature and enforced through contract. The relationship between the provider and clients was a horizontal one amongst organisational peers, which has been identified in theory as difficult to maintain, which may explain the resorting to vertical mechanisms including mandates to enforce client PSISS adoption. These accountability relationships are explored to identify accountability deficits and changes to accountability mechanisms.

**Accountability Relationship – Executive and Provider.** The first provider was the SSC, authorised by the Executive to create the e-Government Unit and the PSISS (GLS and IVS). The Commissioner was accountable for delivery of the PSISS to the Executive through the State Services Minister and Cabinet committee and in turn held his own staff responsible for PSISS delivery through their employment contracts. The Commissioner’s role in introducing shared services was empowered by legislation. For the first six years performance was based upon developing e-government strategies and the implementation of the PSISS. The accountability mechanisms were based on performance agreements and approval of business case milestones, which created the reward of ongoing funding. Performance criteria in business cases were not always specific or measurable, and largely ignored client engagement and integration as necessary conditions for PSISS success. These early issues represented accountability deficits because of no specified targets for initial client agreement and integration results. Subsequently, they were specified but the provider still failed to meet the targets and was sanctioned by the transfer of the sector ICT and delivery roles from SSC to DIA. At DIA, the performance criteria changed to include customer targets, which unfortunately were not met. In response to continuing failure the specified targets were reduced enabling the provider to deliver. Sanctions were applied through the reduction of funding, and increased Executive and assurance scrutiny. The Executive’s role became more active: providing direction and defining priorities; passing legislation enabling the provider to offer the PSISS to private sector clients; issuing a Cabinet minute directing public sector adoption; and endorsing the strategy to 2017. The provider began meeting some performance targets.

Monitoring changed from major ICT projects to major projects, led by SSC. Ironically, SSC had failed to deliver shared services itself while performing monitoring over the programme during the failure, which suggested a conflict of interest and an accountability deficit, which was addressed in 2015 when monitoring was passed to the Treasury.

At DIA, the GCIO was accountable to the Executive, through a Cabinet committee, for the delivery of the BPS Result 10 target which specified 70% of transactions

for a set of ten selected services would be performed online. A lack of interim targets indicates limited performance specification and measurement of results which had previously been identified as a governance failing in information systems, corporate governance and public administration literature (Hilmer, 1993; Gauld, 2006; Gregory & Lonti, 2008).

Many participants indicated a belief the PSISS would not reach its 2017 targets, although in March 2017 the provider reported to the Executive that Result 10 would be met by the end of 2017 (Dunne, 2017b). Illustrative of the accountability deficits, this was not the case. The performance target was not clear. There was contention about the delivery date, some sources said 30 June 2017 and others December 2017, and results were not reported until after June 2018.

Result 10 performance was published in multiple locations including annual reports and web sites, with numerous discrepancies. The only source of PSISS performance which reported results for the entire reporting period was DIA annual reports. The various web sites had stopped reporting results by June 2017. Table fourteen highlights these inconsistencies in reporting in over half of the years (in yellow).

Date	DIA Annual Reports	DIA Website	DIA Annual Report 2013	Archived DIA Website	SSC Website
June-12	29.90%	-	30.4	-	29.9
June-13	37.30%	-		36.2	36.2
June-14	39.30%	-		39.3	39.3
June-15	45.30%	-		45.3	45.3
June-16	50.70%	49.7		52.2	49.7
June-17	58.00%	59.9		-	-
June -18	65.70%	-		-	-

Table Fourteen: Reported Result 10 Results<sup>3</sup>

Accountability deficits are reflected in inconsistent reporting, limited specification and constantly changing performance metrics. Inconsistency in accountability

---

<sup>3</sup> Sources: (Department of Internal Affairs, 2013a, 2017a, 2017b, 2018a; State Services Commission, 2018).

mechanisms was previously observed in New Zealand public sector reporting and criticised by scholars for not enabling comparison or consistent review (Gregory & Lonti, 2008). From the inconsistent reporting, I also infer limited alignment within the provider and across the assurance agencies, an issue identified as problematic in governance literature (Subramaniam et al., 2013; Emerson & Nabatchi, 2015).

The GCIO was accountable for delivery of Result 10, which was not met. However, the Service Innovation Group consisted of senior officials from eight major public sector service delivery clients jointly committed to work together to deliver Result 10, which included the Action Five requirement to adopt RealMe (Department of Internal Affairs, 2014b). Hence my attention next to the accountability relationship between clients and provider.

**Accountability Relationship: Provider and Clients.** When the PSISS was released in 2007 the State Services Commissioner was legislatively authorised to lead shared services, however the performance targets were not met as evidenced in the perceived failure of the PSISS and transfer to DIA. Participants believed that clients did not trust the provider and even if they agreed to PSISS adoption, they did not participate which was identified as the curse of the smiling faces.

The second mandate involved legislation, regulation and the introduction of formally agreed Result 10 performance targets with clients represented by a cross-sector governance group, which agreed to a charter and blueprint which committed clients to adopt the PSISS and deliver integrated digital transactions (Department of Internal Affairs, 2014b). Given the PSISS failure to meet performance targets, participants in the governance group, and their role in the integration and delivery of services to customers, warrants attention. There were 11 members, although only five of them had services contributing to delivery of Result 10. The grounded practitioner narrative identified senior executives attending governance meetings to obstruct progress, highlighting an accountability deficit given their agreement to participate.

Action Five provided a more explicit client accountability requiring PSISS adoption, which was agreed to by the sector governance group. Two of the clients delivering services for the basket of ten were not present on the governance group,

limiting the ability for the group to hold them to account, identifying another accountability deficit.

To explore whether Action Five was effectively governed, I retrospectively applied Result 10 as a means for requiring PSISS use. I attempted to use client services posing as a customer and found of the ten Result 10 client services:

- Two of the client services required use of the PSISS.
- Five of the client services had the PSISS as an option and
- Three did not use the PSISS.

I next investigated whether client agencies were reporting their online usage results, and whether these results were consistent with those reported by the provider. I found that only five of the clients reported online usage results in their annual reports. In addition, two of the five clients reported results that varied by more than ten percent from results reported by the provider, as shown in Table fifteen.

<b>Client</b>	<b>Service</b>	<b>DIA Jun 2017</b>	<b>Client Annual Report 2017</b>	<b>Use PSISS</b>
Police	Pay for fine on time	70.1%	70%	No
MSD	Apply for Financial Assistance	57.2%	-	Optional
DIA	Renew adult passport	58.3%	58.66%	Yes
IRD	File an Individual Tax Return	97.4%		Optional
IRD	Pay Individual Tax	87.8%		Optional
IRD	Apply for an IRD Number	44.1%		Optional
DOC	Book Department of Conservation asset	37.0%	-	No
Customs	SmartGate departures and arrivals	69.0%	55%	No
MBIE	Apply for visa	36.4%	59%	Yes
NZTA	Online transactions	42.0%	41%	Optional

Table Fifteen: Action Five<sup>4</sup>

<sup>4</sup> Sources: (Department of Internal Affairs, 2017d, 2018a; Ministry of Business Innovation and Employment, 2018; Ministry of Social Development, 2018; New

Although clients had formally agreed to use the PSISS, and collaborative governance arrangements were established, what I found was non-use of the PSISS, inconsistent reporting and a lack of monitoring or sanction, which presented additional accountability deficits.

The accountability relationship between clients and provider illustrated the (in)effectiveness of mandates for client adoption by the provider at both SSC and DIA. Scholars questioned the use of mandates, particularly in the New Zealand public sector (May, 1993, 1995; Nitkin, 2012). In the case of SSC, the mandate was legislative, and given the perceived failure and subsequent transfer of the PSISS, it did not result in performance targets being met. Other scholars have advocated the use of enforceable agreements and externally based authority to overcome horizontal accountability issues (Boston & Gill, 2011). The second mandate was combined with agreed targets for Result 10 set through the charter and blueprint. The GCIO was provided external authority through the Cabinet minute and legislation. The Result 10 targets of 70% online use and Action Five were measurable and they do not appear to have been followed consistently by clients. Many clients did not report their results and two of the five that did were not consistent with results reported by the provider.

The provider led sector ICT and had assured the Executive targets would be met but failed to deliver and did not address the accountability deficits. There appears to have been no sanction for failing to meet targets or address accountability deficits as new targets were set to 2021. The new targets were unclear as the provider did not specify what services would be included, which, combined with the strategy to 2017 not being replaced until November 2019, indicate wider sector ICT leadership accountability deficits between provider and Executive.

Theory indicates the use of vertical, and horizontal, governance mechanisms require effective accountability relationships (Dormer & Ward, 2018; Lopes & Farias, 2020). Accountability deficits were identified in both accountability

---

Zealand Customs Service, 2018; New Zealand Police, 2018; New Zealand Transport Agency, 2018)



relationships, and across sector ICT, assurance and delivery roles. The use of vertical mechanisms for horizontal relationships does not appear to have been effectively monitored given the accountability deficits and lack of sanctions. The addition of horizontal governance arrangements may have intended to increase accountability, however inconsistent and conflicting reporting appears to have contributed to accountability deficits. These tensions are highlighted in Figure twenty eight.

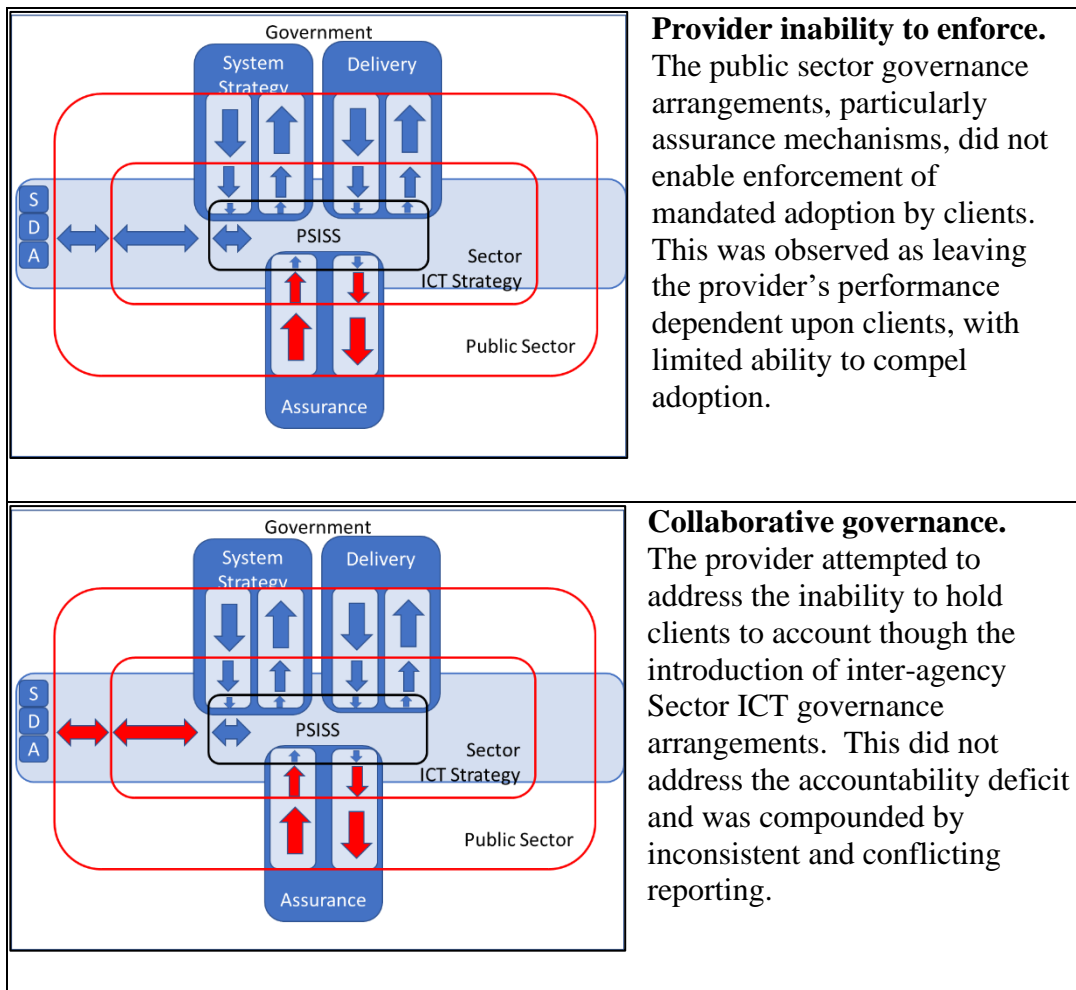


Figure Twenty Eight: Accountability Deficits

### Misaligned Expectations Impacting Collaboration

Many participants identified integration between the PSISS and client services as a critical issue affecting adoption. They disapproved of the limited consultation and testing during implementation and believed it contributed to integration issues as expectations were misaligned. The practitioner narrative provides examples of technical and cultural integration issues between provider and clients.

Integration was identified by participants as time consuming and requiring additional, often unbudgeted, client expenditure. The technical overview of identity services summarised in the literature review presents the evolution and associated challenges in the provision of federated identity. Based on practitioner responses the provider saw identity services as provision of a verified identity, whereas clients saw identity services as identity and access management. Respondent 8 summarised how many saw the limitations “It could not replace active directory, GLS was only yes or no for how many millions of dollars. The problem was adding a layer of complexity with no value.” Clients avoided adoption, and when those who did adopt the PSISS had integration issues, client resistance increased. Culturally clients had been provided autonomy through the NPM reforms with the introduction of corporate governance arrangements. These arrangements provided potential clients with the belief they could resist adoption.

Collaborative governance theory promotes agencies working together to deliver complex outcomes. The governance practice narrative (Chapter seven) indicates this occurred in the concept phase but decreased during implementation when the provider took a more autonomous, build it and they will come approach. When the PSISS was released and adoption figures were not met the response was to mandate adoption. The technical integration issues, additional client costs and misaligned expectations were not addressed, as shown in Figure twenty nine.

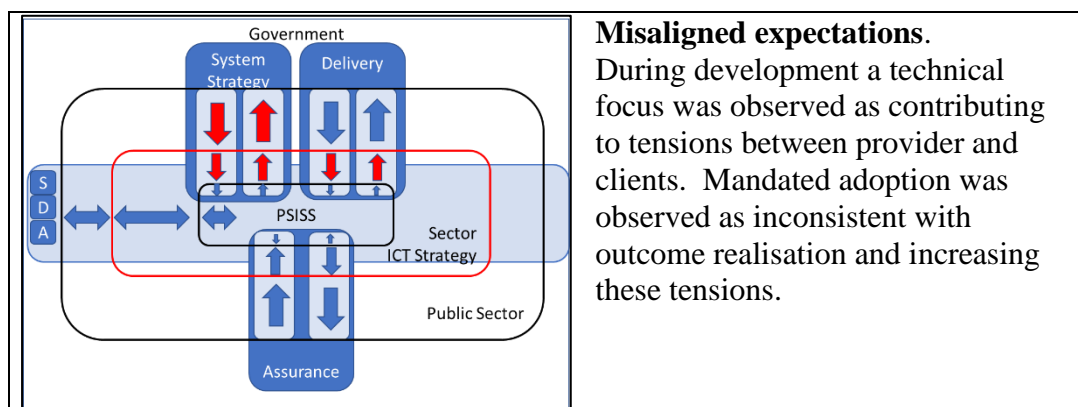


Figure Twenty Nine: Misaligned Expectations

New Zealand-based academic research identified issues with the use of coercive mandates in the public sector, instead promoting the use of incentives in conjunction with mandates. International E-ID literature provided examples of

similar tensions where mandates were employed to increase adoption without providing incentives, contributing to client resistance and slower than expected adoption. Incentives could have been used to address participant issues including additional costs to clients and technical challenges with integration. Instead what happened was compelled adoption and increased client resistance. Performance targets were based upon client and customer adoption and later customer usage of the PSISS. Performance documents show the provider commonly failed to meet these targets. Practitioners saw the service as a failure, and possibly more importantly the minister commented in the new digital strategy that “digital identity and informed consent tracking, are patchy or not present” (Department of Internal Affairs, 2019c, p. 17).

### Is ICT Different?

IT governance is a distinct governance form that has emerged from information systems literature, raising questions about whether ICT initiatives should be governed differently. The governance perspectives model allows exploration of the governance arrangements for ICT initiatives. It begins with the assurance function before exploring tensions between the system strategy, sector ICT and delivery roles.

In the 1990s assurance focussed upon major ICT projects, which is unsurprising given the high-profile failure of public sector ICT projects at that time. As a result, Treasury and the SSC issued guidelines for managing and monitoring major ICT projects. SSC performing system, assurance and delivery roles appears to have led to a blurring of the lines with the same organisation performing conflicting system roles. The failure of shared services resulted in delivery and sector ICT leadership being moved to DIA. SSC took ownership of assurance with its focus changing from ICT project delivery to project assurance, indicating a view that ICT projects should be considered as part of business initiatives, rather than requiring separate assurance, similar to the corporate governance view that ICT is just another input. Later the assurance focus shifted again from projects to system investment, with assurance moving from SSC to Treasury in 2015. Even with a system investment focus, the continued use of gateway reviews reinforced the use of a discrete project approach for delivery (Treasury, 2017).

Throughout the life of the PSISS the use of project assurance in governance arrangements appears to have influenced the practitioner view of governance as a process, which scholars have criticised as shifting attention from system outcomes to project deliverables (Hodgson et al., 2019).

Practitioners were critical of the technology focus during PSISS implementation when SSC was provider and accountable for system, assurance, sector ICT and delivery. The PSISS failure resulted in tension emerging between these roles. Delivery was run by GTS who were critical of the role played by the GCIO performing sector ICT leadership. The GCIO blamed poor results on the performance measurement system, arguing that project management did not include wider system benefits. The GCIO was removed and GTS were moved with the GCIO function to DIA.

The new GCIO, endorsed by the Executive through legislative reform and Cabinet mandate, released the sector ICT strategy to 2017 and introduced collaborative governance arrangements. The SSC was only mentioned in passing in the strategy, pointing to a disconnect between system and sector ICT leadership. This was reinforced by the GCIO, Colin MacDonald. “In 2012 Cabinet gave me, as Government Chief Information Officer, the mandate to integrate the plans of all agencies, to recommend collaboration and consolidation where advantageous, and to direct government departments to adopt all-of-government initiatives” (Department of Internal Affairs, 2013b, p. 3).

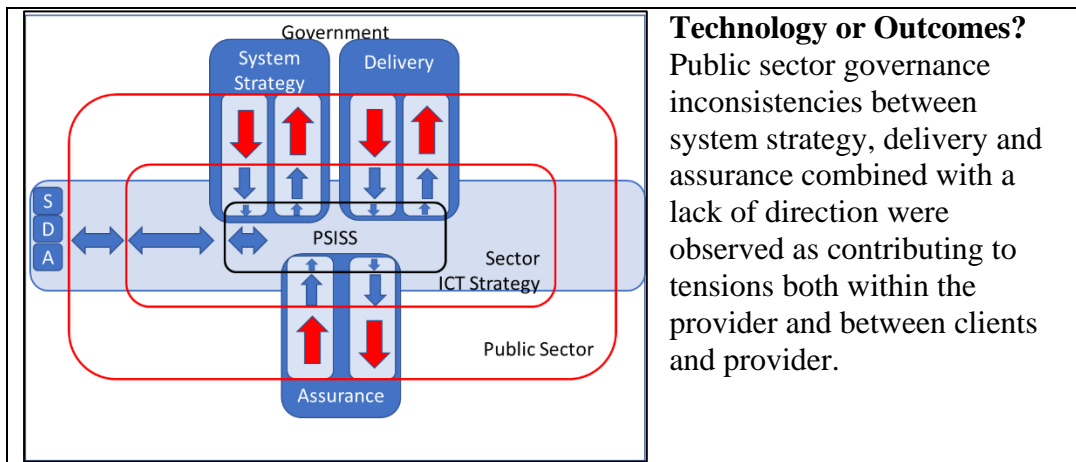
Later the role of the State Services Commissioner was legislatively changed in the State Sector Act (1988, p. 16) from “to review the machinery of government across all areas of government” in 2007 to “the Commissioner's role is to provide leadership and over-sight of the State services” in 2013, indicating as DIA is part of the State Services that the GCIO was subject to system leadership, which was confirmed with subsequent changes to governance arrangements. The GCIO name was changed to the Government Chief Digital Officer with a new head of DIA appointed GCDO in 2018, the sector ICT role is now referred to as a functional lead. “The GCDO is the government functional lead for digital. Functional leads are charged with developing and improving a designated area across government. The roles are delegated to specific CE’s by the State Services

Commissioner” (Department of Internal Affairs, 2019a, p. 1). Sector ICT appeared to have autonomy through the Executive empowerment of the GCDO in DIA, however this appears to have been changed as the sector ICT role is now formally delegated by the Commissioner, along with other functional lead roles intended to provide coherence and leadership across the public sector.

Corporate and IT governance literatures promote ICT alignment through vertical controls. Moving GCDO under the Commissioner was an attempt to increase alignment, however issues emerge when viewed through the perspectives model. The ICT strategy to 2017 was updated in 2015 and was not replaced until November 2019 indicating a two-year gap without an ICT strategy. In early 2017 PSISS targets were refreshed to 2021 in the absence of a strategy, with the new target 80% of transactions completed online, however at the time they had not specified which services would be measured.

A new government, elected in late 2017, announced in January 2018 that BPS would not continue in its current form and has embarked on a programme of public sector legislative reform, supported by SSC, still underway at the time of writing.

Governance arrangements changed from a focus upon technology requiring special arrangements to alignment with system outcomes. Assurance moved from specialised ICT project monitoring to project and later system investment assurance. Sector ICT leadership roles have been aligned to system leadership. All along, direction has been missing, as highlighted in the limited specification of PSISS goals, the time gap between ICT strategies and the stopping of BPS with future direction apparently dependent upon legislative change, which is highlighted in Figure thirty.



**Technology or Outcomes?**  
Public sector governance inconsistencies between system strategy, delivery and assurance combined with a lack of direction were observed as contributing to tensions both within the provider and between clients and provider.

Figure Thirty: Technology or Outcomes

### Privacy and Security

Privacy and security appear to be two of the tensions present when deciding what type of governance arrangements to implement. Theory indicates privacy and security are concerns for PSISS, particularly E-ID, which was supported by the official and grounded practitioner narratives. The public sector is held to a higher standard for privacy and security, particularly through increased scrutiny from privacy and security assurance functions like the Privacy Commission and GCSB.

The two most common goals of PSISS were identified as reduced costs and improved services to customers. Examples from literature identified improved cost efficiency through inclusion of private sector providers for improved utilisation and adoption. Similarly, outsourcing the development and support of the PSISS was seen to reduce costs, with some participants suggesting the use of social media providers for increased scale and ease of use for customers already using social media platforms. Compromised Swedish government data shows the potential dangers of outsourcing. Similar large-scale compromises of social media platforms have resulted in hundreds of thousands of accounts and personal information being open to misuse.

Reflecting upon these issues led me to consider how governance arrangements can address privacy, security and use tensions. I have explored this through an illustrative example in Figure thirty one, contrasting governance and service delivery (Y-axis), which is reflective of the tension between governance and management in literature, with the intention of getting past a technology centric

focus on the information system rather than the desired system outcome, without losing sight of the relationship between governance and delivery. The X-axis represents the decision to include private sector client services, which provides access to additional services, and increased customer adoption and usage but introduces additional security and privacy concerns.

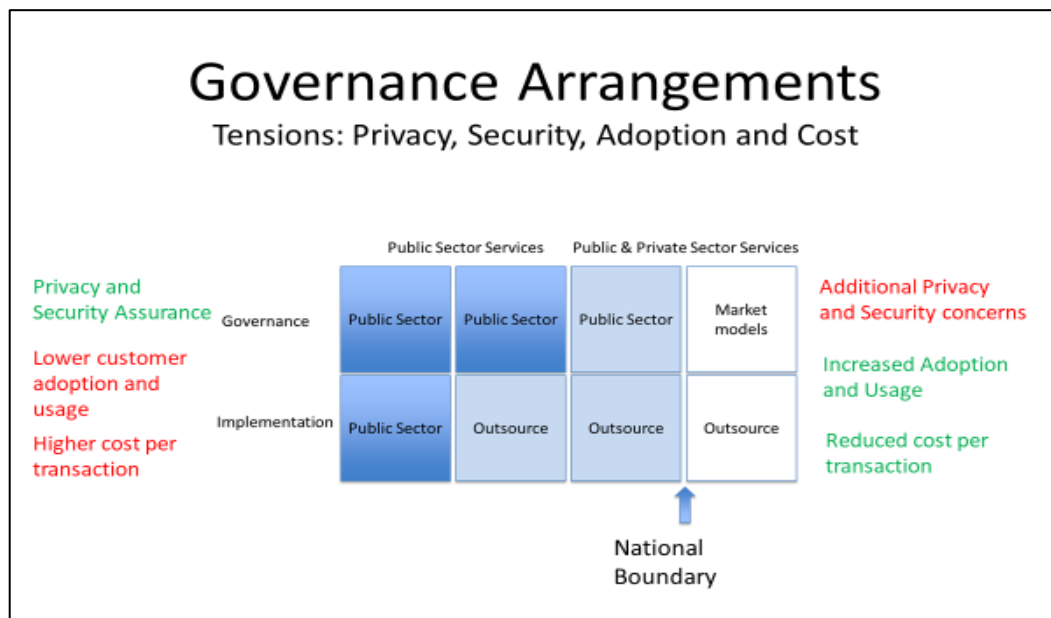


Figure Thirty One: Tensions

Governance and delivery differ when involving the private sector. Outsourcing to a vendor does not remove the accountability for governance, and governance was retained within the public sector for the PSISS and most E-ID examples from literature. Tensions appear to arise when crossing national boundaries, which reduces the ability to ensure privacy and security, introducing data sovereignty concerns. Similarly adopting a market model, like a social media offering, limits the ability for governance to make changes to the shared service, in this case the E-ID. The reduced influence is represented by the lightening of the shading.

The illustrative example identified interrelated tensions present in the governance and delivery of PSISS that need to be considered when designing governance arrangements. The tensions are representative rather than exhaustive with privacy, security, cost and adoption included based on assertions drawn from literature, and narratives, providing a useful starting point for future empirical research. Inclusion of these governance tensions add complexity as shown in Figure thirty two.

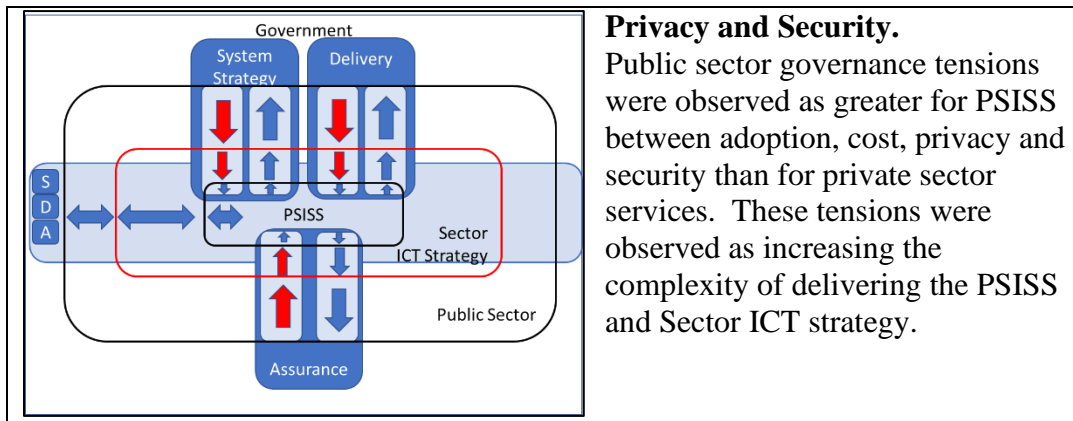


Figure Thirty Two: Privacy and Security Tensions

### Integrated Theory

This chapter introduced my public sector governance model, which integrates three perspectives: system strategy, delivery and assurance; as presented in Figure twenty four. The model provides a method for analysing both horizontal and vertical PSISS governance arrangements and was extended to include wider nested governance incorporating sector ICT and public sector governance arrangements.

The model was used to conduct reflexive analysis of seven critical governance issues. The analysis illustrated the requirement for PSISS governance to integrate all three perspectives to provide a more nuanced approach to governance that integrates PSISS, sector ICT and public sector governance arrangements. It also enabled comparison of the themes that emerged from my governance practice narrative with current academic literature to identify theoretical insights, which have been grouped as:

- Provision of new insights for theory,
- Challenging or extending existing theory, or
- Confirmation of existing theory.

### Provision of New Insights

Issue One: Public sector governance. Analysis of the practice narrative found that PSISS governance occurs within wider public sector governance arrangements. Further analysis identified additional roles in public sector governance leading to the identification of the three perspectives and construction of the initial public sector governance model presented in Figure twenty one. Recent academic



literature highlighted the limitation of corporate and IT governance forms within the public sector (Wilkin & Chenhall, 2019) with other academics promoting a holistic approach to addressing nested governance (Steelman, 2016; Lips, 2019). The construction of the initial public sector governance model based on the three perspectives provided a lens for researching nested governance arrangements with empirical evidence from the practice narrative and was supported by the framework and characteristics model to identify governance in practice.

Issue Two: Conflicting interests. Conducting reflexive analysis of the practice narrative through the lens of the initial public sector governance model highlighted tensions between the three perspectives. These tensions were observed in governance arrangements within organisations and across organisational boundaries, particularly where governance roles changed over time. Reflexive analysis of these tensions enabled the extension of the initial governance model, as presented in Figure twenty four. This extended model incorporates analysis of vertical and horizontal governance arrangements as well as exploration of tensions within nested governance arrangements for the PSISS, sector ICT and the public sector. Recent academic literature has identified tensions between governance forms, including IT and corporate governance (Wilkin & Chenhall, 2019), inter-organisational governance arrangements (Klasic & Lubell, 2020; Lopes & Farias, 2020) and nested governance in the public sector (Lips, 2019). Existing governance frameworks have been criticised for being too prescriptive with calls for research to improve the understanding of these tensions through participant perspectives (Gash, 2016; Gustafson & Hertting, 2017). The extended model provides a lens to explore inter-organisational tensions present in nested public sector governance arrangements, which is supported by empirical evidence from reflexive analysis of critical governance issues derived from practitioner perspectives.

### **Challenging or Extending Existing Theory**

Issue Three: Coverage of Cabinet direction. Over the life of the PSISS Cabinet issued numerous mandates, which practitioners found problematic. Reflexive analysis, using the extended model as a lens, indicated these mandates were inconsistently applied across the three perspectives through the life of the PSISS.

Recent academic literature has explored tensions over the use of vertical and horizontal mechanisms in governance arrangements across organisational boundaries (Edelenbos & van Meerkerk, 2016; Stafford & Stapleton, 2017). These tensions have been explored by researching dimensions including authority (Papadopoulos, 2016; Sorensen & Torfing, 2016; Gjaltma et al., 2019) and the use of mandates or agreements (Gash, 2016; Schou & Hjelholt, 2018). The extended model provided an opportunity to empirically explore the presence of tensions in inter-organisational governance arrangements relating to mandates and authority, which has been conducted through reflexive analysis of the issue of Cabinet directive coverage. This analysis provides empirical evidence for the finding that inter-organisational governance arrangements need to consider comparative coverage for strategy, delivery and assurance.

Issue Seven: Privacy and security. The practice narrative identified adoption, cost reduction, privacy and security as tensions present when designing PSISS governance arrangements. Security and privacy have been identified as important design considerations for PSISS (Melin et al., 2016; Houser & Voss, 2018) and as socio-political perspectives which impact governance (van Dijck & Jacobs, 2020). Other academics have voiced an expectation that PSISS governance arrangements need to meet growing privacy and security concerns (Houser & Voss, 2018; van Dijck & Jacobs, 2020). Recent privacy legislation, including the GDPR and Privacy Act, have increased tensions for governance arrangements to address privacy (Stalla-Bourdillon et al., 2018). Reflexive analysis has led to the creation of a tensions model for governance arrangements, presented in Figure thirty one, which provides an illustrative example of interrelated tensions present in PSISS governance and delivery, and empirical evidence of PSISS governance tensions between privacy, security, cost and adoption.

### **Confirmation of Existing Theory**

Issue Four: Accountability. Practitioners identified tensions arising through a perceived lack of accountability in key relationships. For example: the provider was seen as lacking accountability through failing to meet targets, with clients criticised for not adopting the PSISS even when directed. Recent academic research has questioned the applicability of traditional vertical governance

arrangements, particularly for inter-organisational initiatives like PSISS (Torfing, 2016a; Lopes & Farias, 2020). Others have criticised the introduction of horizontal governance arrangements with multi-party accountabilities as adding to accountability deficits and increasing tensions (Dormer & Ward, 2018). This research provided an opportunity to empirically explore the presence of these accountability tensions in governance arrangements. Reflexive analysis using the extended model as a lens presented empirical evidence of accountability tensions and system wide accountability deficits. The analysis explored accountability deficits for two relationships, firstly the accountability relationship between Executive and provider and secondly the accountability relationship between the provider and clients.

Issue Five: Misaligned expectations impacting collaboration. The grounded practitioner narrative identified misaligned expectations between Executive, provider and clients. The use of mandates and limited collaboration were identified by participants as contributing to these disconnects. Reviewing recent academic literature identified examples where researchers attempted to address the complexity of governance across multiple organisations through mandates or collaborative governance mechanisms (Ansell et al., 2016; Lopes & Farias, 2020). Even with the increased body of research it has been claimed little is known about collaborative governance, with existing research criticised for producing prescriptive governance arrangements (Gash, 2016) and providing limited knowledge of practitioner perspectives (Gustafson & Hertting, 2017). This research provides empirical evidence of practitioner perspectives and analysis of changing combinations of vertical and horizontal governance arrangements used in PSISS governance to address tensions and align goals.

Issue Six: Is ICT different? The practice narrative highlighted practitioner concerns about technically focussed PSISS governance, in particular whether ICT initiatives should be governed differently. IT governance has emerged as a distinct governance form in academic literature and practice (Wilkin & Chenhall, 2019). Recent literature has been critical of technology led governance approaches (Lips, 2019), the projectification of the public sector leading to a short term focus and fragmentation (Hodgson et al., 2019), and ICT project failures (Lofgren & Allen,

2019). The extended model provided a lens for reflexive analysis of tensions in the governance of ICT projects. Analysis found a reliance on project management controls, which was reinforced by the grounded theory where practitioners viewed governance as a process, and a governance focus change from technology requiring special arrangements to alignment with outcomes. Although analysis indicated a move to outcomes, governance direction issues were identified, including the interval between ICT strategies and public sector direction being placed on hold. The analysis provides empirical evidence of a technology project focus in PSISS governance arrangements and practitioner perceptions of broader public sector project governance tensions.

### **Summary**

Table fourteen summarises the results of theoretical integration by presenting current academic literature, related critical governance issues and the nature of the theoretical insight.

<b>Current Literature</b>	<b>Findings – Critical Governance Issues</b>	<b>Governance Issues that Confirm Theory</b>	<b>Governance Issues that Challenge or Extend Theory</b>
New Insights			
Under corporate governance the board oversees organisational strategy, delivery and assurance. A system wide governance approach is advocated for public sector governance (Steelman, 2016; Lips, 2019).	Issue One. System governance - Aligning System Strategy, Delivery and Assurance. Presented empirical evidence of perceived tensions.		Presented model for public sector governance using system strategy, delivery and assurance showing different parties providing oversight.
Nested governance exists between corporate and IT governance (Wilkin & Chenhall, 2019). Nested governance is also present in the public sector (i.e. government, central agencies and agencies). Tensions have been identified in academic literature between these nested governance arrangements (Lips, 2019).	Issue Two. Conflicting system interests. Presented empirical evidence of perceived tensions between nested governance arrangements.		Presented extended model to explore nested governance tensions for public sector governance. Issues were explored through observed PSISS governance tensions.
Challenges or extensions to existing theory			
Academic literature presents conflicting views on the role of government and governance arrangements required to authorise agents (Papadopoulos, 2016; Sorensen & Torfing, 2016; Gjaltma et al., 2019)	Issue Three. Designing governance arrangements for outcome delivery using three perspectives.		Presented empirical evidence of perceived tensions arising from inconsistent coverage of government authorisation. Found system governance arrangements need to consider comparative coverage for strategy, delivery and assurance.
Tensions have emerged in literature between service delivery performance targets, privacy and security. These tensions have been identified in PSISS design (Melin et al., 2016; Houser & Voss, 2018), and socio-	Issue Seven. Use of governance arrangements to address conflicting governance drivers. Presented empirical evidence of perceived tensions between		Presented governance arrangements model highlighting tensions between privacy, security, adoption and cost.

<b>Current Literature</b>	<b>Findings – Critical Governance Issues</b>	<b>Governance Issues that Confirm Theory</b>	<b>Governance Issues that Challenge or Extend Theory</b>
political perspectives (van Dijck & Jacobs, 2020).	privacy, security, adoption and cost.		
Confirmation of existing theory – through examples of nested governance issues			
Academics have identified cross-organisational accountability as challenging and resulting in accountability deficits (Gash, 2016; Papadopoulos, 2016; Stafford & Stapleton, 2017; Dormer & Ward, 2018; Gjaltema et al., 2019; Hammond et al., 2019; Wilkin & Chenhall, 2019).	Issue Four. Accountability Deficits – System wide accountability. Presented empirical evidence of system wide accountability deficits.	Empirical evidence of deficits/tensions and exploration of horizontal and vertical governance combinations.	
Conflicting views in literature about the use of horizontal or vertical governance for PSISS, particularly the use of mandates or agreements (Bang, 2016; Bovaird & Loeffler, 2016; Edelenbos & van Meerkerk, 2016; Schou & Hjelholt, 2018)	Issue Five. Aligning Disparate Goals. Identified tensions between government, provider, clients and customers impacted performance.	Presented empirical evidence of the use of combinations of mandates and agreements in PSISS governance to address tensions through alignment of goals.	
Use of project management is widespread in the public sector, however it has been identified as contributing to fragmentation and focus on short term deliverables (Derakhshan et al., 2019; Godenhjelm et al., 2019; Lofgren & Allen, 2019)	Issue Six. Is ICT different? – Identified wider issue of technical focus, examples of projectification and technical deliverable focus. Stated need to align information systems with outcomes, rather than technology projects.	Presented empirical evidence of technology project focus and perceived impact on outcome delivery.	

Table Fourteen: Contributions to Knowledge

## Chapter Nine. Conclusions, Contributions and Limitations

This study investigated public sector ICT shared service governance from a practitioner perspective. The practice focus was chosen to overcome the challenges posed by the partially siloed, multi-disciplinary nature of governance treatment in the literature. A single PSISS was researched through practitioner insights gained through interviews with PSISS participants. These were analysed using grounded theory, supported by a governance framework and characteristics model as sensitising concepts, to identify governance and governance forms in practice, to answer my research questions. This chapter recaps the findings as the answers to my research questions and presents the mid-range theory created through theoretical integration of theory with grounded practitioner, official and practice narratives constructed for this research. This is followed by the contributions my research makes to theory and practice. Finally, I present the limitations of my research and suggestions for future research.

**Answering Research Questions.** Internationally governments have invested heavily in PSISS to enable cost savings and improved services to customers, while academic research and practitioner publications have shown these benefits are commonly not realised. Governance, and more specifically governance arrangements, have been identified as contributing to this perceived failure. The academic literature informing PSISS governance lacks coherence and comes from multiple theoretical foundations. Practitioners are expected to use this literature from multiple domains, with associated governance forms, to develop PSISS governance arrangements. This led me to ask my research question: *how is PSISS governance perceived in practice?*

Grounded theory was used to conduct analysis of practitioner interview responses, following the approach advocated by Corbin and Strauss (2008). This led to the conclusion that practitioners perceived PSISS governance as a multi-perspective process. In this case the process, or critical category, was similar to a project or system lifecycle with four phases: concept, implement, client and customer as shown in Figure thirty three.

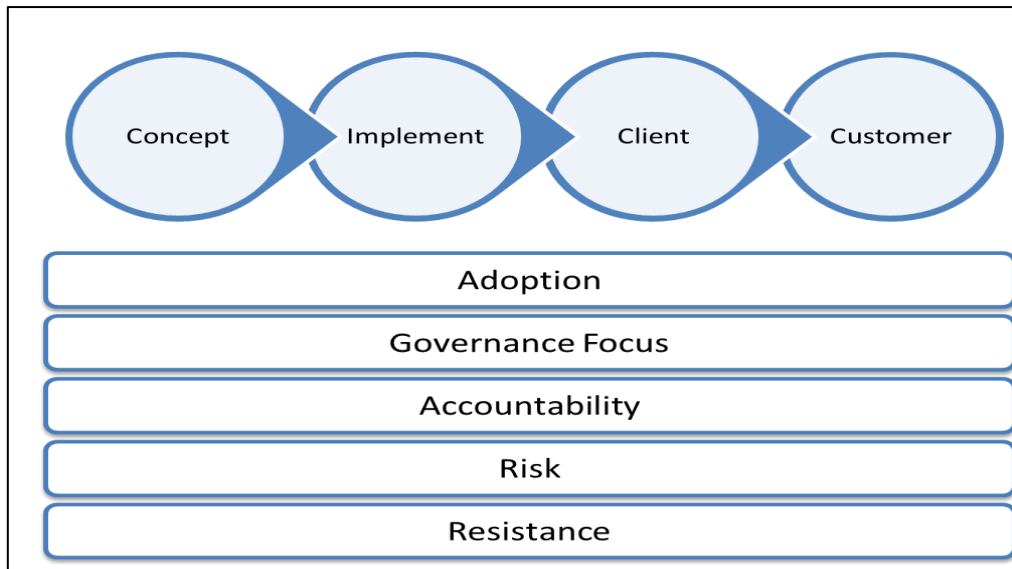


Figure Thirty Three: Grounded Practitioner Theory

The central category was created through the integration of five categories: adoption, governance focus, accountability, risk and resistance into a cohesive theory. The categories represented five significant PSISS governance issues or perspectives respondents expected governance arrangements to address throughout the process. The grounded practitioner narrative, in Chapter six, provided a rich description of the governance arrangements and issues through the stages of the governance of PSISS process.

Governance as a process reflects the influence of the IT governance form upon PSISS governance, including the common use of project management and solution lifecycles to oversee delivery. These and other vertical governance mechanisms were used to govern the PSISS, further highlighting the use of IT governance aligned to the corporate governance form. The roles involved in vertical accountability relationships were the Executive and provider, and through mandates clients were accountable to the provider under legislation and later Cabinet. In some cases, horizontal conflict between provider and clients was attributed to other vertical relationships between ministers and clients, leading to the strengthening of mandates, which was indicative of vertical governance mechanisms being used to overcome horizontal governance issues. Collaborative governance arrangements were occasionally implemented, however practitioners believed PSISS governance in the main was reliant on vertical governance mechanisms.



The practitioner perspective provided an answer to my first research question, and formed a starting point for theoretical integration to answer my second research question: *How have governance arrangements addressed critical issues in public sector governance?*

My theoretical integration consisted of reflexive analysis using my grounded practitioner narrative, official narrative and extant theory. The literature review in Chapter two provided an initial theoretical narrative. The official narrative, based on case documents (Chapter five), provided a partial perspective, which was then integrated with my grounded practitioner narrative (Chapter six) and existing theory (Chapter two) to form the governance practice narrative presented in Chapter seven.

Further reflexive analysis resulted in the creation of a mid-range theory presented in Chapter eight. The mid-range theory consists of a multi-perspective governance model that was used to reflexively explore seven practice-informed critical governance issues, which found the following:

PSISS governance was identified as a process and appears to be influenced by the IT governance and corporate governance forms. Corporate governance and IT governance arrangements are most commonly designed for a single organisation, and do not reflect the wider public sector governance context. Analysis identified PSISS governance arrangements also sit within nested public sector governance arrangements, as presented in the perspectives model, which identified a requirement for PSISS governance to consider additional system roles, not just delivery.

Public sector assurance roles are interorganisational, which is not common in corporate or IT governance literature. Public sector delivery comes under additional scrutiny from a public accountability perspective, limiting the adequacy of PSISS governance arrangements based on IT or corporate governance forms.

Public sector governance arrangements, as identified in the six roles, changed over time, and influenced PSISS governance arrangements. The case shows conflicting perspectives about whether sector ICT is a system asset or merely service delivery. The relationship between PSISS governance and public sector governance raises

questions about where the sector ICT role sits, particularly given the expectation established in literature that IT and corporate governance arrangements are best vertically aligned.

The PSISS critical case enabled exploration of two different mandates. Reflexive analysis identified inconsistent coverage for the three perspectives over time. Corporate governance literature promoted consistency of direction, controls and assurance coverage to the exclusion of public service system objectives, which indicates a governance oversight gap. These inconsistencies contributed to difficulties enforcing mandates and indicated a lack of alignment between sector, assurance and delivery roles.

Accountability deficits were identified in both vertical and horizontal accountability relationships. Comparison of official narrative and practitioner perspectives with academic accountability literature identified inconsistency in reporting, performance criteria changes, multiple failures to meet targets, limited performance measurement and accountability gaps. The lack of sanction for clients and provider for failing to meet formally defined performance criteria indicates the presence of accountability deficits and questions the effectiveness of monitoring.

Misaligned expectations between clients and provider were highlighted through integration issues, which manifested in technical and cultural examples. The provider and clients had differing identity requirements, which were compounded when implementation occurred with limited collaboration. Client resistance, reinforced by poor integration experiences and additional costs, resulted in low adoption. Contrary to literature findings on mandate use, vertical governance was employed, through mandate, to compel adoption, resulting in increased client resistance, performance targets still not met and the PSISS perceived as a failure.

Separate governance arrangements for ICT were identified in literature and practice, including the IT governance form and practitioner perspective that PSISS governance was a process. Tensions were noted when these arrangements were explored from a wider public sector perspective. The arrangements were at odds with public sector assurance for this case. Although the focus of assurance started with major ICT projects in 2001, it moved to major projects in 2011 and then

system investment in 2015. Similarly, strategic alignment is a common requirement observed in corporate and IT governance literature, however, tensions between the system and sector ICT roles raised questions about alignment across the public sector.

Privacy and security are critical issues for the governance of the PSISS, and according to international research for E-ID PSISS. Reflexive analysis revealed tensions between these issues and commonly stated PSISS drivers of reduced cost and improved customer service, as represented in performance targets by increased adoption. These tensions pose yet another governance challenge. This list of governance issues is not exhaustive and further exploration could lead to identification of additional issues and tensions.

### Contributions

Firstly, my mid-range theory introduces a public sector governance model, derived from the perspectives of those people exercising governance, which integrates three perspectives: system strategy, delivery and assurance to enable exploration of vertical and collaborative governance arrangements. This model has been extended to enable analysis of nested governance which occurs across PSISS, sector ICT strategy and public sector governance arrangements. My case study evidences how this works in practice through reflexive analysis of seven critical governance issues, using the model. This analysis contributed to the body of academic knowledge by illustrating the requirement for PSISS governance to integrate all three perspectives to provide a more nuanced approach to governance that integrates PSISS, sector ICT and public sector governance arrangements.

Secondly, my research contributes a method for researching a complex phenomenon in practice, in this case public sector ICT shared service governance. Using a single approach without adaptation would have provided a narrow answer. Instead I had to develop a unique and creative approach to investigate the phenomenon. Synthesising three perspectives of governance and applying these to nested governance at all three levels: PSISS, sector ICT strategy and public sector enabled construction of a mid-range theory. Through analysis of critical governance issues this theory provided insights into how current literature fits together, or not. This model was constructed using a grounded theory of practice,

literature informed governance framework and characteristics model, each of which could be reused in future research.

Thirdly, my research makes a contribution to our empirical body of literature, where we lack knowledge about PSISS governance, by providing an illustration of my public sector governance model through analysis and rich description of a PSISS case in New Zealand, which could be used to inform practice in New Zealand or overseas.

### Limitations

This thesis presents governance of a single critical case through a practitioner perspective, however in the process misses out on several other perspectives. My intention was to use my research to provide a specific contribution. Selection of one critical case, viewed through constructivist, qualitative research using grounded theory, soliciting information through interviews and conducting research into a single PSISS based in New Zealand are all factors that limit the universal application of my research. Generalisability was not a goal of my research (Corbin & Strauss, 2008; Charmaz, 2014). I made research design considerations with the intent of creating a rigorous, repeatable contribution to the body of knowledge, which I believe I have attained. A single critical case was selected to obtain richness through grounded theory, rather than exploration of multiple cases.

### Future research

My grounded theory found PSISS governance was perceived as a multi-perspective process, with adoption, governance focus, accountability, risk and resistance as areas of concern for PSISS governance in practice. Future researchers could undertake research to test and build upon these findings.

Theoretical integration led to the identification of seven critical governance issues. Reflexive analysis of these issues against current academic literature, using the three perspectives model, enabled contributions to the body of knowledge. Future research could be conducted using the three perspectives model through the exploration of the seven, or other, critical issues.

My research methodology and models could be used to conduct governance research into another PSISS case or in different sectors including not-for profit, multi-national organisations or PPP's.

Researchers could use my governance framework and/or characteristics models as sensitising concepts for future governance research.

### Concluding Statement

Internationally PSISS have promised improved customer services and cost reduction for governments. Large investment in these systems has failed to deliver the expected benefits. Governance and governance arrangements have been identified as contributing to these failures. Reviewing literature identified a siloed body of knowledge from multiple domains. I set out to reduce the gap between theory and practice knowledge by asking my first research question *how is PSISS governance perceived in practice?*

Conducting research grounded in practice has produced findings that challenge existing knowledge on how governance operates and is defined in practice. Conducting grounded theory analysis I found that PSISS governance was perceived to be a process, which is supported through a rich practitioner narrative. Theoretical integration of my grounded theory with case documentation and existing theory enabled me to answer my second research question: *How have governance arrangements addressed critical issues in public sector governance?*

I found PSISS governance arrangements exist within nested public sector governance arrangements. Reflexive analysis led to the construction of a public sector governance model consisting of three perspectives, providing a lens to explore critical PSISS governance issues across nested governance arrangements. I used this lens to reflexively explore seven practice grounded critical governance issues, resulting in a mid-range theory, a rich case description and insights to inform theory and practice.

## Appendices

### Appendix A: Glossary

**Adoption.** Several terms were used in practice and theory to identify parties agreeing to use, or actually using, the PSISS. Adoption was the term used in this research to collectively describe these actions, which was explored in terms of PSISS adoption by clients and customers.

**Cabinet.** Cabinet leads the Executive branch of government, directing individual ministers, who in turn direct public servants, in particular chief executives, who act as administrative heads of agencies.

**Client.** A client integrates with the PSISS to provide customer facing online services. Clients started as public sector agencies, however, as the PSISS evolved private sector organisations were introduced.

**Collaborative governance.** Collaborative forms of governance were proposed to oversee the delivery of public value through joined-up-government. Labels were proposed in public administration literature for the new governance form. These included post-NPM, collaborative governance, network governance, digital-era governance and new public governance. I have selected the label collaborative governance, based on the intention of increased inter-organisational collaboration

**Corporate governance.** Corporate governance defines the roles and responsibilities of participants involved in directing and controlling an organisation. Corporate governance is commonly based on agency theory, otherwise known as the principal-agent model, which was selected to represent corporate governance in this research.

**Customer.** A customer gets an identity from the PSISS provider that enables them to consume integrated digital services provided by clients. Customers were originally New Zealand citizens, however, over time non-New Zealand citizens began consuming client services.

**E-government.** e-government is the use of ICT to deliver improved government services and provide public value.

**Electronic identity.** An electronic identity (E-ID) is an electronic form of identification which is provided digitally.

**Executive.** Government ministers collectively constitute the Executive who administer or execute policy.

**Governance.** This research explores governance using governance forms that emerged from three academic domains, these governance forms are: corporate governance, IT governance and collaborative governance. Governance has been defined for this research as the four elements and fifteen sub-elements in the governance framework used to identify governance, and the characteristics model to identify governance forms, in practice.

**Governance arrangements.** Governance arrangements are patterns of governance elements e.g. structures, roles and relationships; put in place to set direction and enable delivery of objectives.

**Governance mechanisms.** Governance arrangements are supported by governance mechanisms including policies, processes, procedures and controls.

**ICT.** Information and communications technology (ICT), or simply ‘technology’, were used to describe implemented or planned systems, as they were terms commonly used in practice. Other names identified from theory and practice include information technology (IT), information systems (IS), and in recent public sector documents digital services.

**IT governance.** IT governance is the decision-making ability and accountability framework that encourages the right sort of behaviour for the use of ICT.

**Participants.** The term participant was used to describe parties taking part in the research from Chapter seven onwards following the integration of narratives.

**Perspectives model.** Theoretical integration enabled the identification of three public sector governance perspectives: delivery, system and assurance. My perspectives model was constructed as an analytical device with three different lenses each capable of seeing an issue from a particular perspective, while the other

perspectives remain in view. This model was used to explore critical governance issues in Chapter eight.

**Provider.** The term provider is used to refer to the agency providing the PSISS to clients and customers. The provider changed over time from the SSC to DIA.

**PSISS.** Public sector ICT shared services are a combination of three areas: public sector services, shared services and ICT services. Public sector services are services provided on behalf of the government, either by public sector agencies or external providers. The identity PSISS explored in this research is referred to as the PSISS, as it has been called by several different names in practice. These names include: Government Logon Service (GLS), Igovt logon (igovt), Identity Verification Service (IVS), Data Verification Service (DVS) and RealMe.

**Public sector services.** Public sector services are services provided on behalf of the government, either by public sector agencies or external providers.

**Public sector organisations.** Participants, official documents and academic literature have identified public sector clients using a variety of names including departments, agencies, crown entities and crown agents. The term client or public sector client was used to when discussing public sector agencies in terms of the PSISS. As discussed in Chapter two, when discussing the wider public sector, department has been used prior to the introduction of NPM legislation, with the term agency used post.

**Public sector governance roles.** A group of six public sector governance roles were identified through theoretical integration. These roles inform the perspectives model and were used to explore critical governance issues in Chapter eight. The roles are: system guidance, system monitoring, assurance guidance, assurance monitoring, delivery and sector ICT leadership.

**Respondents.** The term respondent was used to describe for people who took part in the interviews which were used for the grounded theory analysis.

**Shared service.** Shared services consolidate and standardise specialist functions into a provider that could support an organisation or group of organisations.



## Appendix B: Interview Schedule

Interviewee:

Interview Date:

<b>1. First Research Question: How Do Practitioners Perceive PSISS Governance in Practice?</b>
Supporting questions – to be asked at interviews:
2. What is the service?
a. What is the purpose of the service?
b. How is the service defined?
c. Who are the customers?
d. Who provides direction?
3. What role have you played in the service?
a. What were you expected to deliver?
b. Who were you expected to deliver to?
c. How was this defined?
4. Who else played a key role in the service?
a. What was their role
b. What were they expected to deliver?
c. Who were they expected to deliver to?
d. How was this defined?
5. Has the service been successful?
a. How was success defined? By whom?
b. How was success measured? By whom?
c. How was success reviewed? By whom?
d. What were the results? What was the impact on the service broker?
e. How was success reported? To whom?
f. Did the results change anything about the service?
6. What challenges has (the service) faced?
a. What was the response to these challenges? Who oversaw it?
b. Who was affected?
c. Were challenges overcome? How
d. What could have been done differently?
7. What opportunities does (the service) face?
a. What are the potential benefits? To whom?
b. What is being done?
c. Who is leading it?
8. Is there anything else?

## Appendix C: Respondents

Interview	Provider (DIA, SSC, Both)	Executive Mandate	Governance Involvement	Stage One Concept	Stage Two Implementation	Stage Three Client	Phase four Customer
1	DIA	Post Mandate	Current				
2	DIA	Post Mandate	Current				
3	SSC	Pre-Mandate	Previous				
4	DIA	Post Mandate	Previous				
5	Both	Both	Previous				
6	DIA	Post Mandate	Current				
7	DIA	Post Mandate	Current				
8	SSC	Pre-Mandate	Previous				
9	SSC	Pre-Mandate	Previous				
10	DIA	Post Mandate	Current				
11	Both	Pre-Mandate	Previous				
12	DIA	Post Mandate	Previous				
13	Both	Both	Current				
14	SSC	Pre-Mandate	Previous				
15	Both	Both	Previous				
16	Both	Both	Previous				
17	SSC	Pre-Mandate	Previous				
18	SSC	Pre-Mandate	Previous				
19	DIA	Post Mandate	Current				
20	DIA	Post Mandate	Current				
21	DIA	Post Mandate	Current				

## Appendix D Codebook

Two rounds of coding were performed in this research, the first was used to construct the grounded theory presented in Chapter six, and the second to generate themes for theoretical integration presented in Chapter eight. A codebook has been constructed at the end of this appendix consisting of tables which provide the names of codes, descriptions and examples.

### Coding for Grounded Theory

An Nvivo instance was set up and interviews were loaded. Initial coding was based on sensitising concepts from the governance framework. NVivo tools and techniques promoted by Corbin and Strauss (2008) were used to construct refined concepts, which were used to construct categories and finally the central category which provided the basis for the grounded theory presented in Chapter six. The coding conducted for the grounded theory is presented in Figure thirty four.

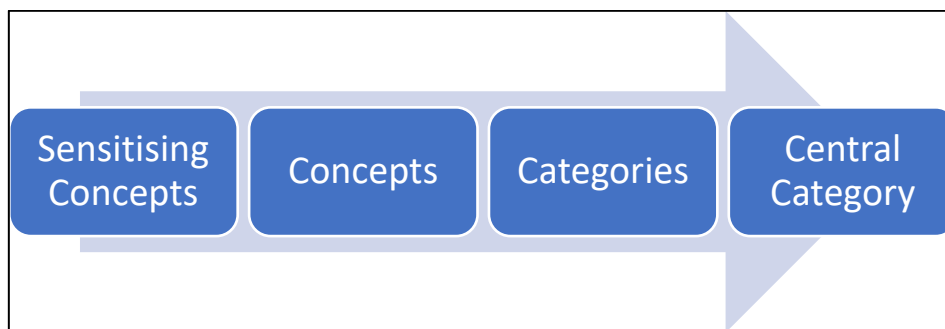


Figure Thirty Four: Coding for Grounded Theory

Sensitising concepts are presented in at the end of the appendix. Concepts, categories and central category then presented to show the progression from concept to categories to central category.

### Coding for Theoretical Integration

A new NVivo instance was set up to enable creation of new concepts for theoretical integration. NVivo tools and techniques promoted by Corbin and Strauss (2008) were used to identify concepts and categories which were used to construct the themes, which presented in Chapter seven and used to conduct the theoretical integration presented in Chapter eight. Concepts, categories and themes used for theoretical integration are presented at the end of the appendix.

## Sensitising Concepts

Element	Sub-Element	Definition	Example
Direction		Governance direction is the overarching policy or plan rather than detailed instruction for operational management.	"DIA had sole responsibility – built into baseline, approval from treasury to invest. Run teams, market, product develop etc. with little oversight. Relied on standard DIA governance mechanisms – finance investment., capital planning." Interview 1
	Autonomy	The freedom to act and freedom from controls.	"CE's have freedom. Mandate is a waste of time. If the ideas are good you do not need a mandate. People will listen if the idea is good. Once listening more likely to adopt." Interview 11
	Legislation and Regulation	Legislation is law. Regulations are rules or directives made by the Executive that can have a technical nature and may need to be updated frequently making legislation unsuitable.	"The public accountability – PFA for shared governance and programmes were not in place when we were working. RealMe was a driver for that legislative change." Interview 17
	Performance Specification	Performance specification defines the expected level for deliverables, these should be clearly defined and measurable.	"Suspect by and large at a governance level defined by legislation – privacy etc. under the hood defined by technocrats and bureaucrats who provide direction. Also software providers shape." Interview 12
Controls		Governance controls are mechanisms put in place to ensure directions are followed.	"Nature of common capabilities like RealMe highlight the need to get buy in and stakeholder engagement and commitment. More than command and control. Yet that is the natural known way to work – it can be highly counter-productive." Interview 1
	Accountability	Accountability is about providing an answer for actions that were or were not taken by an individual.	"If you think about the people – formal structures of accountability for delivering shared services – not convinced they made much of a contribution. They didn't do the work to create and enable adoption." Interview 11
	Performance Measurement	Performance measurement involves the creation, analysis and reporting of agency activities against specified performance criteria.	"Outcomes- result 10 – 70% of common transactions online by 2017 – tracking well – sub set of 8 services across agencies. Can influence. Measured and

Element	Sub-Element	Definition	Example
			reported to ministers – SSC, treasury and DPMC – under BPS to ministers quarterly.” Interview 13
	Responsibility	Responsibility relates to issues about choices based on conflicting options, once the decision is made the individual or group can be held culpable for their action, or inaction.	“I was the six or seventh person who have looked after real me at stages of evolution. My role to build partnerships with agencies – build awareness. Reorient public sector and DIA leadership” Interview 1
Structural Governance		Structures relate to the formal roles and relationships and the provision of authority that empowers them.	“Delivering to ministers – government of the day. Real me as a system asset – system benefits from not just public service.” Interview 1
	Authority	Authority is the formally empowered ability to act.	“Things have matured since the SSC days – no overarching mandate – which GCIO now does – no ICT action plan – less services and less service maturity. Result 10 helps. Mandate. Development of more common capabilities. More pressure from the centre to collaborate.” Interview 13
	Formal Roles	Formal roles are codified descriptions of the functions performed by positions and groups.	“CE to make sure meet SOI targets and performance of agency.” Interview 13
	Formal Relationships	Formal relationships are the codified descriptions of activities that occur between positions and groups performing functions.	“Who delivering to – governance group – a bunch of chief executives and tier 2. Competent chair. Latterly became CIO council” Interview 11
Informal Governance		Informal governance elements influence governance structures, direction and controls. Often these factors are intangible or not formally captured and include culture, informal roles and relationships, leadership, political interests and trust.	“I don’t have role based authority.” Interview 10
	Culture	Culture is the implicitly understood assumptions and practices of organisations.	“Governance issue – need to see government behind first. Not too dissimilar to other public service infrastructure.” Interview 1
	Informal Roles	Informal roles are un-codified functions performed by positions and groups.	“Personal – dim view until 2010 that I saw value – became advocate of login, privacy and brokering.” Interview 1

Element	Sub-Element	Definition	Example
	Informal Relationships	Informal relationships are un-codified activities that occur between positions and groups performing functions.	"The first five years was getting people's heads around it. Governance in that sense was people playing the roles in relation to their departmental responsibilities, with central agencies having an overview role." Interview 14
	Leadership	Leadership is a broad field with several different perspectives. Leadership focuses on the role played by leaders steering, shaping and influencing governance.	"We do a terrible job of taking custodianship" Interview 11
	Political Interests	Political interests are the personal goals and agendas of individuals and groups.	"Personalities can get in the way of service success" Interview 1
	Trust	Trust is the level of confidence and belief that exists between individuals and groups.	"SSC made commitments that the agencies did not back them on. That undermined trust and e-govt activity in ICT." Interview 14

## Grounded Theory Concepts, Categories and Central Category

### Central Category: Governance perceived as a process.

The central category was constructed through analysis of the categories: Risk, Accountability, Adoption, Resistance and Governance focus.

### Category: Risk

Respondents identified risk as constraining the PSISS, with risks to the Executive, Provider and Clients. The category risk was constructed through analysis of the following concepts:

Concept	Description	Example
Accountability	Expressed thoughts on accountability for the PSISS	"If you think about the people – formal structures of accountability for delivering shared services – not convinced they made much of a contribution." Interview 11
Addressing risk	Expressed thoughts about the effectiveness of risk mitigation	"the purpose of governance is to mitigate risk. Mitigate the risks associated with delivery, not delivery itself, that is the role of the PM" Interview 2
Bureaucracy impacts service delivery	Professed beliefs that delivery was impacted by the bureaucratic nature of the public sector	"There has been countless reviews – if you want to create and infrastructural capability someone has to take a risk on the investment. Going to SLT or board – need to invest in plumbing and pipes when they want to talk about the electronics and interface – really hard to make a case." Interview 6
Cross sector risk	Perceptions of the risks faced by cross sector initiatives	"We perform assurance, integrity and reliability function. Most of my work is working with partners - that is where the risk exists." Interview 20
Failure to address risks	Examples where respondents thought risks were not addressed	"the governance forum pushes the risks back down rather than trying" Interview 11

Fiscal risk	Examples where respondents identified financial risk	“No one wants to invest until there is a catastrophic event. It costs money to do it well - which eats into crown funding.” Interview 20
Negative effect of controls	Examples where respondents identified a negative effect of controls	“Assurance response is profoundly illogical – fight between gateway and major projects ...I have seen no evidence that the central controls are working.” Interview 11
Non-participation	Expressed views on non-participation	“Prior to that CE was only accountable for what they did – not for cross government deliverables. Legal accountability was a key inhibitor for adoption.” Interview 17
Non-performance	Expressed views on non-performance	“Ministers were supporting the service – it is the nature of the government system - you have vertical accountability and we are moving to more horizontal accountabilities with the GCIO. So interfering in the stack for service delivery of an agency is not a trivial thing. If you are trying to line up every single agency for the same effect.” Interview 15
Overselling benefits	Examples where respondents thought the PSISS was being oversold and could not deliver to expectations	“I don’t think the forecast of uptake were well understood – people thought we would grow quicker than we planned. Needed long term view. Steering committee and cabinet were reported to. Reported to the programme manager. Definitions of success needed to be set with treasury and steering committee. Independent review. Milestone changes due to risk.” Interview 9
Privacy risks	Examples where respondents identified privacy risk	“Should there have been a law to govern RealMe. I thought no – it complies with the privacy act – until I realised that technology cannot protect privacy in isolation.” Interview 17
Provider centric risk approach	Examples where respondents identified the provider focussing on their risks	“Generally, there was not confidence in RealMe or the interface, there was an issue with control as they felt the service wasn’t good enough therefore, we can’t influence it. This goes back to collaboration and co-design. There would have been a lot better response. Mandates are still important but there are other factors – they created a tension with the agencies.” Interview 15



Relationship damage	Examples where respondents identified relationship damage	“hiatus of a couple of years did damage to the uptake path” Interview 9
Reputational risk	Examples where respondents identified reputational risk	Service left to DIA, demise of e-government unit. Set the whole thing back by a few years and tarnished the brand.” Interview 16
Risk aversion of public sector	Perceptions of public sector risk aversion	“Risk adversity drove that. Easy to spend money to reduce risk rather than to take a chance and introduce risk. Part of the issue was being able to sell to other agencies - give them a degree of confidence.” Interview 18
Risk of providing wrong type of service	Perceptions of the PSISS being the wrong type of service to meet needs	“Challenge – operating model out of date – trying to build and run yourself as government.” Interview 6
Risk sharing across sector	Examples where respondents identified risk sharing	“Higher agency and citizen adoption. Also think greater sharing risk with commercial entities. Share risk with others.” Interview 7
Risk to careers	Perceptions of the PSISS as a risk to people’s careers	“One of the issues is you get so far in and you cannot stop. You can imagine stopping a service which has 100,000 users and saying it didn’t work, then what do you do – because you have to find something else to provide identity for those users.” Interview 15
Risks not understood	Examples where respondents believe risks were not well understood	“back then there were no signposts or previous solutions. This was before online banking, before we expected and knew what we wanted to be private or shared. Before Facebook. Intuitively trying to work out the conversation. Do you know at that point you need governance. It is not like you started with a service plate – at that stage they did not know what they wanted.” Interview 14
Security risk	Examples where respondents identified security risks	“If you are the people who are accountable for taxpayer money you need to ensure security – to the highest level of assurance. You need to do your best to deliver the service (money) to the right people. You need to provide assurance.” Interview 14
Service failure	Expressed thoughts on service failure	“Not wildly successful – dismal failure. More like let’s convince clients that we don’t.” Interview 1

Technical focus may impact outcomes	Examples where respondents though technical focus may impact outcomes	“Don’t be prescriptive about how, rather focus on what (outcomes)” Interview 6
Technology risk	Expressed thoughts on technology risk	“SAML 2 upgrade affected by windows 95 machine. Had to ship logs to US for f5 to fix. Prod at risk as dev and preprod failing.” Interview 8

### Category: Accountability

Some respondents raised questions about who was accountable for the delivery of services to clients and customers. They also identified changes to accountability relationships over time. The category accountability was constructed through analysis of the following concepts:

Concept	Description	Example
Who accountable	Who is accountable for the PSISS	“SSC – never product deliverers – never a delivery agency. Expected to deliver a consensus.” Interview 14
Accountable for	What are they accountable for delivering?	“An important part was things you could be accountable for programme plans and business cases.” Interview 9
Accountable to whom	To whom are they accountable for delivery	“Ultimately they deliver to ministers” Interview 13
Accountability forum	How are they held to account for delivery or non-delivery?	“Commissioner was judged on success of programme – GSN went south and panic set in – get rid of IT including RealMe.” Interview 17

### Category: Adoption

Respondents used several words for parties agreeing to use, or actually using, the PSISS. The term respondents most commonly used to describe these actions was adoption and therefore was used in this research. The category adoption was constructed through analysis of the following concepts:

Concept	Description	Example
Agency adoption	Instances of agency PSISS adoption	"Companies Office (was) reluctant to be an early adopter... it may have gone faster but not sure that would be a better result in the end." Interview 9
Barriers	Barriers to adoption	"At the time it was seen to be useful but in the long run it removed the pressing need to treat government agencies as customers. It caused conflict. The argument was we have consulted enough now we use the stick. It caused conflict at the ground level. People would look at the exact wording and argue from there. Classic argument was education sector had their own solution." Interview 17
Citizen adoption	Instances of agency PSISS adoption	"SSC used to report on uptake on an agency basis not process or citizen, one of the problems." Interview 16
Culture	The impact of culture on the PSISS	"Discussion is about culture. People would accept logic – but culturally it is difficult to do more than meet day to day needs of agency." Interview 11
Incentives	Perceived incentives for PSISS use	"What incentivises the CE or minister to adopt a service?... it comes down to personal motivation" Interview 18
Mandate	Instances of mandates intended to increase PSISS usage	"I performed the role of selling the benefits of the GLS to agencies. And "sell" – reminding them of the mandate." Interview 3
Non-adoption	Instances of non-adoption of the PSISS	"There were agencies across the governance at that time which included IRD and MSD. A few other key agencies at a governance level. They were in governance but were not adopting at the time, and are still not adopting – this is many years old and IRD are still not an adopter." Interview 15
Process	Processes implemented for the ongoing governance of the PSISS	"Barriers – people, process technology – cause interoperability issues." Interview 6

**Category: Resistance**

Respondents identified multiple instances of client resistance to the PSISS. The category resistance was constructed through analysis of the following concepts:

Concept	Description	Example
Avoidance	Instances where avoidance occurred	“a story about why they are different and the complete mess if they adopt a shared service and things will go wrong.” Interview 17
Benefits and resistance	Relationship between benefits and resistance	“Depends how measure. Against the business case an abject failure.” Interview 16
Conflict and resistance	Relationship between conflict and resistance	“Commitments made. Cabinet refused direct funding. SSC had to collect from agencies. Terrible idea. If no proactive demand there was now proactive aversion to the service.” Interview 3
Customers and resistance	Instances of customer resistance	“cognisant of the end to end customer experience, we have nearly 100 services and not all have modern interfaces range from nice new mobile UI to another agency having an old rubbish. We need to get control over the end to end customer experience” Interview 20
Delivery and resistance	Impact of delivery on resistance	“I shudder to use it these days.” Interview 17
Funding and resistance	Relationship between funding and resistance	“you can't align the funding with the benefits realisation. Returns are non-realizable” Interview 21
Government support and resistance	Relationship between Govt support and resistance	“There is no normalising view at cabinet PM needs ministers to have autonomy to meet own needs. No balance” Interview 11
Integration or implementation and resistance	Relationship between Integration, implementation and resistance	“a bunch of factors – technical – integration. Very emotional factors – already committed significant energy to idea which is threatened by shared services. People can be passionate about initiatives – technical

		solutions and arguing for them. When threatened they react emotionally. Interview 11
Liability and resistance	Relationship between liability and resistance	“That was a difficult issue – argument was people using agency services – government as a whole is liable – agency liability is merely accountable. It does not make sense. If DHB using service – and get it wrong – shouldn’t DHB hold other liable?” Interview 17
Mandate and resistance	Relationship between mandate and resistance	“polarises people’s perceptions of what will be accomplished leads to resistance rather than willingness to participate. Interview 2
Risk and resistance	Relationship between risk and resistance	“hope the technology does not become obsolete” Interview 18
Threatened	Instances where clients were identified as feeling threatened	“felt threatened. The quality of work on identity – and separating it from other attributes, it was difficult for government people to understand.” Interview 9

**Category: Governance Focus**

Respondents identified an inconsistency in PSISS governance. They believed the intention of the PSISS was to provide improved customer services and internal efficiencies for customer facing government services. Some methods used to govern the PSISS were identified as conflicting with the intended direction, particularly internal governance controls used to oversee PSISS implementation.

The category governance focus was constructed through analysis of the following concepts:

Concept	Description	Example
Barriers	Barriers to realising system asset value	“SSC – never product deliverers – never a delivery agency. Expected to deliver a consensus. Detailed consideration of the issue and come up with a plan and options for government. An analysis that said was this worth investing in? Then expected to deliver the

		buy in from government agencies to back something that the government needed. DIA had the responsibility for delivering the product.” Interview 14
Cost impact	Cost recovery impacts realisation of system asset	“layers of ticket clippers between thinkers and engineers.” Interview 11
Cultural change	Instances that identify cultural change required for system value	“adoption has a cultural underlay that didn’t come through. It wasn’t dealt with. Shared services governance needs to address the soft elements and future technology.” Interview 4
Critical mass	Difficulties building critical mass to enable system benefits	“Good example – cloud services for tools and information services – wouldn’t it be great if our people and parties could use real me to access those services. However none of those vendors are willing to connect as they do not see the critical mass from other agencies.” Interview 7
Expected benefits	Expected benefits from PSISS	“Major beneficiary is the individual who has more and more frictionless contact with government but maintains control. Second beneficiary is government who does not have to rebuild.” Interview 9
Failed to deliver system value	Instances where the PSISS failed to add system value	“Hard to get commitment and realise benefits.” Interview 19
Lack of system asset perspective	Respondents identified lack of system perspective	“No one was talking digital transformation – there was lots of hype. No one was in business case stage so 3 years + to wait for services to use GLS.” Interview 3
Lessons learned	Lessons learned from undertaking the PSISS	“Lessons learned – aggregate demand first.” Interview 3
System asset focus	Respondents identified need to focus on system asset value rather than technology instance	“I performed the role of selling the benefits of the GLS to agencies. And “sell” was reminding them of the mandate.” Interview 3
Other options for delivering system value	Respondents identified other options for delivering system value	“From what I could see they didn’t do much to help clients. Why didn’t the PSISS partly absorb the cost of the new component the client needed. Or in some

		cases have a freeware version that could be used.” Interview 5
Potential for system benefits	Respondents identified possible system wide benefits resulting from the PSISS	“locked into group think, need the ability to get fresh thought. Outcome focus.” Interview 6
Provider focus	Respondents identified a focus on internal provider needs	“When function is buried in agency – can lose sight of strategic focus – real me multifaceted – customers, value, service offerings, enable – adds to complexity – how do we put it in a box –stop it being a problem. Need to understand before you can govern. Too simplistic a view will put it in a box. Makes governance more difficult. Interview 1
Selling benefits of PSISS is difficult	Expressed identified challenges selling the benefits of the PSISS to clients	“Informal governance very difficult to communicate effectively across more than 30 people.” Interview 11
Sunk costs	Expressed identified a belief stopping the service will be difficult due to uptake and sunk costs	“We are spending our money on high cost commodity. Not on the valuable stuff. We are focussed on the burden so we can’t get our heads above water to resolve.” Interview 11
Technical focus	Expressed identified the Provider taking a technology focus for the PSISS	“Igovt probably had stakeholder engagement. When shifted to DIA, specialists took an identity centric view of the work. Technical domain view. Trust and identity – data brokering is different. Multiple domains of expertise touched on by real me. Buried in one part of organisation – limited exposure to other issues. Like giving role of our currency to coin collectors rather than economists. Needs right policy settings and care – due to wide ranging concerns rather than delivery focus. Interview 1
Unclear purpose for service	Expressed identified a lack of clarity for the PSISS	I spent a lot of time on this. Felt undermined at times – need to be patient – sometimes people don’t get it. Need to find better ways to explain. Not worked to date. Logic is flawed for sustainable. Need to look for different models.” Interview 1

## Concepts, Categories and Themes for Theoretical Integration

### Theme One Conflicting Ideas of Governance

Theme One was constructed using three categories: Collaboration, Risk and Vertical mechanisms.

Collaboration was constructed using the following concepts:

Concept	Description	Example
Horizontal mechanisms	Respondents identified horizontal governance mechanisms in practice	"Nature of common capabilities like RealMe highlight the need to get buy in and stakeholder engagement and commitment. More than command and control. Yet that is the natural known way to work – it can be highly counter-productive." Interview 1
Collaboration opportunities	Opportunities for collaboration after legislative reforms including: BPS, ICT strategy, lead agency, blueprints	"GCIO should lead the governance – it is a multi-agency responsibility." Interview 14
Improved services for customers	Respondents identified instances or possible customer service improvements	"had to get into the mode of customer focus view, which we hadn't done before." Interview19
Collaborative consultation	Respondents identified collaborative consultation, including business cases and blueprints	"Public consultation about privacy and government interaction. Resulted in government logon service." Interview 3

Risk was constructed using the following concepts:

Concept	Description	Example
Resistance or avoidance	Perceptions of client resistance or avoidance of the PSISS	"polarised people's perceptions of what will be accomplished leading to resistance rather than willingness to participate." Interview 2



Dependence on adoption	Belief that success relied upon adoption	“SSC used to report on uptake on an agency basis not process or citizen, one of the problems. Very simple, has an agency committed?” Interview 16
Lack of unanimity	Perceptions of limited government unanimity in support of PSISS	“Sometimes ministers views conflict with shared services. So trouble delivering outcomes.” Interview 11
Limited funding	Perceptions that the PSISS was underfunded	“caught in the previous investment cycle.” Interview 6
Reviews	Perceptions of the impact of reviews on the PSISS	“People don’t do their research – 10% up front 90% after implementation. Functionality \$1 requires \$4 investment. Sometimes best idea is smack it on the head and rebuild.” Interview 11
Little incentive to adopt	Perceptions that clients had little incentive to adopt the PSISS	“Despite a compelling business case what are the incentives for an agency to use the service?” Interview 18
Limited client resources	Perceptions of limited resources at clients to adopt the PSISS	“The fundamental problem with real me is the cost. There would be higher adoption by agencies if running costs were substantially lower. Interview 7
Limited provider resources or experience	Perceptions of limited resources of experience for delivery of the PSISS	“Those participating are good public servants with limited domain experience.” Interview 11
Limited government backing	Perceptions of limited government support for PSISS	“Most ministers and people in public sector have poor understanding of what real me could be. Limited information. More focussed on Commodity vs collaboration.” Interview 1
Reputational risk	Perceptions of reputational risk in public sector	“Agencies asked the question. What if the service gets it wrong – who is liable?” Interview 17
Compelled adoption	Perceptions about compelling client adoption	“The government mandate was important to get the critical mass going. To ensure the right discussions were had.” Interview 15
Failure or perceived failure	Examples where the success or otherwise of the PSISS was discussed	“people say based on reputation I do not want to participate.” Interview 2

Agency influence	Examples where agencies influenced the direction of the PSISS	“we had scale to nudge RealMe from its path into something with a slight customisation, which would make it a more attractive service for other sectors.” Interview 21
Lip service	Examples where the provider was perceived to be going through the motions	“branding and marketing is big, not the acknowledgement of the problems.” Interview 17
Lack of clarity or readiness	Discussion about client readiness to adopt the PSISS	“No one was in business case stage so 3 years plus to wait for services to use” Interview 3
Poor client experience	Examples where poor client experiences were identified	“cost of integration is underestimated as most systems come with out of the box integration which they have to take put and out in RealMe”. Interview 8

Vertical mechanisms was constructed using the following concepts:

Concept	Description	Example
Vertical directions and controls	Examples of vertical governance and controls	“Steering committee and cabinet were reported to. Definitions of success needed to be set with treasury and steering committee. Independent review”. Interview 9
Internal facing governance	Examples of Internal IT and project processes as Governance	“Reported to the programme manager.” Interview 9
Legislative authority and regulatory mandate	Examples of regulation and legislation providing mandate	“State sector act – formally defined – any time interacting with agency (authentication) sharing of identity. Are a mandate.” Interview 11
Executive - provider relationship	Perspectives on the relationship between the Executive and provider	“mantra was get volume at any cost” Interview 16
Technical focus	Examples of focus on business case, IT deliverables	“The bible was the business case for the particular scope and time” Interview 9

Design approach	Perspectives on design approach	“If done again, I would suggest a different approach to how it takes place. Rather than a central agency there would be a co-design approach.” Interview 2
Performance targets	Examples of performance targets and delivery	“Report to central agencies to ministers – measure lots of different things, target no of identities 75k have 50k Interview 13

## Theme Two Fluid Governance Boundaries

Theme Two was constructed using four categories: Confusion about who performs governance, Clients role, Executive role and Provider role

Confusion about who performs governance was constructed using the following concepts:

Concept	Description	Example
Lack of clarity	Examples of lack of clarity whether executive or provider or clients performing governance	“Measure – not sure. e-govt unit picked up design. In govt a proxy for success would be in the business case. May not be stated, however the utility value should be there to enable the minister to back. Benefits management wasn’t there in the 1990’s but you have to show value, what was the value.” Interview 5
Multiple parties	Examples where multiple parties or individuals were believed to be performing governance	“There used to be extensive multiagency arrangements for governance. Then it went under the auspices of the digital services council and now I am not sure.” Interview 15
Leadership groups	Examples of role of leadership groups and clarity or confusion	“Service innovation group – result 10 in TOR. Not sure if RealMe included” Interview 2

Clients role was constructed using the following concepts:

Concept	Description	Example
Client involvement	Examples where clients are involved in governance and implementation	“everyone applying their minds to a common problem has been outstanding. The product is neither here nor there, you can’t have reached the product without collaboration.” Interview 14

Adoption through participation	Advocated adoption through governance group participation	“involved in the governance of the PSISS but were not adopting at the time, and are still not adopting, this is many years old and IRD are still not an adopter. Interview 15
Client on adoption	Examples where clients decided not to adopt, resistance and avoidance	“IRD governance but not adopting. Every agency has a story about why they are different and the complete mess if they adopt a shared service – and things go wrong.” Interview 17
Vertical accountabilities to ministers	Examples of vertical accountabilities to ministers	“SSC – a lot of frustration about position they had been put in. in another sense there were no real consequences for not meeting business case.” Interview 3

Executive role was constructed using the following concepts:

Concept	Description	Example
Legislative backing	Executive passed legislation and regulation for PSISS and delivering portfolios	“Regulators to ensure protection, and privacy.” Interview 10
Not enforcing adoption	Examples where the Executive did not enforce direction	“Sometimes ministers views conflict with shared services. So trouble delivering outcomes.” Interview 11
Direction to adopt	Mandate and executive level enforcement	“CEOs don't give a shit about operations Strongest levers are big stick – mandatory” Interview 18
Delegation	Discussion of legislative reform, BPS, Strategy, results, governance groups with lead agencies	“Who – ministers – meet measures of result 10. Service innovation working group – more specific initiatives (then to ICT senior leadership group – for ICT strategy and action plan).” Interview 13

Provider role was constructed using the following concepts:

Concept	Description	Example
Provider governing and managing	Views on provider governing and managing	“At the time the role of the govt CIO was being established – entire programme team dedicated to the GLS, they were critical to the programme.” Interview 3
Provider governing and implementing	Perception provider performing governance and implementation of PSISS	“too many people with influence had their careers on the line.” (Respondent 8
Provider sector direction and monitoring	Perception provider providing sector direction and monitoring as well as implementing projects	“the governance was provided by central agency – SSC was in charge.” Interview 14
Provider expectations	Perception provider expected to collaboratively develop concept and had to develop and deliver PSISS	“SSC – never product deliverers – never a delivery agency. Expected to deliver a consensus. Detailed consideration of the issue and come up with a plan and options for government.” Interview 14
Internal control focus	Perception of internal controls focus and delivery of business case	“Time cost quality – see success factors – may be date vs trade offs for delivery.” Interview 4
Ignored client needs	Perceptions of ignored client needs and collaboration	“We should focus on those who are fleet of foot rather than the big ones. Sme’s are tragically ignored.” Interview 11

### Theme Three Protecting Our Privacy

Theme Three was constructed using four categories: Benefits of privacy enhancing, Privacy Enhancing Service, Privacy in New Zealand and Risk

Benefits of privacy enhancing was constructed using the following concepts:

Concept	Description	Example
Protect citizens and customers	Examples where provider protects clients and citizens	“There could have been a completely different group of people who could have paid lip service to security and privacy that would have done it differently. Should there have been a law to govern RealMe. I thought no – it complies with the privacy act – until I realised that technology cannot protect privacy in isolation.” Interview 1
Customer focussed design	Ease of use for customers and to update information	“The ultimate customers are the citizens – the idea is to reduce the transaction cost for them and provide new services for them.” Interview 15
Assurance of privacy and security	Perspectives on privacy and security assurance	“Privacy Act prevents creation of a single identifier. Federation needs a single identifier that spans federation.” Interview 5
Partnering	Examples of partnering e.g. NZ Post for verified identity	“redefinition occurred when post bought onboard with Post as physical location.” Interview 6

Privacy Enhancing Service was constructed using the following concepts:

Concept	Description	Example
Privacy	Discussion on relationship with privacy	“Would kick start ecosystem – mass creation of customers. – data brokering and privacy – could

		be kicked off. Much smarter better services.” Interview 1
Privacy Commissioner	Role of the Privacy Commissioner	“Privacy commissioner – involved – needed to ensure identity service is privacy enhancing.” Interview 5
Privacy enhancing	Perceptions on privacy enhancing services	“New Zealand privacy settings are unusual, it is hard to build a federated service that doesn’t leak identity data.” Interview 11

Privacy in New Zealand was constructed using the following concepts:

Concept	Description	Example
Legislation	Discussion of relationship with legislation	“deliver an authentication service aligned with the Privacy Act.” Interview 5
Barrier to PSISS	Examples where legislation was viewed as a barrier	“New Zealand privacy settings are unusual, it is hard to build a federated service that doesn’t leak identity data.” Interview 11
Privacy by design	Examples where privacy was a part of design	“New Zealand’s identity legislation made us shy away from a government supplied identity wallet. We had a 1-day workshop with design and high-level principles for what is now the PSISS identity service.” Interview 5
Become an asset	Discussion on whether privacy was considered an asset	“the client does not have to manage identity” Interview 13
Committed to privacy	Discussion on commitment to privacy	“There could have been a completely different group of people who could have paid lip service to security and privacy that would have done it differently.” Interview 17



Risk was constructed using the following concepts:

Concept	Description	Example
Design risk	Risk to provider of poor design	Developing something complex with a large number of stakeholders becomes exponentially difficult. Interview 14
Social media risk	Risks associated with Facebook and other social media	“Some models for authentication were emerging later - could have used to simplify. Now Google and Facebook do similar - model not tight enough. Interview 18
Other options	Examples of commercial solutions- like Facebook for identity	“There are open systems that could solve the same problem. If you think about google or Facebook – that have identity management. What is the role they could or should play in this kind of service. I am sure more citizens use them than RealMe. Could take further with other attributes associated with me – salary, qualifications – that give eligibility to transact or have eligibility. There is so much more they could do in that space.” Interview 3
Can't ignore privacy	Risk of privacy concerns not being addressed	“Privacy by design – not in 2002 – the fact we didn't build until policy was in place.” Interview 9

### Theme Four Implementing Systems or Outcomes?

Theme Four was constructed using three categories: Integration, Outcome focus, and Project or technology focus

Integration was constructed using the following concepts:

Concept	Description	Example
Poor experience	Instances of poor client experience of PSISS	“a bunch of factors – technical – integration. Very emotional factors – already committed significant energy to idea which is threatened by shared services. People can be passionate about initiatives – technical solutions and arguing for them. When threatened they react emotionally. Interview 11
Agency intervention	Instances where agency intervention occurred	“There are a lot more things that people could spend money on than processing student enrolments. Quicker cheaper and easier for providers will transfer into better services for students. Access the services they need.” Interview 21
Service integration	Creation of services to increase numbers – leveraging those against performance targets	“Result 10 which started with the 70% figure but needs to move for example to easier integration for services as the discussion becomes nuanced. Metrics are easier to talk and measure. The provider will game the system to meet deliverables, which shapes the investment path.” Interview 20

Outcome focus was constructed using the following concepts:

Concept	Description	Example
Goal tensions	Relationship between 70% focus and outcomes	"This is a hygiene factor. Are result 9 and result 10 linked to the achievement of 70% of services online? They may have done the metrics, however they have not published them." Interview 4
Implementation	Views that implementation is everything after policy (outcome and customer service focus)	"Governance group was the ICT Senior Leadership group" as they oversaw the implementation of the ICT Strategy and Action Plan" Interview 2
Examples of client, customer or outcome focus	Discussion on arrangements including collaborative governance arrangements - customer, 70% target	"Outcome of RealMe – more clear now. With government BPS, functional leadership accountabilities, transformation across system, life events and citizen centric focus." Interview 6
Customer stats	Perceived timeliness of customer performance stats	"Presented to customer – if used more than once it has value for the customer. Use is a constraint as they do not use it often. If only used once or twice a year." Interview 7
Interdependency	Perceived reliance on each other to deliver system value to customers	"I don't think the environment was ready for the service, it is only getting there now." Interview 21

Project or technology focus was constructed using the following concepts:

Concept	Description	Example
Performance and accountability	Perceptions on performance and accountability	"not sure of number of individuals who have set up account. Think 1.5 million people have login, some choose to have work and private login. Interview 19

Incentives to deliver technology	Perceptions on incentives to deliver technology	“the people who built and designed it were guiding it based on their own beliefs.” Interview 17
Client resistance to integration	Discussions of resistance, unreadiness to adopt, lack of client involvement	“why would I contribute when there is nothing in it for me? Interview 18
Compel adoption	Discussion of effect of mandate and pressure to adopt PSISS	“The argument was we have consulted enough now we use the stick. It caused conflict at the ground level. People would look at the exact wording and argue from there.” Interview 17
Client perception	Discussion of client perception of performance and meeting their needs	“doing the wrong thing but doing it really well.” Interview 11
Original outcome focus	Perceived intention of PSISS	“came out of work by the SSC about 2006, evolved through an identity standard and what was seen to be a burgeoning requirement for identifying people online so they can interact with government online to reduce the burden of asserting identity across government” Interview 15
Performance based on adoption	Perceptions on relationship between performance and adoption	“Success was measured by adoption at the time and transactions. Some operational robustness measures. Was really bums on seats. Was painfully trivial systems. Some larger ones onboard now.” Interview 18
Reminding of the mandate	Examples where a mandate was reinforced by empowered public servants	“The power to direct other agencies. He was looking for an opportunity to use that power. He issued the direction to the whole public service” Interview 17
Increased risk	Examples where IT governance resulted in increased risk, cost and decreased ability to deliver on time	“continual pressure to drive uptake whilst reducing cost.” Interview 13
Implementation as getting system in production	Perceptions on implementation success	“things got funded and plans put in place. Uptake plans and the like, whether they worked is another thing” Interview 15

Internal governance	Examples of internal governance and associated perceptions	“Throughout the process we have had so many reviews it has not been funny. Many independent reviews that have only really come to the conclusion that it is quite hard.” Interview 20
Assurance controls for projects	Examples of programme gateways and assurance controls	“Some people think it was over engineered. For a multi-agency - Project risk register – independent QA from a technology perspective, Audit NZ also did reviews. Also put through the gateway review programme. More people looking at it the better off you are. I think there is too much risk to bury issues.” Interview 9

## Theme Five Accountability Deficits

Theme Five was constructed using three categories: Accountability, Performance and Relationship aspects

Accountability was constructed using the following concepts:

Concept	Description	Example
Provider accountable for client	Perception that provider accountable for client action or inaction,	“User uptake and secondary on agency adoption. That was defined in the business case.” Interview 15
Accountability forum	Examples of accountability forums	“people in the governance forum push the risks back down rather than trying to resolve them.” Interviewee 11
Remedy with new arrangements.	Examples of new governance arrangements intended to resolve issues	“To get a deeper discussion - related to result 10 discussions and the creation of the GCIO role.” Interview 20
Sanctions in horizontal governance	Discussions on ability to sanction horizontal governance mechanisms or hold to account	“horizontal governance is a dog. Everyone who is doing it is struggling with it” Interviewee 9
Accountability in public sector	Thoughts on whether accountability is practical in the public sector	“When nudging large systems there are multiple agendas - within sector, DIA, providers. Essentially it is the complexity of those agendas. Need to develop universal (or near universal) value propositions. Benefits that can be realised by a diverse range of stakeholders.” Interview 21
Shared outcomes or accountabilities	Thoughts on shared outcomes or accountabilities	“We need to come to the table as public servants. Not representatives of individual organisations.” Interviewee 10
Changing accountabilities	Thoughts on changing accountabilities	“Based on uptake with other drivers including risk management and authoritative data sources.” Interview 16

Performance was constructed using the following concepts:

Concept	Description	Example
Focus of performance,	Thoughts on focus of performance	“has taken a long time to resonate - only really the last 2-3 years. To deliver more targeted and focussed services. adoption has been identified as slow but increasing” Interview 20
Failing to deliver,	Thoughts on delivery failures	If you define success as living up to its potential then definitely not. The biggest failure is that it hasn't won the hearts and minds of anyone. Not public, not agencies, not DIA, possibly those working on it.” Interview 17
Meeting targets	Thoughts on clients and providers experiencing reliance on others to meet performance targets	“no direct channel to customers consuming client services.” Interview 3
Client views	Thoughts from client about provider – liability for system failure, poor performance, reputational damage	“hiatus of a couple of years did damage to the uptake path” Interview 9
Roles, processes and performance	Formal examples of roles, processes and performance agreements	“DIA had sole responsibility – built into baseline, approval from treasury to invest. Run teams, market, product develop etc. with little oversight. Relied on standard DIA governance mechanisms – finance investment., capital planning.” Interview 1
Views on change	Thoughts about changing performance criteria, reporting gaps, rewriting strategies, shift to DIA	“Service left to DIA – demise of e-government unit. Set the whole thing back by a few years and tarnished the brand.” Interview 16

Relationship aspects was constructed using the following concepts:

Concept	Description	Example
Low trust	Discussion of low trust relationships	“Public policy at large issues with benign and benevolent government expectation. Low trust – higher account. Lower funding.” Interview 1
High client autonomy	Discussions of autonomy of clients	“CE’s have freedom, a mandate is a waste of time. If the ideas are good you do not need a mandate. People will listen if the idea is good. Once listening they are more likely to adopt” Interview 11



## Theme Six Mandating Collaboration

Theme Six was constructed using four categories: Common issues, Mandates, First Mandate and Second mandate

Common issues was constructed using the following concepts:

Concept	Description	Example
Performance targets not met	Examples where performance targets were not met	“not achieving targets (which) caused pressure during funding time. Not hitting targets and benefits puts additional pressure on funding.” Interview 13
Use of collaboration or horizontal mechanisms	Thoughts on the use of collaboration or horizontal mechanisms	“Changes to strategy or demand is a collaborative decision making process.” Interview 6
Legacy governance	Thoughts on legacy vertical governance mechanisms	“Agencies deliver services they’re tasked with delivering, while told to deliver collaboratively it has been lacking.” Interview 13
Integration issues	Examples of integration issues	“Not convincing agencies to embed it, take it up and drive customer uptake. This is deep seated – two of the main objections are the cost and usability of the service. And the cost of integration against other priorities in the agency work programme. That old chestnut. You could actually come up with a number of excuses, you could write a book on all of the excuses for getting out of all of government stuff. They tend to be it is not going to work for the customer of it is too expensive. It doesn’t fit within our programme at this point in time to integrate it.” Interview 15

Conflicting goals	Examples where conflicting goals surfaced	"It is one of those things when there is not enough gain to motivate everyone to do it." Interview 15
Coercive mandate	Examples where coercive mandates were identified	"Half the problem of going beyond the public service was who the hell does the commissioner think he is telling us what to do?" Interview 17
Damaged trust and resentment	Instances where client trust was damaged and resentment surfaced	"Why would I install something that adds costs but no real value?" Interview 5
Not create new services	Examples where clients avoided service creation	The government mandate was important to get the critical mass going. To ensure the right discussions were had. Before someone changed their technology or offered a new service they would consider RealMe. You got a tendency that if they could possibly avoid it they would. This was done for a wide range of reasons – from a loss of control or a general dislike of the centre." Interview 15
Lack of incentives	Perception of lack of client benefits	"not clear where benefit exists, needs foresight." Interview 1

Mandates was constructed using the following concepts:

Concept	Description	Example
Direction	Instances where direction was discussed in relation to mandates	"had the power ... to direct other agencies. He was looking for an opportunity to use that power. He issued the direction to the whole public service. ... In terms of the mandate the politicians provided support for the idea that agencies had to work closer together. The mandate was core government agencies being sent that message. Interview 17

Incentives or assistance	Instances where incentives or assistance were discussed in relation to mandates	“how do we manage and provide for ongoing development. How do we make on boarding easier?” Interview 6
Commitment and capacity	Instances where commitment and capacity were discussed in relation to mandates	“Sub – committees to enable collaboration. Agencies deliver services they’re tasked with delivering, while told to deliver collaboratively it has been lacking.” Interview 13
Limited resources	Instances where limited resources were discussed in relation to mandates	“You got a tendency that if they could possibly avoid it they would. This was done for a wide range of reasons – from a loss of control or a general dislike of the centre. It has been mandated since 2008, but it hasn’t drifted up since then.” Interview 15
Outcome focus	Instances where outcome focus was discussed in relation to mandates	“Locked into group think, need the ability to get fresh thought. Outcome focus.” Interview 6

First Mandate was constructed using the following concepts:

Concept	Description	Example
Flawed or Waste of time	Instances where mandates were perceived as a waste of time or flawed	“Mandates are barely worth the paper they are written on. ... The mandate had a negative effect. Created odd dynamics, people not wanting to upgrade IAMS technology as it meant committing” Interview 3
Feeling way in the dark	Perception that provider was unclear about direction	“No one was talking digital transformation – there was lots of hype. No one was in business case stage so 3 years + to wait for services to use GLS.” Interview 3
Poor fit	Perception that the PSISS didn’t change as needs changed (poor fit)	“Many people involved in the programme think better to see it through than make corrections.” Interview 11

Perverse incentives	Perception that perverse incentives were in place	I have seen no evidence that the central controls are working. Those participating are good public servants with limited domain experience. We should avoid large IT projects – Perverse incentives- business case does not. Dangerous enthusiasms – once trajectory is set then can't stop." Interview 11
Failure of SSC	Perception of SSC failing to deliver	"not achieving targets caused pressure." Interview 13
Inability to sanction	Perception of inability of SSC to sanction agencies	"defined as optional, perception (was) it is mandatory or government enforced big brother." Interview 7
Curse of the smiling faces	Perception of agencies saying one thing and doing another	"SSC went down a cue performance objectives and use as a stick this drove lip service adoption. Curse of the smiley faces." Interview 16

Second mandate was constructed using the following concepts:

Concept	Description	Example
Collaboration impacted by mandate,	Examples where mandate impacts collaboration	"Formal structures of accountability for delivering shared services – not convinced they made much of a contribution. They didn't do the work to create and enable adoption." Interview 11
Dependency on client services,	Thoughts on provider being dependent upon clients	"Not easy to get it to work e.g. first mobile phone user – have to pay a lot. When more users cheaper. Start for real me is hard – when more agencies offer services then build critical mass – in the face of immediate minister needs in investment cycle (3 years) is hard. Need to build base." Interview 11

Client reaction and resentment,	Examples of client resentment and reaction towards the provider	<p>“The government mandate was important to get the critical mass going. To ensure the right discussions were had. Before someone changed their technology or offered a new service they would consider RealMe. You got a tendency that if they could possibly avoid it they would. This was done for a wide range of reasons – from a loss of control or a general dislike of the centre. It has been mandated since 2008, but it hasn’t drifted up since then. You can’t think that in the intervening seven years that agencies have not replaced their technology or put a new service out. Generally there was not confidence in RealMe or the interface, there was an issue with control as they felt the service wasn’t good enough therefore. We can’t influence it. This goes back to collaboration and co-design. There would have been a lot better response. Mandates are still important but there are other factors – they created a tension with the agencies.” Interview 15</p>
Mandate suitability	Views about mandate suitability	<p>“At the time the mandate was seen to be useful but in the long run it removed the pressing need to treat government agencies as clients. It caused conflict.” (Respondent 17</p>
Stronger sanctions	Views on the need for stronger sanctions	<p>“control that everyone has to use this. The way to operationalise is cabinet directive and refuse the ability to use other options.” Interview 9</p>
Compelled to adopt	Instances of compelled client adoption	<p>“Mandates poison relationships – people do not like to be beaten with a stick...” Interview 11</p>

## Theme Seven Is Technology Different?

Theme Seven was constructed using four categories: PSISS Creation Focus, Implementation and client, and Technical Focus

PSISS Creation Focus was constructed using the following concepts:

Concept	Description	Example
AOG focus	Examples of a focus on All of Government deliverables	“the business case was essentially that a centralised login and identity verification service was fundamental to use of the online channel by the public sector.” Interview 3
Technology fear	Fear of technology focus overtaking outcomes	“IT short cycle, poor understanding of economics, article of faith more than we would like them to be.” Interview 11
Concept	Collaborative work on concept - creation of business case	“Public consultation about privacy and government interaction was undertaken, resulting in the idea of the government logon service” Interview 3

Implementation and client was constructed using the following concepts:

Concept	Description	Example
Failed to meet targets	Discussion of failure to meet performance targets	“If you define success by the business case it has not been successful. If you define success as does it work and does it do what it set out to do it was successful. If you define success as living up to its potential then definitely not.” Interview 17
Low adoption rates	Discussion of low adoption rates leading to reviews, vicious cycle, limited funding, pressure and failure, transfer to DIA	“IVS – not reached targets of last few years, have worked and should see increase in uptake.” Interview 13

Client resistance to mandate	Discussion of client resistance at being left out, increased by mandate – bloated provider quote	“Interfering in the stack for service delivery of an agency is not a trivial thing. If you are trying to line up every single agency for the same effect.” Interview 15
Loss of outcome focus	Discussion of lost outcome focus, tech focus, perverse incentives to deliver tech	“spent hundreds of thousands of dollars - need to still invest to keep the service up to date and meeting needs. - underinvestment leads to another cycle of failure.” Interview 20
Technology enabler	Examples of views where Technology should enable not drive outcome	“this is an enabler why commercialise it?” Interview 20
Performance impacts satisfaction	Examples where technology was driver and performance reinforced to detriment of customers and clients	“They did a good job of promulgating case studies. One of the challenges was the drive for uptake led to the view that if we forced public service to use RealMe they would get work and private utility. That was probably a mistake. We have staff who authenticate at agency then have to reauthenticate. Cabinetnet is an example.” Interview 16
Client and customer needs	Examples where should have focussed on outcome and customer	“there are some things done better at agency level. RealMe is a small but critical enabling thing. When you lose that focus you will annoy agencies and lose sight of what you are trying to do.” Interview 20
Provider review	Perceptions of review of the provider and PSISS	“There were multiple reviews where the whole service was reviewed. This usually coincided with budget requests where they needed to convince ministers to continue to fund the service as a worthwhile thing to invest in.” Interview 15
Lack of client involvement	Lack of client involvement – instances of resistance and increased risk, failure to meet targets	“Big agencies playing the waiting game can kill participation.” Interview 11

Limited client incentives	Views on limited client incentives	“many projects that have not wanted to.” Interview 7
---------------------------	------------------------------------	---

Technical Focus was constructed using the following concepts:

Concept	Description	Example
Technological determinism	Examples of technology led business change	“The problem is people are too focussed on technology. Technologists have focussed on technology making the change, it can be a catalyst or meet requirement, but it is only one of People, Process and Technology.” Interview 6
Project deliverables	Examples of technology focus and project management as governance	“Client as govt is easier to deal with. Project owner - gets dosh to spend.” Interview 18
Internal governance	Examples of internal governance where provider needs were put first	“We are in the jargon phase. From governance of roles - it radically changes the role of sponsor. The investment model calls for a different way of thinking - not just a massive investment then get into another case.” Interview 20
Vertical governance	Instances of vertical governance in practice	“Hard yards to get acceptance from ministers. Only confirm 12 month investment – industry cautious. So 4 year investment. With a view to reducing fiscal exposure to the crown.” Interview 10
Ignore outcomes	Ignoring client and customer and outcomes.	“\$25-30 mil project – too much on consultants – had to have the best. If you end up with very important people working for you and they are paid then the top need to get paid.” Interview 8
Technical delivery	Focus on technical deliverables, perverse incentives, business case	“I have been profoundly frustrated ... I don’t know who provides direction, my perception they have become buried inside of DIA.” Interview 11



## Theme Eight Collaborative Governance, the Art of the State

Theme Eight was constructed using four categories: Creation intention, New governance arrangements and Privacy

Creation intention was constructed using the following concepts:

Concept	Description	Example
AOG focus		“RealMe was the earliest all of government approach to trying to solve a problem where there wasn't a marketplace of vendors.” Interview 20
Fear of technology focus		“Real innovation is at the service end not the technology end.” Interview 6
Collaborative work on concept – creation of business case		“When I was doing it there was no formal governance except in the sense that the conceptual development was seen that everyone had an interest so it was a general conversation. We led the discussion on key issues. It wasn't until it started to become a serious discussion about having a crack at this that formal governance models were put in place. I started leading a conversation and came in later.” Interview 14
Collaboration stopped with system implementation		“When the e-government unit became formalised it became the ICT branch of the SSC” Interview 5
Changed when implementing – tech centric project and failing		“there was a heavyweight waterfall approach - exclude business people from technology discussions.” Interview 20

New governance arrangements was constructed using the following concepts:

Concept	Description	Example
Provider failure	Examples where the provider failed to deliver performance targets even after mandate	"They didn't do the work to create and enable adoption." Interview 11
Collaborative creation	Views on collaborative creation of result 10, lead agency, BPS, ICT strategy etc and positives of changes to governance arrangements	"Citizen centricity is the key – integration point – BPS outcomes from an enabling environment – ICT – integrator is citizen. Integrator needs to be the government – require multiple agencies that the citizen needs to know and navigate – for compliance or social benefit and. Intervention – inefficient. All about inter op and information sharing – better to deal with government." Interview 6
Shared goals	Thoughts on shared performance goals and accountabilities including improvements and increased adoption as a result of participation, Shared performance targets and accountabilities	"Sub – committees to enable collaboration. Agencies deliver services they're tasked with delivering, while told to deliver collaboratively it has been lacking." Interview 13
Integration issues	Examples of perceived PSISS integration issues	"left agencies to sort out integration" Interview 5
Customer groups	Quotes that show significance of customer groups e.g. student adoption	"Quicker cheaper and easier for providers will transfer into better services for students. Access the services they need." Interview 21
Dynamic governance	Dynamic environment and need to change performance targets	That the CE of IRD as a steering committee member was important. Not what he said when he was there but that he was there." Interview 9
Accountability and transparency	Instances of accountability and transparency issues	"Transparency for governance is the big learning – don't bury things in the project – it will only come back and bite you." Interview 9
Low agency trust	Low level of trust due to low involvement	"Shared network, e-govt network imploded because they became the builders. They used

		their influence to get agencies to agree to commit to the network. SSC made commitments that the agencies did not back them on. That undermined trust and e-govt activity in ICT. The central agency was not able to get govt departments to come to the collective table – they were acting in the interest of the individual agencies.” Interview 14
Governance changes	Changes to governance arrangements (BPS, Result 10 groups, ICT strategy etc)	“Things have matured since the SSC days – no overarching mandate – which GCIO now does – no ICT action plan – less services and less service maturity. Result 10 helps. Mandate. Development of more common capabilities. More pressure from the centre to collaborate. Interview 13
Collaboration and adoption	Improvements and increased adoption as a result of participation, Shared performance targets and accountabilities	“Result 10 – outcomes for customers – drives to needs for customers – services” Interview 13
Inability to compel adoption	Thoughts on the inability of the provider to compel adoption	“The argument was we have consulted enough now we use the stick.” Interview 17
Client refusal	Refusal to adopt, poor experience, increased client resistance, lack of understanding	“I am not sure clients have understood the value of it. It becomes valuable when multiple clients take it on and critical mass kicks in.” Interview 15
SSC failed	Perception of SSC failure to deliver	“The Commissioner was judged on success of programme, the GSN went south and panic set in to get rid of IT including the PSISS. Results changed the reporting lines. Almost the whole e-government unit was shifted.” Interview 17
Customer focus	Ideas to change customer focus	“Many levers, cost is one of them, (we should) help agencies defray cost and absorb more up front.” Interview 7

Privacy was constructed using the following concepts:

Concept	Description	Example
Privacy enhancing PSISS	Discussion of privacy enhancing service and collaboration	“Privacy commissioner – involved – needed to ensure identity service is privacy enhancing.” Interview 5
Collaborative design	Examples of collaborative design of the PSISS	“identity side of authentication. Architected so the government couldn't link information across agencies. Interview 18
Continued privacy	Discussion about ongoing privacy of PSISS	“It is secure and there has never been a privacy leak so successful. At an outcome level not at all.” Interview 17
Development and testing with privacy commission	Examples of working with stakeholders to ensure wider privacy requirements met	“Privacy by design – not in 2002 – the fact we didn't build until policy was in place.” Interview 9

## Appendix E: Memo Examples

One of the quality criteria promoted by Corbin and Strauss (2008) is evidence of memos. This appendix provides two examples of memos that were used to construct categories.

### Example Memo One: Governance Focus for Implementation

Description	This is a sample of the content from the memo used to construct the Governance Focus section for the Implementation Category.
Code:	The initial code was called Information System vs System Asset, which later became the category Governance Focus.
Stage for Central Category:	This memo contributed to the construction of the Implementation stage for the central category.
Analysis notes:	<b>Footnotes</b> are used to identify the Interviewee by number. The term stage was used for analysis of when the respondent was involved in PSISS governance (1=at SSC, 2= SSC and DIA, 3 = DIA only). Where direct quotes are not used in the text, direct quotes from the analysis database (NVivo) are placed in the footnote. Additional NVivo codes that were used for analysis are also included in footnotes.

The PSISS was created based on a general “need for something to happen around common identity and authentication.” (Respondent 2)<sup>5</sup> The PSISS “came out of work by the SSC about 2006, evolved through an identity standard and what was seen to be a burgeoning requirement for identifying people online so they can interact with government online to reduce the burden of asserting identity across government, so using it for multiple purposes and applications. It was defined by a core group at the SSC who defined the standards.” (Respondent 15)<sup>6</sup>

The provider took the security and privacy requirements extremely seriously. “There could have been a completely different group of people who could have paid lip service to security and privacy that would have done it differently.”

---

<sup>5</sup> Interview 2 (stage 3) “The impression of RealMe is it grew out of a need for something to happen around common identity and authentication.” Interview 2 (stage 3) Unclear purpose for PSISS

<sup>6</sup> Interview 15 (stage 2) The PSISS “came out of work by the SSC about 2006, evolved through an identity standard and what was seen to be a burgeoning requirement for identifying people online so they can interact with government online to reduce the burden of asserting identity across government, so using it for multiple purposes and applications. It was defined by a core group at the SSC who defined the standards.” Interview 15 (stage 2) Potential for system benefits, Citizen focus

(Respondent 17)<sup>7</sup> There was debate about the use of legislation to govern the PSISS. Initially it was believed that compliance with the Privacy Act was enough, until it was realised that technology alone does not protect privacy in isolation.<sup>8</sup> The Privacy Commissioner became involved as they needed to “ensure the identity PSISS is privacy enhancing,” (Respondent 5)<sup>9</sup> and that the provider would “deliver an authentication service aligned with the Privacy Act.” (Respondent 5)<sup>10</sup> The provider worked with the Privacy Commissioner to develop an agreed policy that reflected privacy by design. “New Zealand’s identity legislation made us shy away from a government supplied identity wallet. We had a 1-day workshop with design and high-level principles for what is now the PSISS identity service.” (Respondent 5) To ensure compliance the provider “didn’t build until the policy was in place.” (Respondent 9)<sup>11</sup>

#### Example Memo Two: Client Accountability

Description	This is a sample of the content from the memo used to construct the accountability section for the Client category
Code:	The initial code was called accountability, which later became the category Accountability
Stage for Central Category:	This memo contributed to the construction of the Client stage for the central category.
Analysis notes:	<b>Footnotes</b> are used to identify the Interviewee by number. The term stage was used for analysis of when the respondent was involved in PSISS governance (1=at SSC, 2= SSC and DIA, 3 = DIA only). Where direct quotes are not used in the text, direct quotes from the analysis database (NVivo) are placed in the footnote. Additional NVivo codes that were used for analysis are also included in footnotes.

<sup>7</sup> Interview 17 (stage 1,2)

<sup>8</sup> “There could have been a completely different group of people who could have paid lip service to security and privacy that would have done it differently. Should there have been a law to govern RealMe. I thought no – it complies with the privacy act – until I realised that technology cannot protect privacy in isolation.”

Interview 17 (stage 1,2) culture change required for system value, pressure from centre

<sup>9</sup> “Privacy commissioner – involved – needed to ensure identity service is privacy enhancing.” Interview 5 (stage 1,2,3) barriers to realising system asset value, privacy settings

<sup>10</sup> “to deliver an authentication service that aligned with the privacy act.” Interview 5 (stage 1,2,3) barriers to realising system asset value, privacy settings

<sup>11</sup> “Privacy by design – not in 2002 – the fact we didn’t build until policy was in place.” Interview 9 (stage 1,2) barriers to realising system asset value, privacy settings

Once the PSISS was implemented “the key measure was adoption.”<sup>12</sup> (Respondent 3). The provider was expected to increase adoption of the PSISS by clients and customers. The targets were set in the business case and placed the provider on a set trajectory for years to come. There was no direct connection to customer use of client services. Clients were expected to drive customer use of client services.<sup>13</sup>

Clients were wary of the change as “interfering in the stack for service delivery of an agency is not a trivial thing, particularly if you are trying to line up every single agency for the same effect.” (Respondent 15)<sup>14</sup> Respondents identified an increased client expectation on the provider to deliver improvements to the identity capability of the public sector. The provider was faced with the challenge of meeting the different needs of clients with a PSISS that promoted consistency through a one size fits all identity service.

The SSC struggled to convince public sector clients to adopt the PSISS.<sup>15</sup> The provider had to convince clients that SSC could deliver a PSISS and the at the PSISS was a good idea. Client buy in was slow coming. The accountability for the PSISS was attributed to the Government Chief Information Officer.<sup>16</sup> The provider was held accountable, however respondents questioned whether the provider had the skills to perform the roles they were accountable for performing.<sup>17</sup> Questions were asked about the capability of the people and formal structures in place to deliver the PSISS, respondents were “not convinced they made much of a contribution. They didn’t do the work to create and enable adoption.”(Respondent 11)<sup>18</sup>

---

<sup>12</sup> Interview 3 (Stage 1,2)

<sup>13</sup> “Citizens and agencies to adopt services. No direct channel to citizens. Agencies were channel for driving uptake to public. Uptake – the business case set up trajectory of signed up users over years.” Interview 3 (Stage 1,2) (F,F,T,F)

<sup>14</sup> “Ministers were supporting the service – it is the nature of the government system - you have vertical accountability and we are moving to more horizontal accountabilities with the GIO. So interfering in the stack for service delivery of an agency is not a trivial thing, particularly if you are trying to line up every single agency for the same effect.” Interview 15 (Stage 2) (F,T,F,F)

<sup>15</sup> “SSC – deliver – not sure – convince public service that it was a good idea. Sell us on the idea – get agency buy in. very early days.” Interview 1 (Stage3) (T,F,F,F)

<sup>16</sup> “(name removed) - the GCIO.” Interview 8 (Stage 1,2) (T,F,F,F)

<sup>17</sup> “They go to those accountable (need access to better skill).” Interview 11 (Stage 2) (T,F,F,F)

<sup>18</sup> “If you think about the people – formal structures of accountability for delivering shared services – not convinced they made much of a contribution. They didn’t do the work to create and enable adoption.” Interview 11 (Stage 2) (T,F,F,F)

## References

- Aasi, P., Rusu, L., Leidner, D., Perjons, E., & Corrales Estrada, M. (2018). *How Does the Organizational Culture of Collaborative Networks Influence IT Governance Performance in a Large Organization?* Paper presented at the Proceedings of the 51st Hawaii International Conference on System Sciences, Hawaii, USA.
- Acar, M., Guo, C., & Yang, K. (2008). Accountability When Hierarchical Authority Is Absent: Views From Public-Private Partnership Practitioners. *The American Review of Public Administration*, 38(1), 3-23.
- Agar, J. (2003). *The government machine: a revolutionary history of the computer*. Cambridge, USA: The MIT Press.
- Agency for Public Management and e-Government. (2019). *MinID*. Oslo, Norway: Author Retrieved from <http://eid.difi.no/nb/minid>
- Alasuutari, P., Bickman, L., & Brannen, J. (2008). *The SAGE Handbook of Social Research Methods*. London, UK: Sage.
- Alford, J., & O'Flynn, J. (2009). Making Sense of Public Value: Concepts, Critiques and Emergent Meanings. *International Journal of Public Administration*, 32(3), 171-191.
- Ali, S., & Green, P. (2007). IT Governance Mechanisms in Public Sector Organisations: An Australian Context. *Journal of Global Information Management*, 15(4), 41-63.
- Ali, S., & Green, P. (2012). Effective information technology (IT) governance mechanisms: An IT outsourcing perspective. *Information Systems Frontiers*, 14(2), 179-193.
- Ali, S., Green, P., & Parent, M. (2009). The role of a culture of compliance in information technology governance. *Proceedings of GRCIS*, 1-14.
- Alreemy, Z., Chang, V., Walters, R., & Wills, G. (2016). Critical success factors (CSFs) for information technology governance (ITG). *International Journal of Information Management*, 36(6), 907-916.
- Alvesson, M., & Kärreman, D. (2011). *Qualitative Research and Theory Development: Mystery as Method*. London, UK: Sage.
- Anderson, C. (2017). Swedish Government Scrambles to Contain Damage From Data Breach. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/07/25/world/europe/ibm-sweden-data-outsourcing.html>
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543-572.
- Ansell, C., & Gash, A. (2018). Collaborative platforms as a governance strategy. *Journal of Public Administration Research and Theory*, 28(1), 16-32.
- Ansell, C., & Torfing, J. (2016). *Handbook on theories of governance*. Cheltenham, UK: Edward Elgar Publishing.
- Ansell, C., Trondal, J., & Ogard, M. (2016). *Governance in turbulent times*. Oxford, UK: Oxford University Press.
- Anthes, G. (2015). Estonia: a model for e-government. *Communications of the ACM*, 58(6), 18-20.
- Arora, S. (2008). National e-ID card schemes: A European overview. *Information Security Technical Report*, 13(2), 46-53.
- Asgarkhani, M., Correia, E., & Sarkar, A. (2017). *An overview of information security governance*. Paper presented at the 2017 International Conference on Algorithms, Methodology, Models and Applications in Emerging Technologies (ICAMMAET), Chennai, India.
- Aulich, C., Batainah, H., & Wettenhall, R. (2010). Autonomy and Control in Australian Agencies: Data and Preliminary Findings from a Cross-National Empirical Study. *Australian Journal of Public Administration*, 69(2), 214-228.
- Babu, A. J. G., & Suresh, N. (1996). Project management with time, cost, and quality considerations. *European Journal of Operational Research*, 88(2), 320-327.



- Baehler, K. (2003). Managing for Outcomes: Accountability and Thrust. *Australian Journal of Public Administration*, 62(4), 23-34.
- Bang, H. P. (2016). *Interactive governance: A challenge to institutionalism*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Bannister, F., & Connolly, R. (2014). ICT, public values and transformative government: A framework and programme for research. *Government Information Quarterly*, 31(1), 119-128.
- Banoun, A., Dufour, L., & Andiappan, M. (2016). Evolution of a service ecosystem: Longitudinal evidence from multiple shared services centers based on the economies of worth framework. *Journal of Business Research*, 69(8), 2990-2998.
- Bartels, K. (2009). The Disregard for Weber's Herrschaft: The Relevance of Weber's Ideal Type of Bureaucracy for the Modern Study of Public Administration. *Administrative Theory & Praxis*, 31(4), 447-478.
- Bassil, Y. (2012). A simulation model for the waterfall software development life cycle. *International Journal of Engineering & Technology*, 2(5), 742-749.
- Bazarhanova, A., Yli-Huumo, J., & Smolander, K. (2019). From platform dominance to weakened ownership: how external regulation changed Finnish e-identification. *Electronic Markets*, 1-14.
- Benaroch, M., & Chernobai, A. (2017). Operational IT Failures, IT Value Destruction, and Board-Level IT Governance Changes. *MIS Quarterly*, 41(3), 729-762.
- Benbasat, I., & Zmud, R. W. (2003). The identity crisis within the IS discipline: Defining and communicating the disciplines core properties. *MIS Quarterly*, 27(2), 183-194.
- Bennett, C. (2018). The European General Data Protection Regulation: An instrument for the globalization of privacy standards? *Information Polity*, 23, 239-246.
- Bevir, M. (2006). Democratic Governance: Systems and Radical Perspectives. *Public Administration Review*, 66(3), 426-436.
- Bevir, M. (2007). *Encyclopedia of Governance*. Berkeley, USA: Sage.
- Bevir, M., Rhodes, R., & Weller, P. (2003). Traditions of Governance: Interpreting the Changing Role of the Public Sector. *Public Administration*, 81(1), 1-17.
- Birks, M., & Mills, J. (2010). *Grounded theory: A practical guide*. London, UK: Sage.
- Bjorner, N., Prasad, S., & Parida, L. (2016). *Distributed Computing and Internet Technology* (1st ed. 2016. ed.). Bhubaneswar, India: Springer.
- Blaikie, N. (2007). *Approaches to social enquiry* (2nd ed ed.). Cambridge, UK: Polity.
- Blount, S., & Zanella, R. (2010). *Cloud Security and Governance*. Cambridgeshire, UK: IT Governance Publishing.
- Blumer, H. (1954). What is Wrong with Social Theory? *American Sociological Review*, 19(1), 3-10. Retrieved from <http://www.jstor.org/stable/2088165>
- Blumer, H. (1969). *Symbolic interactionism*. New Jersey, USA: Prentice Hall.
- Borman, M. (2010). Characteristics of a successful shared services centre in the Australian public sector. *Transforming Government: People, Process and Policy*, 4(3), 220-231.
- Boston, J. (1996). *Public Management - The New Zealand model*. Oxford, UK: Oxford University Press.
- Boston, J. (2011). Basic NPM Ideas and Their Development. In T. Christensen & P. Laegreid (Eds.), *The Ashgate Research Companion to New Public Management*. Farnham, UK: Ashgate Publishing Company.
- Boston, J. (2012). Reflections on 'New Political Governance in Westminster Systems'. *Governance*, 25(2), 201-207.
- Boston, J., & Gill, D. (2011). Working Across Organisational Boundaries: The Challenges for Accountability. In B. Ryan & D. Gill (Eds.), *Future State: Directions for Public Management in New Zealand*. Wellington, NZ: Victoria University Press.
- Bovaird, T. (2003). E-Government and e-Governance: Organisational Implications, Options and Dilemmas. *Public Policy and Administration*, 18, 37-56.
- Bovaird, T. (2005). Public governance: balancing stakeholder power in a network society. *International Review of Administrative Sciences*, 71(2), 217-228.

- Bovaird, T. (2007). Beyond Engagement and Participation: User and Community Coproduction of Public Services. *Public Administration Review*, 67(5), 846-860.
- Bovaird, T., & Loeffler, E. (2016). *What has co-production ever done for interactive governance?* Cheltenham, UK: Edward Elgar Publishing Ltd.
- Bovens, M. (2007). *Public Accountability*. Oxford, UK: Oxford University Press.
- Bovens, M., Goodin, R., Schillemans, T., & Gailmard, S. (2014). *Accountability and Principal-Agent Theory*. Oxford, UK: Oxford University Press.
- Bovens, M., Goodin, R., Schillemans, T., & Peters, B. G. (2014). *Accountability in Public Administration*. Oxford, UK: Oxford University Press.
- Bovens, M., Goodin, R. E., Schillemans, T., & Halachmi, A. (2014). *Accountability Overloads*. Oxford, UK: Oxford University Press.
- Bowen, G. (2006). Grounded Theory and Sensitizing Concepts. *International Journal of Qualitative Methods*, 5(3), 12-23.
- Boyle, G., & Grace-Webb, E. (2007). *Sarbanes-Oxley and its Aftermath: A Review of the Evidence*. Wellington, NZ: Victoria University.
- Bradbury, M. (1999). Government ownership and financial performance in a competitive environment: Evidence from the corporatization of the New Zealand Government Computing Services. *Asia Pacific Journal of Management*, 16, 157-172.
- Brewer, G. A., Neubauer, B.J., & Geiselhart, K. (2006). Designing and implementing e-government systems: Critical implications for public administration and democracy. *Administration and Society*, 38(4), 472-499.
- Brickley, J., & Zimmerman, J. (2010). Corporate governance myths: Comments on Armstrong, Guay, and Weber. *Journal of Accounting and Economics*, 50(2), 235-245.
- Broadbent, J., Dietrich, M., & Laughlin, R. (1996). The Development of Principal-Agent Contracting and Accountability Relationships in the Public Sector: Conceptual and Cultural Problems. *Critical Perspectives on Accounting*, 7, 259-284.
- Brotby, W. (2008). *Information Security Governance: Guidance for Information Security Managers*. IT Governance Institute. Rolling Meadows, IL.
- Brown, A. E., & Grant, G. (2005). Framing the Frameworks: A Review of IT Governance Research. *Communications of the ACM*, 15, 696-712.
- Brown, L. K., & Troutt, E. (2007). Reporting Does Not Equal Accountability! The importance of Funding Characteristics and Process on Accountability. *International Journal of Public Administration*, 30(209-225).
- Brownlee, G. (2010). *Government Procurement Reform*. Wellington, NZ: Parliament
- Bruceckner, A. (2008). Experiential Justification. In Q. Smith (Ed.), *Epistemology*. Oxford, UK: Oxford
- Bryce, R. (2002). *Pipe Dreams: Greed, Ego and the Death of Enron*. New York, USA: Public Affairs.
- Bryson, J. M., Crosby, B., & Bloomberg, L. (2014). Public Value Governance: Moving beyond Traditional Public Administration and the New Public Management. *Public Administration Review*, July / August, 445-456.
- Cabinet Office. (2007). *Shared Services in the Public Sector*. Wellington, NZ: Author Retrieved from <http://www.ssc.govt.nz/cab-paper-shared-services-public-sector>
- Cabinet Office. (2010a). *Directions and Priorities for Government ICT - EGI Min (10) 23/2*. Wellington, NZ: Author
- Cabinet Office. (2010b). *Directions and Priorities for Government ICT - EGI Min (10) 35/5A*. Wellington, NZ: Author
- Cabinet Office. (2012). *Implementing The Functional Leadership Of Government ICT*. Wellington, NZ: Author Retrieved from [http://www.ssc.govt.nz/sites/all/files/cab-paper-sec\(12\)81.pdf](http://www.ssc.govt.nz/sites/all/files/cab-paper-sec(12)81.pdf)
- Cabinet Office. (2015). *Investment Management and Asset Performance in the State Services*. Wellington, NZ: Author Retrieved from <https://dpmc.govt.nz/publications/co-15-5-investment-management-and-asset-performance-state-services>
- Cabinet Office. (2017). *Cabinet Manual*. Wellington: Author

- Cadbury, A. (1992). *Report of the Committee on the Financial Aspects of Corporate Governance*. London, UK: Gee and Company Ltd
- Cadwalladr, C., & Graham-Harris, E. (2018, Sat 17 Mar 2018). Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach. *The Guardian*. Retrieved from <https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election>
- Calista, D. J., & Melitski, J. (2007). E-Government and E-Governance: Converging Constructs of Public Sector Information and Communication Technologies. *PAQ, Spring*, 87-120.
- Carter, L. (2008). E-government diffusion: a comparison of adoption constructs. *Transforming Government: People, Process and Policy*, 2(3), 147-161.
- Chadwick, A. (2006). Executives and Bureaucracies: E-Government. In A. Chadwick (Ed.), *Internet Politics. States, Citizens, and New Communication Technologies* (pp. 177-203). Oxford, UK: Oxford University Press.
- Chapman, J., & Duncan, G. (2007). Is there now a new 'New Zealand Model'? *Public Management Review*, 9(1), 1-25.
- Charmaz, K. (2014). *Constructing Grounded Theory*. Los Angeles, USA: Sage.
- Charmaz, K. (2017). The Power of Constructivist Grounded Theory for Critical Inquiry. *Qualitative Inquiry*, 23(1), 34-45.
- Chen, W., & Hirschheim, R. (2004). A Paradigmatic and Methodological examination of information systems research from 1991 to 2001. *Info Systems Journal*, 14, 197-235.
- Chesterman, R. H. (2013). *Queensland Health Payroll System Commission of Inquiry*. Queensland: Queensland Government
- Chin, P. O., Brown, G. A., & Hu, Q. (2004). The Impact of Mergers & Acquisitions on IT Governance Structures: A Case Study. *Journal of Global Information Management*, 12(4), 50-74.
- Christensen, T., & Laegreid, P. (2010). *The Ashgate research companion to new public management*. Surrey, UK: Ashgate.
- Christiansen, T. (1997). Tensions of European governance: politicized bureaucracy and multiple accountability in the European Commission. *Journal of European Public Policy*, 4(1), 73-90.
- Christopolous, S., Horvath, B., & Kull, M. (2012). Advancing the Governance of Cross-Sectoral Policies for Sustainable Development: A Metagovernance Perspective. *Public Administration and Development*, 32, 305-323.
- Chua, W. F. (1986). Radical Developments in Accounting Thought. *The Accounting Review*, 61(4), 601-632.
- Cilli, C. (2003). IT Governance: Why a guideline? *Information Systems Control Journal*, 3, 1-3.
- Cohan, J. A. (2002). "I didn't know" and "I was only doing my job": Has Corporate Governance Careened out of Control? A Case Study of Enron's Information Myopia. *Journal of Business Ethics*, 40(3), 275-299.
- Collier, N., Fishwick, F., & Johnson, G. (2001). The process of strategy development in the public sector. In G. Johnson & K. Scholes (Eds.), *Exploring Public Sector Strategy* (pp. 17-37). Harlow, USA: Pearson Educational.
- Collings, T. (2008). Some thoughts on the underlying logic and process underpinning Electronic Identity (e-ID). *Information Security Technical Report*, 13(2), 61-70.
- Considine, M. (2002). The end of the line? Accountable governance in the age of networks, partnerships, and joined-up services. *Governance*, 15(1), 21-40.
- Considine, M., & Lewis, J. M. (2003). Bureaucracy, Network, or Enterprise? Comparing Models of Governance in Australia, Britain, the Netherlands, and New Zealand. *Public Administration Review*, 63(2), 131-140.
- Cook, A. L. (2004). *"Managing for Outcomes" in the New Zealand Public Management System*. Wellington, NZ: Treasury

- Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research*. Thousand Oaks, USA: Sage.
- Cordella, A., & Bonina, C. M. (2012). A public value perspective for ICT enabled public sector reforms: A theoretical reflection. *Government Information Quarterly*, 29(4), 512-520.
- Creswell, J. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Los Angeles, USA: Sage.
- Cropp, A. (2019). NZTA calls in auditors to investigate its Connected Journeys unit. *Stuff*. Retrieved from <https://www.stuff.co.nz/business/112578730/nzta-calls-in-auditors-to-investigate-its-connectedjourneys-unit>
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London, UK: Sage.
- Crown Entities Act No 115. (2004). Retrieved from [http://legislation.govt.nz/act/public/2004/0115/latest/DLM329631.html?search=ts\\_act%40bill%40regulation%40deemedreg\\_crown+entities+act\\_resele\\_25\\_a&p=1](http://legislation.govt.nz/act/public/2004/0115/latest/DLM329631.html?search=ts_act%40bill%40regulation%40deemedreg_crown+entities+act_resele_25_a&p=1)
- Cuijpers, C., & Schroers, J. (2014). eIDAS as guideline for the development of a pan European eID framework in FutureID. In D. Hühnlein (Ed.), *Lecture Notes in Informatics* (pp. 23-38). Bonn, Switzerland: Bonner Köllen Verlag.
- Currie, W. L. (1996). Outsourcing in the private and public sectors: an unpredictable IT strategy. *European Journal of Information Systems*, 4(4), 226-236.
- Dafoe, A. (2015). On Technological Determinism: A Typology, Scope Conditions, and a Mechanism. *Science, Technology, & Human Values*, 40(6), 1047-1076.
- Damianides, M. (2005). Sarbanes-Oxley and IT Governance: New Guidance On IT Control And Compliance. *Information Systems Management*, 22(1), 77-85.
- Damodaran, L. (2005). E-democracy: Challenges for social inclusion. *IT Now*, July 2005, 10-11.
- Darke, P., Shanks, G., & Broadbent, M. (1998). Successfully Completing Case Study Research: Combining Rigour, Relevance and Pragmatism. *Information Systems Journal*, 8, 273-289.
- Davenport, T., & Markus, M. (1999). Rigor vs. Relevance Revisited: Response to Benbasat and Zmud. *MIS Quarterly*, 23(1), 19-23.
- De Haes, S., & Van Grembergen, W. (2009). An Exploratory Study into IT Governance Implementations and its Impact on Business/IT Alignment. *Information Systems Management*, 26, 123-137.
- De Haes, S., & Van Grembergen, W. (2016). *Enterprise governance of information technology*. Cham, Switzerland: Springer.
- De Hert, P. (2008). Identity management of e-ID, privacy and security in Europe. A human rights view. *information security technical report*, 13(2), 71-75.
- Defillippi, R., & Sydow, J. (2016). Project Networks: Governance Choices and Paradoxical Tensions. *Project Management Journal*, 47(5), 6-17.
- Denzin, N. K., & Lincoln, Y. S. (2005). *The SAGE Handbook of Qualitative Research*. Thousand Oaks, USA: Sage.
- Department of Internal Affairs. (2009). *Annual Report 2008-09*. Wellington, NZ: Author
- Department of Internal Affairs. (2010). *Annual Report 2009-10*. Wellington, NZ: Author
- Department of Internal Affairs. (2011a). *Annual Report 2010/11*. Wellington, NZ: Author
- Department of Internal Affairs. (2011b). *Directions and Priorities for Government ICT*. Wellington, NZ: Author
- Department of Internal Affairs. (2012). *Annual Report 2011-12*. Wellington, NZ: Author
- Department of Internal Affairs. (2013a). *Annual Report 2012-13*. Wellington, NZ: Author
- Department of Internal Affairs. (2013b). *New Zealand Government ICT Strategy and Action Plan to 2017*. Wellington, NZ: Author
- Department of Internal Affairs. (2014a). *Annual Report 2013-14*. Wellington, NZ: Author
- Department of Internal Affairs. (2014b). *Result 10 Blueprint*. Wellington, NZ: Author
- Department of Internal Affairs. (2015a). *Annual Report 2014-15*. Wellington, NZ: Author

- Department of Internal Affairs. (2015b). *Service Innovation Group Terms of Reference*. Wellington, NZ: Author
- Department of Internal Affairs. (2016). *Annual Report 2015-16*. Wellington, NZ: Author
- Department of Internal Affairs. (2017a). *Annual Report 2016-17*. Wellington, NZ: Author
- Department of Internal Affairs. (2017b). Archived Result 10 Measurements. Retrieved from <http://www.dia.govt.nz/Measuring-Results-Archive>
- Department of Internal Affairs. (2017c). Digital Government Partnership. Retrieved from <https://www.ict.govt.nz/governance-and-leadership/governance-groups/partnership-framework/>
- Department of Internal Affairs. (2017d). Measuring Agency Results. Retrieved from <http://www.dia.govt.nz/Better-Public-Services-Measuring-Result-10/>
- Department of Internal Affairs. (2018a). *2017/18 Annual Report*. Wellington, NZ: Author
- Department of Internal Affairs. (2018b). Government ICT Ministerial Group. Retrieved from <https://www.ict.govt.nz/governance-and-leadership/governance-groups/government-ict-ministerial-group/>
- Department of Internal Affairs. (2019a). *Government Chief Digital Officer Role*. Retrieved from <https://www.digital.govt.nz/digital-government/leadership-and-governance/government-chief-digital-officer-gcdo?rf=2>
- Department of Internal Affairs. (2019b). *RealMe*. Wellington, New Zealand: Author
- Department of Internal Affairs. (2019c). *Strategy for a Digital Public Service*. Wellington, NZ: Author
- Derakhshan, R., Turner, R., & Mancini, M. (2019). Project governance and stakeholders: a literature review. *International Journal of Project Management*, 37(1), 98-116.
- Dollery, B., & Akimov, A. (2008). Are Shared Services a Panacea for Australian Local Government? A Critical Note on Australian and International Empirical Evidence. *International Review of Public Administration*, 12(2), 89-99.
- Dollery, B., & Grant, B. (2010). Tortoises and Hares: The Race to Shared Services Across Australian State and Territory Jurisdictions Shared Services in Australia. *International Journal of Public Administration*, 33, 43-54.
- Donahue, J. (2011). *Collaborative governance : private roles for public goals in turbulent times*. Princeton, USA: Princeton University Press.
- Donaldson, T. (2012). The Epistemic Fault Line in Corporate Governance. *Academy of Management. The Academy of Management Review*, 37(2), 256-271.
- Dormer, R., & Ward, S. (2018). *Accountability and Public Governance in New Zealand*. Wellington, NZ: Victoria University
- Dreaver, C. (2019). Head of Stats NZ Liz MacPherson resigns over botched census. *Radio New Zealand*. Retrieved from <https://www.rnz.co.nz/news/national/396557/head-of-stats-nz-liz-macpherson-resigns-overbotched-census>
- Drucker, P. F. (1994). The theory of business. *Harvard Business Review*, 72(5), 95-104.
- Duggett, M. (2009). The State of UK Governance : Whitehall -- Structures and Functions under Brown. *Public Policy and Administration*, 24, 103-111.
- Duncan, A. (2010). *Internal Affairs to lead ICT for government*. Wellington, NZ: DIA  
Retrieved from <https://www.dia.govt.nz/press.nsf/d77da9b523f12931cc256ac5000d19b6/e55f6363e538e8b3cc2577b50010c6ef!OpenDocument>
- Dunleavy, P., & Margetts, H. (2010). The Second Wave of Digital Era Governance. *Philosophical Transactions: Mathematical, Physical and Engineering Sciences*, 371, 1-17.
- Dunleavy, P., Margetts, H., Bastow, S., & Tinkler, J. (2005). New Public Management is Dead - Long Live Digital-Era Governance. *Journal of Public Administration Research and Theory*, 16, 467-494.
- Dunne, P. (2015). *Review of the Government ICT Strategy*. Wellington, NZ: Cabinet Office
- Dunne, P. (2017a). *ICT Functional Leadership: Progress Report April 2016 to September 2017*. Wellington, NZ: Cabinet Office

- Dunne, P. (2017b). *ICT Functional Leadership: Progress Report October 2016 to March 2017*. Wellington, NZ: Cabinet Office
- e-estonia. (2019). e-estonia. Retrieved from <https://e-estonia.com/>
- Eaton, B., Hedman, J., & Medaglia, R. (2017). Three different ways to skin a cat: Financialization in the emergence of national e-ID solutions. *Journal of Information Technology*, 33(1), 70-83.
- Edelenbos, J., & van Meerkerk, I. (2016). Introduction: Three reflecting perspectives on interactive governance. In J. Edelenbos & I. van Meerkerk (Eds.), *Critical Reflections on Interactive Governance: Self-organization and Participation in Public Governance* (pp. 1-28). Cheltenham, UK: Edward Elgar Publishing Ltd.
- Edwards, M. (2002). Public Sector Governance Future Issues for Australia. *Australian Journal of Public Administration*, 61(2), 51-61.
- Edwards, M., Halligan, J., Horrigan, B., & Nicholl, G. (2012). *Public Sector Governance in Australia*. Sydney, Australia: ANU Press.
- Eglene, O., Dawes, S. S., & Schneider, C. A. (2007). Authority and Leadership Patterns in Public Sector Knowledge Networks. *The American Review of Public Administration*, 37(1), 91-113.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of management review*, 14(1), 57-74.
- Electronic Identity Verification Act No 123. (2012). Retrieved from [http://legislation.govt.nz/act/public/2012/0123/latest/DLM1777802.html?search=ts\\_act%40bill%40regulation%40deemedreg\\_electronic+identity\\_resel\\_25\\_a&p=1](http://legislation.govt.nz/act/public/2012/0123/latest/DLM1777802.html?search=ts_act%40bill%40regulation%40deemedreg_electronic+identity_resel_25_a&p=1)
- Electronic Identity Verification Regulations. (2013). Retrieved from [http://legislation.govt.nz/regulation/public/2013/0009/latest/DLM5025540.html?search=ts\\_act%40bill%40regulation%40deemedreg\\_Electronic+Identity+Verification+Regulations\\_resel\\_25\\_a&p=1](http://legislation.govt.nz/regulation/public/2013/0009/latest/DLM5025540.html?search=ts_act%40bill%40regulation%40deemedreg_Electronic+Identity+Verification+Regulations_resel_25_a&p=1)
- Elson, C. M., & Gyves, C. J. (2003). The Enron Failure and Corporate Governance Reform. *Wake Forest Law Review*, 38, 855-884.
- Emerson, K., & Nabatchi, T. (Eds.). (2015). *Collaborative Governance Regimes*. Washington, USA: Georgetown University Press.
- Emerson, K., Nabatchi, T., & Balogh, S. (2011). An Integrative Framework for Collaborative Governance. *Journal of Public Administration Research and Theory*, 22, 1-29.
- Eppel, E. (2017). Complexity thinking in public administration's theories-in-use. *Public Management Review*, 19(6), 845-861.
- Ettish, A., El-Gazzar, S., & Jacob, R. (2017). Integrating internal control frameworks for effective corporate information technology governance. *Journal of Information Systems and Technology Management : JISTEM*, 14(3), 361-370.
- European Parliament. (1999). *Directive 1999/93/EC of The European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures*. Brussels: Official Journal of the European Communities Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31999L0093>
- Ezz, I., Papazafeiropoulou, A., & Serrano, A. (2009). Challenges of Interorganizational Collaboration for Information Technology Adoption: Insights from a Governmental Financial Decision-Making Process in Egypt. *Information Technology for Development*, 15(3), 209-223.
- Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of political economy*, 88(2), 288-307.
- Ferguson, C., Green, P., Vaswani, R., & Wu, G. (2013). Determinants of effective information technology governance. *International Journal of Auditing*, 17(1), 75-99.
- Ferlie, E., Lynn, L., Pollitt, C., Meier, K., & Hill, G. (2009). *Bureaucracy in the Twenty-First Century*. Oxford, UK: Oxford University Press.
- Fishenden, J., & Thompson, M. (2013). Digital government, open architecture, and innovation: why public sector IT will never be the same again. *Journal of Public Administration Research and Theory*, 23(4), 977-1004.

- Flyvbjerg, B. (2001). *Making social science matter: Why social enquiry fails and how it can succeed again*. Cambridge, UK: Cambridge University Press.
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219-245.
- Fonstad, N. O., & Subramani, M. (2009). Federated IT Requires Both Local and Enterprise Alignment. *MIS Quarterly Executive*, 8(1), 31-41.
- Franklin, A. L., & Ebdon, C. (2005). Practical experience: Building bridges between science and practice. *Administrative Theory Praxis*, 27(4), 628-649.
- Frederickson, H. G. (2005). Whatever Happened to Public Administration? Governance, Governance Everywhere. In E. Ferlie, L. Lynn, & C. Pollitt (Eds.), *The Oxford Handbook of Public Management* (pp. 282-304). Oxford, UK: Oxford.
- Galletta, A. (2013). *Mastering the Semi-Structured Interview and Beyond*. New York, USA: NYU Press.
- Gardiner, B. (2015, 18 May 2015). Government ICT spend to reach \$6.2 billion by 2018. *CIO*.
- Gartner. (2019). IT Glossary. Retrieved from <https://www.gartner.com/it-glossary/identity-and-access-management-iam/>
- Gash, A. (2016). *Collaborative governance*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Gauld, R., & Goldfinch, S. (2006). *Dangerous Enthusiasms*. Otago, NZ: Otago University Press.
- Gershon, P. (2004). *Releasing resources to the front line: Independent Review of Public Sector Efficiency*. London, UK: The Licensing Division HMSO
- Gershon, P. (2008). *Review of the Australian Government's use of Information and Communication Technology*. Barton, Australia: The Australian Government Information Management Office
- Getha-Taylor, H., & Morse, R. S. (2012). Collaborative Leadership Development for Local Government Officials: Exploring Competencies and Program Impact. *PAQ, Spring*, 71-102.
- Gill, D., & MacCormack, J. (1999). *Working paper: Shared Service Centres*. Wellington, NZ: State Services Commission
- Gillespie, S. (2010). One.Govt. *Datacraft*.
- Gjaltema, J., Biesbroek, R., & Termeer, K. (2019). From government to governance... to meta-governance: a systematic literature review. *Public Management Review*, 1-21.
- Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago, USA: Aldine.
- Godenhjelm, S., Sjöblom, S., & Jensen, C. (2019). *Project Governance in an Embedded State: Opportunities and Challenges* (1 ed.). London, UK: Routledge.
- Goede, M. (2019). E-Estonia: The e-government cases of Estonia, Singapore, and Curaçao. *Archives of Business Research*, 7(2), 216-227.
- Goldfinch, S., & Roberts, V. (2013). New public management and public sector reform in Victoria and New Zealand: Policy transfer, elite networks and legislative copying. *Australian Journal of Politics History Review*, 59(1), 80-96.
- Goldsmith, S. E., W. (2004). *Governing by Networks: The new shape of the public sector*. Washington, USA: The Brookings Institution
- Goodsell, C. T. (1983). *The case for bureaucracy : a public administration polemic*. Chatham, USA: Chatham House Publishers.
- Göransson, A. (2018). *Electronic Identification as an Enabling or Obstructive force: The general public's use and reflections on the Swedish e-ID*. Linnaeus University, Sweden.
- Gormley, B. (2016). James Q. Wilson, Bureaucracy: What Government Agencies Do and Why they Do it. In M. Lodge, E. Page, & S. Balla (Eds.), *The Oxford Handbook of Classics in Public Policy and Administration*. Oxford, UK: Oxford University Press.
- Goulding, C. (2002). *Grounded Theory: A practical guide for management, Business and Market Researchers*. London, UK: Sage.

- Grant, G., McKnight, S., Uruthirapathy, A., & Brown, A. (2007). Designing Governance for Shared Services Organizations in the Public Service. *Government Information Quarterly*, 24, 522-538.
- Grassi, P. A., Garcia, M. E., & Fenton, J. L. (2017). *Digital Identity Guidelines*. Gaithersburg, USA: NIST
- Gregor, S. (2006). The Nature of Theory in Information Systems. *MIS Quarterly*, 30(3), 611-642.
- Gregory, R. (1995). Accountability, Responsibility and Corruption: Managing the 'Public Production Process'. In J. Boston (Ed.), *The State Under Contract*. Wellington, NZ: Bridget Williams Books.
- Gregory, R. (1998). Political Responsibility for Bureaucratic Incompetence: Tragedy at Cave Creek. *Public Administration*, 76(3), 519-538.
- Gregory, R. (2006). Theoretical Faith and Practical Works: De-Automizing and Joining-Up in the New Zealand State Sector. In T. Christensen & P. Laegreid (Eds.), *Autonomy and Regulation: Coping with agencies in the modern state*. Cheltenham, UK: Edward Elgar Publishing.
- Gregory, R. (2007). Bringing back the buck: responsibility and accountability in politics and the state sector. *Public Sector*, 30(2), 4-8.
- Gregory, R. (2009). New Public Management and the Politics of Accountability. In S. Goldfinch & J. Wallis (Eds.), *International Handbook of Public Management Reform*. Cheltenham, UK: Edward Elgar.
- Gregory, R., & Lonti, Z. (2008). Chasing Shadows? Performance Measurement or Policy Advice in New Zealand Government Departments. *Public Administration*, 86(3), 837-856.
- Gronlund, A. (2003). e-democracy: in search of tools and methods for effective participation. *Journal of Multicriteria Decision Analysis*, 12, 93-100.
- Gronlund, A. (2010). Electronic identity management in Sweden: governance of a market approach. *Identity in the Information Society*, 3(1), 195-211.
- Gross, J. (2018). Document Analysis. In B. Frey (Ed.), *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation* (pp. 545-548). Thousand Oaks, USA: Sage.
- Guba, E. G., & Lincoln, Y. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (Vol. 2, pp. 105). Thousand Oaks, USA: Sage.
- Guldentops, E. (2004). Governing Information Technology through Cobit. In W. Van Grembergen (Ed.), *Strategies for information technology governance* (pp. 269-309). London, UK: Idea Group Publishing.
- Gustafson, P., & Hertting, N. (2017). Understanding Participatory Governance: An Analysis of Participants' Motives for Participation. *The American Review of Public Administration*, 47(5), 538-549.
- Hajer, M. A., & Wagenaar, H. (2003). Deliberative policy analysis understanding governance in the network society. In M. A. Hajer & H. Wagenaar (Eds.), *Theories of institutional design*. Cambridge, UK Cambridge University Press.
- Hall, P. (2019). *Why is Innovation Policy Projectified?: Political Causes in the Case of Sweden* (1 ed.). London, UK: Routledge.
- Halligan, J. (2007). Reintegrating Government in Third Generation Reforms of Australia and New Zealand. *Public Policy and Administration*, 22(2), 217-238.
- Hammer, M., & Champy, J. (1994). *Reengineering the Corporation- a manifesto for business revolution*. NSW, Australia: Allen & Unwin.
- Hammond, J., Speed, E., Allen, P., McDermott, I., Coleman, A., & Checkland, K. (2019). Autonomy, accountability, and ambiguity in arm's-length meta-governance: the case of NHS England. *Public Management Review*, 21(8), 1148-1169.
- Han, Y. (2020). The impact of accountability deficit on agency performance: performance-accountability regime. *Public Management Review*, 22(6), 927-948.



- Hart, O. (1995). Corporate Governance: Some Theory and Implications. *The Electronic Journal*, 105(430), 678-689.
- Hedstrom, K., Karlsson, F., & Soderstrom, F. (2016). Challenges of introducing a professional eID card within health care. *Transforming Government: People, Process and Policy*, 10(1), 26-46.
- Heeks, R. (2006). *Implementing and Managing e-Government*. London, UK: Sage.
- Higgins, L. N., & Sinclair, D. T. (2008). A new look at IT governance. *Journal of Corporate Accounting Finance*, 19(5), 31-36.
- Hill, M. J., & Hupe, P. L. (2009). *Implementing public policy: An introduction to the study of operational governance* (2nd ed.). London, UK: Sage.
- Hillier, M. (2019). *Accessing public services through the Government's Verify digital system*. London, UK: House of Commons
- Hilmer, F. G. (1993). *Strictly Boardroom: Improving governance to enhance company performance*. Victoria, Australia: The Business Library.
- Hipkins, C. (2018). *Joined up, more convenient services in reach with Public Sector reform plan*. Wellington: State Services Commission Retrieved from <https://www.beehive.govt.nz/release/joined-more-convenient-services-reach-public-service-reform-plan>
- Hippold, S. (2019). What Government CIOs Should Know About Digital IDs. *Gartner*. Retrieved from <https://www.gartner.com/smarterwithgartner/what-government-cios-should-know-about-digitalids/>
- Hirschheim, R., & Klein, H. (2012). A Glorious and Not-So-Short History of the Information Systems Field. *Journal of the Association for Information Systems*, 13(4), 188-235.
- Hodgson, D., Fred, M., Bailey, S., & Hall, P. (Eds.). (2019). *The Projectification of the Public Sector*. London, UK: Taylor and Francis Ltd.
- Hoff, J., & Hoff, F. (2010). The Danish eID case: twenty years of delay. *Identity in the Information Society*, 3(1), 155-174.
- Holloway, I. (1997). *Basic Concepts for Qualitative Research*. Oxford, UK: Blackwell Science.
- Hood, C. (2002). The Risk Game and the Blame Game. *Government and Opposition*, 37(1), 15-37.
- Houser, K., & Voss, W. (2018). GDPR: The End of Google And Facebook or a New Paradigm in Data Privacy? *Richmond Journal of Law & Technology*, 25(1), 1-109.
- Huff, S. L., Maher, P. M., & Munro, M. C. (2006). Information Technology and Boards of Directors: Is there an IT Attention Deficit? *MIS Quarterly Executive*, 5(2), 55-68.
- Hughes, D., Dwivedi, Y., & Rana, N. (2017). Mapping IS failure factors on PRINCE2® stages: An application of interpretive ranking process (IRP). *Production Planning Control*, 28(9), 776-790.
- Hupe, P. L., & Hill, M. J. (2015). And the rest is implementation. Comparing approaches to what happens in policy processes beyond Great Expectations. *Public Policy and Administration*, 31(2), 103-121.
- Identity Information Confirmation Act No 124. (2012). Retrieved from [http://legislation.govt.nz/act/public/2012/0124/latest/DLM3136810.html?search=ts\\_ac t%40bill%40regulation%40deemedreg identity+information resel 25 a&p=1](http://legislation.govt.nz/act/public/2012/0124/latest/DLM3136810.html?search=ts_ac t%40bill%40regulation%40deemedreg identity+information resel 25 a&p=1)
- Ilott, G. L. (2016). Reconstructing IT Governance using Foucault. *International Journal of Business Governance and Ethics*, 11(1), 21-51.
- ITGI. (2005a). *Aligning Cobit, ITIL and ISO 17799 for Business Benefit*. IT Governance Institute. Rolling Meadows, IL.
- ITGI. (2005b). *Measuring and Demonstrating the Value of IT*. Rolling Meadows, IL: IT Governance Institute.
- ITGI. (2006). *Enterprise Value: Governance of IT Investments, The Val IT Framework*. IT Governance Institute. Rolling Meadows, IL.
- ITGI. (2008a). *Understanding How Business Goals Drive IT Governance*. Rolling Meadows, IL: IT Governance Institute,.

- ITGI. (2008b). *Unlocking Value: An Executive Primer on the Critical Role of IT Governance*. Rolling Meadows, IL: IT Governance Institute.
- Jackson, O. (2019). GDPR: Google fine could lead to corporate structure changes. *International Financial Law Review*, 1-3.
- Jaffe, E. (2016). How Estonia became a global model for e-government. *Sidewalk Talk*, 21 April 2016.
- Janssen, M., & Joha, A. (2006). Motives for Establishing Shared Service Centres in Public Administrations. *International Journal of Information Management*, 26, 102-115.
- Janssen, M., Kamal, M., Weerakoddy, V., & Joha, A. (2012). *Shared Services as a Collaboration Strategy and Arrangement in Public Service Networks*. Paper presented at the 45th Hawaii International Conference on System Sciences, Hawaii, USA.
- Janssen, M., & Wagenaar, R. (2004). *An Analysis of a Shared Services Centre in E-government*. Paper presented at the Proceedings of the 37th Hawaii International Conference on System Sciences - 2004, Hawaii, USA.
- Jarvensivu, T., & Tornroos, J.-A. (2010). Case study research with moderate constructionism: Conceptualization and practical illustration. *Industrial Marketing Management*, 39, 100-108.
- Jensen, G. (2003). Zen and the Art of Budget Management: The New Zealand Treasury. In L. Jensen, J. de Vries, & J. Wanna (Eds.), *Controlling Public Expenditure The Changing Roles of Central Budget Agencies - Better Guardians?* Cheltenham, UK: Edward Elgar Publications.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- Jessop, B. (1997). Capitalism and Its Future: Remarks on Regulation, Government and Governance. *Review of International Political Economy*, 4(3), 561-581.
- Joha, A., & Janssen, M. (2010). Public-private partnerships, outsourcing or shared service centres? Motives and intents for selecting sourcing configurations. *Transforming Government: People, Process and Policy*, 4(3), 232-248.
- Johnson, G., & Scholes, K. (1999). *Exploring Corporate Strategy* (5th edition ed.). London, UK: Prentice Hall.
- Johnson, R. B., & Onwuengbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33, 14-26.
- Kasey, K., Thompson, S., & Wright, M. (1997). *Corporate Governance: Economic and Financial Issues*. Oxford, UK: Oxford University Press.
- Kelly, G., Mulgan, G., & Muers, S. (2002). *Creating Public Value: an analytical framework for public service reform*. London, UK: Strategy Unit, UK Cabinet Office
- Kettl, D. F. (1999). The future of public administration. *Journal of public affairs education*, 5(2), 127-133.
- Kim, J. (2008). A model and case for supporting participatory public decision making in e-democracy. *Group Decision and Negotiation*, 17, 179-193.
- Kissel, R. (2013). *NISTIR 7298 Glossary of Key Information Security Terms*. Gaithersburg, USA: NIST
- Klasic, M., & Lubell, M. (2020). Collaborative governance: from simple partnerships to complex systems. In D. Konisky (Ed.), *Handbook of US Environmental Policy*. Cheltenham, UK: Edward Elgar Publishing.
- Klijn, E. H. (2007). Networks and Inter-Organizational Management: Challenging, Steering, Evaluation, and the Role of Public Actors in Public Management. In E. Ferlie, L. Lynn, & C. Pollitt (Eds.), *The Oxford Handbook of Public Management* (pp. 1-29). Oxford, UK: Oxford University Press.
- Klijn, E. H. (2010). Trust in Governance Networks. *Administration and Society*, 42(2), 193-221.
- Kline, R. R. (2015). *Technological Determinism*. Orlando, USA: Elsevier.

- Knopper, S. (2016). Inside YouTube's War with the Music Industry. *Rolling Stone*. Retrieved from <https://www.rollingstone.com/music/music-features/inside-youtubes-war-with-the-music-industry-251376/>
- Kubicek, H. (2010). Introduction: conceptual framework and research design for a comparative analysis of national eID Management Systems in selected European countries. *Identity in the Information Society*, 3(1), 5-26.
- Kubicek, H., & Noack, T. (2010). Different countries-different paths extended comparison of the introduction of eIDs in eight European countries. *Identity in the Information Society*, 3(1), 235-245.
- Kulik, B. W. (2005). Agency theory, reasoning and culture at Enron: In search of a solution. *Journal of Business Ethics*, 59(4), 347-360.
- Kultys, J. (2016). Controversies about Agency Theory as Theoretical Basis for Corporate Governance. *Oeconomia Copernicana*, 7(4), 613-634.
- Lacity, M., & Fox, J. (2008). Creating global shared services: Lessons from Reuters. *MIS Quarterly Executive*, 7(1), 17-32.
- Lacity, M., Khan, S., & Willcocks, L. (2009). A review of the IT outsourcing literature: Insights for practice. *The journal of strategic information systems*, 18(3), 130-146.
- Lainhart, J. (2012). *Cobit 5*. Rolling Meadows, USA: ISACA.
- Lampel, J., & Braun, T. (2020). *Tensions and paradoxes in temporary organizing*. Bingley, U.K: Emerald Publishing Limited.
- Langer, A. M. (2008). *Analysis and Design of Information Systems*. London, UK: Springer London.
- Lee, A. S. (2001). Editor's Comments. *MIS Quarterly*, 25(1), iii-vii. Retrieved from <http://www.jstor.org/stable/3250954>
- Leonardi, P. M. J., M. H (2004). Technological determinism and discursive closure in organizational mergers. *Journal of Organizational Change Management*, 17(6), 615-631.
- Li, J., & Harrison, J. R. (2007). Corporate governance and national culture: a multi-country study. *Corporate Governance*, 8(5), 607-621.
- Liberty Alliance. (2007). Liberty Alliance Announces Winners of the 2007 IDDY Award. Retrieved from [http://www.projectliberty.org/liberty/news\\_events/press\\_releases/liberty\\_alliance\\_announces\\_winners\\_of\\_the\\_2007\\_iddy\\_award/](http://www.projectliberty.org/liberty/news_events/press_releases/liberty_alliance_announces_winners_of_the_2007_iddy_award/)
- Lin, C., Pervan, G., & McDermid, D. (2007). Issues and recommendations in evaluating and managing the benefits of public sector IS/IT outsourcing. *Information Technology & People*, 20(2), 161-183.
- Linder, S., & Foss, N. J. (2015). Agency Theory. *International Encyclopedia of the Social & Behavioral Sciences*, 2(1), 344-350.
- Lindquist, E. (2011). *No Reform Left Behind: Integrating Frameworks and Implications for New Zealand's Centre-of-Government and Public Sector Improvement*. Institute of Policy Studies. Wellington, NZ.
- Lindup, K. (1996). The Role of Information Security in Corporate Governance. *Computers & Security*, 15, 477-485.
- Lips, M. (2011). E-government is Dead – Long Live Networked Governance: Fixing System Errors in the New Zealand Public Management System. In B. Ryan & D. Gill (Eds.), *Future State: Directions for Public Management in New Zealand*. Wellington, NZ: Victoria University Press.
- Lips, M. (2019). *Digital government : managing public sector reform in the digital era*. London, UK: Routledge.
- Lips, M., & Pang, C. (2008). *Identity Management in Information Age Government: Exploring Concepts, Definitions, Approaches and Solutions*. Victoria University of Wellington. Wellington, NZ.
- Lips, M., Taylor, J. A., & Organ, J. (2009). Managing Citizen Identity Information in E-Government Service Relationships in the UK. *Public Management Review*, 11(6), 833-856.

- Lipsky, M. (1993). *Street-level bureaucracy: An Introduction*. Hemel Hempstead, UK: Harvester Wheatsheaf.
- Lodge, M., & Gill, D. (2011). Toward a New Era of Administrative Reform? The Myth of Post-NPM in New Zealand. *Governance: An International Journal of Policy, Administration, and Institutions*, 24(1), 141-166.
- Lofgren, K., & Allen, B. (2019). In and Out of Amber. In D. Hodgson, M. Fred, S. Bailey, & P. Hall (Eds.), *The Projectification of the Public Sector* (pp. 95-111). London, UK: Taylor and Francis Ltd.
- Loh, L., & Venkatraman, N. (1992). Determinants of information technology outsourcing: a cross-sectional analysis. *Journal of Management Information Systems*, 9(1), 7-24.
- Lopes, A. V., & Farias, J. S. (2020). How can governance support collaborative innovation in the public sector? A systematic review of the literature. *International Review of Administrative Sciences*, February 2020, 1-17.
- Lynn, L. J., Heinrich, C. J., & Hill, C. J. (2000). Studying Governance and Public Management: Challenges and Prospects. *Journal of Public Administration Research and Theory*, 10(2), 233-261.
- Machiavelli, N. (1997). *The Prince*. Hertfordshire, UK: Wordsworth.
- Mahoney, M. S. (1988). The history of computing in the history of technology. *Annals of the History of Computing*, 10(2), 113-125.
- Mallard, T. (2001). *Report of the Advisory Group on the Review of the Centre*. Wellington: NZ Government
- Mallard, T. (2003). *Design Work for Online Authentication to Start*. Wellington, NZ: Beehive
- Mallard, T. (2004). *E-government delivering quality services to public*. Wellington: Beehive  
Retrieved from [www.beehive.govt.nz](http://www.beehive.govt.nz)
- Margetts, H. (2006). E-Government in Britain - A Decade On. *Parliamentary Affairs*, 59(2), 250-265.
- Marshall, C., & Rossman, G. B. (2006). *Designing Qualitative Research*. Thousand Oaks, USA: Sage.
- Marshall, J. (2010). Shared services and the cloud: seize the opportunity: shared services and "the cloud" can fundamentally transform the federal administrative bureaucracy. *The Public Manager*, 39(3), 62-67.
- Massey, V., & Satao, K. (2012). Evolving a new software development life cycle model (SDLC) incorporated with release management. *International Journal of Engineering Advanced Technology*, 1(4), 25-31.
- Matei, A., & Drumasu, C. (2015). Corporate Governance and Public Sector Entities. *Procedia Economics and Finance*, 26, 495-504.
- Mathur, N., & Skelcher, C. (2007). Evaluating democratic performance: Methodologies for assessing the relationship between network governance and citizens. *Public Administration Review*, 67(2), 228-237.
- Matos, S., & Lopes, E. (2013). Prince2 or PMBOK—a question of choice. *Procedia Technology*, 9, 787-794.
- Maude, F. (2013). *Government Digital Strategy: December 2013*. London, UK: Cabinet Office
- May, P. (1993). Mandate Design and Implementation: Enhancing Implementation Efforts and Shaping Regulatory Styles. *Journal of Policy Analysis and Management*, 12(4), 634-663.
- May, P. (1995). Can Co-operation be Mandated? *Publius*, 25(1), 89-113.
- May, P., & Burby, R. (1996). Coercive Versus Cooperative Policies: Comparing Intergovernmental Mandate Performance. *Journal of Policy Analysis and Management*, 15(2), 171-201.
- May, P., & Winter, S. (2007). Collaborative Service Arrangements: Patterns, bases and perceived consequences. *Public Management Review*, 9(4), 479-502.
- McCullagh, K. (2003). E-democracy: potential for political revolution. *International Journal of Law and Information Technology*, 11(2), 149-161.

- McGowan, D. M., & Brisendine, A. T. (2003). What's next after Enron and Sarbanes-Oxley? *Benefits Law Journal*, 16(1), 94-105.
- Medaglia, R., Hedman, J., & Eaton, B. (2017). *Public-Private Collaboration in the Emergence of a National Electronic Identification Policy: The Case of NemID in Denmark*. Paper presented at the Hawaii International Conference on System Sciences, Hawaii, USA.
- Meier, K. (1997). Bureaucracy and democracy: The case for more bureaucracy and less democracy. *Public Administration Review*, 193-199.
- Melin, U., Axelsson, K., & Soderstrom, F. (2013). *Managing the development of secure identification-investigating a national e-ID initiative within a public e-service context*. Paper presented at the 21st European Conference on Information Systems, June 5-8, 2013, , Utrecht, The Netherlands.
- Melin, U., Axelsson, K., & Soderstrom, F. (2016). Managing the development of e-ID in a public e-service context: Challenges and path dependencies from a life-cycle perspective. *Transforming Government: People, Process and Policy*, 10(1), 72-98.
- MFO Steering Group. (2003). *Managing for Outcomes: Guidance for Departments*. Wellington, NZ: Department of Prime Minister and Cabinet
- Miles, M., & Huberman, A. (1994). *Qualitative Data Analysis: An expanded sourcebook*. Thousand Oaks, USA: Sage.
- Mills, J., Bonner, A., & Francis, K. (2006). The Development of Constructivist Grounded Theory. *International Journal of Qualitative Methods*, 5(1), 25-35.
- Ministry of Business Innovation and Employment. (2018). *Annual Report 2017/18*. Wellington, NZ: Author
- Ministry of Social Development. (2018). *Annual Report 2017/18*. Wellington, NZ: Author
- Miskon, S., Bandara, W., Gable, G., & Felt, E. (2011). *Success and failure factors of Shared Services: An IS literature analysis*. Paper presented at the Proceedings of the 2011 International Conference on Research and Innovation in Information Systems, Kuala Lumpur, Malaysia.
- Moore, M. (1995). *Creating Public Value*. Cambridge, USA: Harvard University Press.
- Morse, R. S. (2010). Integrative public leadership: Catalyzing collaboration to create public value. *The Leadership Quarterly*, 21, 231-245.
- Morse, R. S., & Stephens, J. B. (2012). Teaching Collaborative Governance: Phases, Competencies, and Case-Based Learning. *Journal of Public Affairs Education*, 18(3), 565-583.
- Moulton, R., & Coles, R. S. (2003). Applying information security governance. *Computers & Security*, 22(7), 580-584.
- Mulgan, R. (2000). Accountability: An Ever-Expanding Concept? *Public Administration*, 78(3), 555-573.
- Mulgan, R. (2004). Public Sector Reform in New Zealand: Issues of Public Accountability. *Public Administration Quarterly*, 32(1), 1-32.
- Musson, D., & Jordan, E. (2005). The Broken Link: Corporate Governance and Information technology. *Australian Accounting Review*., 15(3), 11-19.
- National Audit Office. (2007). *Improving corporate functions using shared services*. London, UK: The Stationary Office
- National Audit Office. (2011). *Digital Britain One: Shared infrastructure and services for government online*. London, UK: The Stationary Office
- National Audit Office. (2012). *Efficiency and reform in government corporate functions through shared service centres*. London, UK: The Stationary Office
- National Audit Office. (2014a). *Identity Assurance Programme*. London, UK: The Stationary Office
- National Audit Office. (2014b). *Update on the Next Generation Shared Services strategy*. London, UK: The Stationary Office Retrieved from <https://www.nao.org.uk/report/update-on-the-next-generation-shared-services-strategy/>

- National Audit Office. (2016). *Shared service centres*. London, UK: The Stationary Office  
Retrieved from <https://www.nao.org.uk/report/shared-service-centres/>
- New Zealand Customs Service. (2018). *Annual report 2017/18*. Wellington, NZ: Author
- New Zealand Police. (2018). *Annual Report 2017/18*. Wellington, NZ: Author
- New Zealand Transport Agency. (2018). *Annual Report 2017/18*. Wellington, NZ: Author
- Newberry, S., & Pallot, J. (2003). Fiscal (ir)responsibility: privileging PPP's in New Zealand. *Accounting, Auditing & Accountability Journal*, 16(3), 467-492.
- Newberry, S., & Pallot, J. (2005). A Wolf in Sheep's Clothing? Wider Consequences of the Financial Management System of the New Zealand Central Government. *Financial Accountability and Management*, 21(3), 263-277.
- Ng-Kruelle, G., Swatman, P. A., Hampe, J. F., & Rebne, D. S. (2006). Biometrics and e-identity (e-passport) in the European Union: end-user perspectives on the adoption of a controversial innovation. *Journal of Theoretical and Applied Electronic Commerce Research*, 1(2), 12-35.
- Niehaves, B., & Krause, A. (2010). Shared service strategies in local government – a multiple case study exploration. *Transforming Government: People, Process and Policy*, 4(3), 266-279.
- Nitkin, M. R. (2012). Does governance culture exist and can it be mandated? *Journal of Accounting & Organizational Change*, 8(3), 310-339.
- Nograsek, J. (2011). Change Management as a Critical Success Factor in e-Government Implementation. *Business Systems Research*, 2(2), 13-24.
- Nograsek, J., & Vintar, M. (2011). Technology as the key driver of organizational transformation in the eGovernment period: Towards a new formal framework. In M. Janssen, H. J. Scholl, M. A. Wimmer, & Y.-H. Tan (Eds.), *Electronic Government* (pp. 453-464). New York, USA: Springer.
- Norman, R. (2003). *Obedient Servants? Management Freedoms and Accountabilities in the New Zealand Public Sector*. Wellington, NZ: Victoria University Press.
- O'Flynn, J. (2009). The Cult of Collaboration in Public Policy. *The Australian Journal of Public Administration*, 68(1), 112-116.
- O'Flynn, J., & Wanna, J. (2008). *Collaborative Governance : A new era of public policy in Australia?* Canberra, Australia: ANU Press.
- O'Leary, Z. (2010). *The essential guide to doing your research project*. Los Angeles, USA: Sage.
- Offe, C. (2009). Governance: An "Empty Signifier"? *Constellations*, 16(4), 550-562.
- Office of the President. (2019). *Information Technology Agency Summary*. Washington, USA: Author Retrieved from <https://itdashboard.gov/drupal/summary/000>
- Office of the Privacy Commissioner. (2019). *Privacy Trust Mark Recipients*. Wellington, NZ: Author Retrieved from <https://www.privacy.org.nz/privacy-for-agencies/applying-for-a-privacy-trust-mark/privacy-trust-mark-recipients/>
- Oliveira, E., & Hersperger, A. M. (2018). Governance arrangements, funding mechanisms and power configurations in current practices of strategic spatial plan implementation. *Land Use Policy*, 76, 623-633. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0264837717310578>
- Orlikowski, W., & Baroudi, J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research*, 2(1), 1-28.
- Orr, K., & Bennett, M. (2012). Public administration scholarship and the politics of coproducing academic–practitioner research. *Public Administration Review*, 72(4), 487-495.
- Osborne, D., & Plastrik, P. (1997). *Banishing Bureaucracy: The Five Strategies for Reinventing Government*. Reading, MA: Addison Wesley.
- Osborne, S. (2010). *The new public governance? Emerging perspectives on the theory and practice of public governance*. London, UK: Routledge.
- Osborne, S. (2011). Public Governance and Public Services: A Brave New World or New Wine in Old Bottles? In T. Christensen & P. Laegreid (Eds.), *The Ashgate Research*

- Companion to New Public Management*. Farnham, UK: Ashgate Publishing Company.
- Ostrom, V. (2008). *The intellectual crisis in American public administration* (Third edition. ed.). Tuscaloosa, USA: University of Alabama Press.
- Paagman, A., Tate, M., Furtmueller, E., & de Bloom, J. (2015). An integrative literature review and empirical validation of motives for introducing shared services in government organizations. *International Journal of Information Management*, 35(1), 110-123.
- Pallot, J. (2003). A Wider Accountability? The Audit Office and New Zealand's Bureaucratic Revolution. *Critical Perspectives on Accounting*, 14, 133-155.
- Palmer, G. (2006). The Cabinet, the Prime Minister and the Constitution. *New Zealand Journal of Public and International Law*, 4, 1-35.
- Papadopoulos, Y. (2016). *Interactive governance: Authorization, representation and accountability*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Parent, M., & Reich, B. H. (2009). Governing Information Technology Risk. *California Management Review*, 51(3), 134-152.
- Parliament. (2007). *Vote State Services*. Wellington, NZ: Author
- Parliament. (2008). Whole of Government Direction Regarding All-Of-Government Shared Authentication Services. *New Zealand Gazette*(141), 3844-3845. Retrieved from <https://gazette.govt.nz/notice/id/2008-go6913>
- Parliament. (2014). *Directions to support a whole of government approach, given by the Minister of State Services and the Minister of Finance under section 107 of the Crown Entities Act 2004*. Wellington, NZ: Author Retrieved from <http://www.ssc.govt.nz/whole-of-govt-directions-dec2013>
- Parycek, P., Schossböck, J., & Rinnerbauer, B. (2015). *Identification in e-participation: between quality of identification data and participation threshold*. Paper presented at the International Conference on Electronic Participation, Thessaloniki, Greece.
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods* (3rd Edition ed.). London, UK: Sage.
- Pennington, P. (2019). Auditors probe NZTA's hi-tech Connected Journeys unit. *Radio New Zealand*.
- Perera, M. H. B., Velayutham, S., & Rahman, A. R. (2001). Accounting and the economic reforms in New Zealand: A study of the state/profession relationship. *Advances in International Accounting*, 14, 151-179.
- Peters, B. G. (2008). The Civil Service and Governing: Reclaiming the Center. *International Review of Public Administration*, 13(2), 1-12.
- Peters, B. G., & Pierre, J. (1998). Governance Without Government? Rethinking Public Administration. *Journal of Public Administration Research and Theory*, 2, 223-243.
- Piccoli, G., & Ives, B. (2005). IT Dependent Strategic Initiatives and Sustained Competitive Advantage: A Review and Synthesis of the Literature. *MIS Quarterly*, 29(4), 747-776.
- Plimmer, G. (2011). Skills and people capability in the future state: Needs, barriers and opportunities. In B. Ryan & D. Gill (Eds.), *Future state: Directions for public management in New Zealand*. Wellington, NZ: Victoria University.
- Plotnikof, M. (2016). Changing market values? Tensions of contradicting public management discourses. *International Journal of Public Sector Management*, 29(7), 659-674.
- Polanski, P. P. (2015). Towards the single digital market for e-identification and trust services. *Computer Law & Security Review: The International Journal of Technology Law and Practice*, 31(6), 773-781.
- Pollitt, C. (2003). Joined-up government: a survey. *Political studies review*, 1(1), 34-49.
- Pollitt, C. (2017). *Public management reform : a comparative analysis : into the age of austerity* (Fourth edition. ed.). Oxford, UK: Oxford University Press.
- Pollitt, C., & Hupe, P. L. (2009). *Talking Governance: The role of magic concepts*. Paper presented at the European Group for Public Administration, Malta.
- Polykalas, S. E., & Prezerakos, G. N. (2019). When the mobile app is free, the product is your personal data. *Digital Policy, Regulation and Governance*, 21(2), 89-101.

- Potnis, D. D. (2009). Measuring e-Governance as an Innovation in the Public Sector. *Government Information Quarterly*, 27, 41-48.
- Poulsen, B. (2007). The Question of Roles and Identities in Public Administration. *Scandinavian Political Studies*, 30(4), 469-490.
- Prebble, M. (2005). *Briefing for the Minister of State Services*. Wellington, NZ: State Services Commission Retrieved from <http://www.ssc.govt.nz/resources/8123/all-pages>
- Pressman, J., & Wildavsky, A. (1973). *Implementation: How great Expectations in Washington are Dashed in Oakland*. Berkley, USA: University of California Press.
- Privacy Act No 28. (1993). Retrieved from [http://legislation.govt.nz/act/public/1993/0028/latest/DLM296639.html?search=ts\\_act%40bill%40regulation%40deemedreg\\_privacy+Act+resel+25+a&p=1](http://legislation.govt.nz/act/public/1993/0028/latest/DLM296639.html?search=ts_act%40bill%40regulation%40deemedreg_privacy+Act+resel+25+a&p=1)
- Provan, K. G., & Kenis, P. (2007). Modes of Network Governance: Structure, Management, and Effectiveness. *Journal of Public Administration Research and Theory*, 18, 229-252.
- Provost, L. (2012). *Realising benefits from six public sector technology projects*. Wellington, NZ: Office of the Auditor General
- Pullar-Strecker, T. (2009, 2 April 2009). SSC Deputy Stands Down. Retrieved from [www.stuff.co.nz/national/politics/2310660/ssc-deputy-stands-down](http://www.stuff.co.nz/national/politics/2310660/ssc-deputy-stands-down)
- Pullar-Strecker, T. (2019). Government slammed over tech policy inaction in wake of CTO debacle. *Dominion Post*. Retrieved from <https://www.stuff.co.nz/business/114634619/government-slammed-over-tech-policy-inaction-in-wake-of-cto-debacle#comments>
- Pullar-Strecker, T., & McEntee, C. (2009). Screws stay on public sector. *Dominion Post*. Retrieved from <http://www.stuff.co.nz/technology/2438564/Screws-stay-on-public-sector>
- Raadschelders, J. (2008). Understanding Government: Four Intellectual Traditions in the Study of Public Administration. *Public Administration*, 86(4), 925-949.
- Raadschelders, J. (2010). Identity without boundaries: Public administration's cannon(s) of integration. *Administration and Society*, 42(2), 131-159.
- Raadschelders, J. (2011). *Public administration : the interdisciplinary study of government*. New York, USA: Oxford University Press.
- Reiter, R., & Klenk, T. (2019). The manifold meanings of 'post-New Public Management' – a systematic literature review. *International Review of Administrative Sciences*, 85(1), 11-27.
- Rhodes, R. (2007). Understanding Governance: Ten Years On. *Organization Studies*, 28(8), 1243-1264.
- Ricciardi, F. (2010). *Epistemology of Information Systems: Time for Something New? Positivism, Interpretivism, and Beyond*. Heidelberg, Germany: Springer.
- Rissanen, T. (2010). Electronic identity in Finland: ID cards vs. bank IDs. *Identity in the Information Society*, 3(1), 175-194.
- Rogers, E., & Weber, E. P. (2010). Thinking Harder About Outcomes for Collaborative Governance Arrangements. *The American Review of Public Administration*, 40(5), 546-567.
- Rose, K. (2013). A Guide to the Project Management Body of Knowledge (PMBOK® Guide)—Fifth Edition. *Project Management Journal*, 44(3).
- Rose, W., & Grant, G. (2010). Critical issues pertaining to the planning and implementation of E-Government initiatives. *Government Information Quarterly*, 27(1), 26-33.
- Rufin, C., & Rivera-Santos, M. (2012). Between Commonweal and Competition : Understanding the Governance of Public -Private Partnerships. *Journal of Management*, 1634-1654.
- Rusu, L., & Viscusi, G. (2017). *Information Technology Governance in Public Organizations*. Cham, Switzerland: Springer.
- Rutgers, M. R. (2009). Sorting Out Public Values? On The Contingency of Value Classifications in Public Administration. *Administrative Theory & Praxis*, 30(1), 92-113.



- Ryan, B. (2006). Managing for Outcomes – Understanding Clients. *Policy Quarterly*, 2, 39-46.
- Ryan, B. (Ed.) (2011). *The signs are everywhere: 'Community' approaches to public management*. Wellington, NZ: Victoria University Press.
- Ryan, B., Gill, D., Eppel, E., & Lips, M. (2008). Managing for joint outcomes: connecting up the horizontal and the vertical. *Policy Quarterly*, 4(3), 14-21.
- Sabatier, P. A. (2007). *Theories of the policy process*. Cambridge, USA: Westview Press.
- Sambamurthy, V., & Zmud, R. W. (1999). Arrangements for Information Technology Governance: A Theory of Multiple Contingencies. *MIS Quarterly*, 23(2), 261-290.
- Sanwal, A. (2008). The Myth of best practices. *Journal of Corporate Accounting & Finance*, 19(5), 51-60.
- Schachter, H. (2014). New Public Management and Principals' Roles in Organizational Governance: What Can a Corporate Issue Tell us About Public Sector Management? *Public Organization Review*, 14(4), 517-531.
- Schad, J., Raisch, S., & Smith, W. K. (2015). Paradox Research in Management Science: The First 25 Years and the Next 25 Years. *Academy of Management Proceedings*, 2015(1).
- Schick, A. (1996). *The Spirit of Reform*. Wellington, NZ: State Services Commission
- Schick, A. (2001). *Reflections on the New Zealand Model*. Wellington, NZ: Treasury
- Schillemans, T. (2011). Does Horizontal Accountability Work?: Evaluating Potential Remedies for the Accountability Deficit of Agencies. *Administration & Society*, 43(4), 387-416.
- Schou, J., & Hjelholt, M. (2018). *Digitalization and Public Sector Transformations*. Cham, Switzerland: Palgrave Macmillan.
- Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. In N. K. Denzin & Y. Lincoln (Eds.), *The Landscape of Qualitative Research* (Vol. 1, pp. 118-137). Thousand Oaks, USA: Sage.
- Schweighofer, E., & Hötendorfer, W. (2013). Electronic identities - public or private. *International Review of Law, Computers & Technology*, 27(1-2), 230-239.
- Scott, G. (2003). *Public Management in New Zealand: Lessons and Challenges*. New Zealand Round Table, Wellington, NZ.
- Scott, R., & Boyd, R. (2017). *Interagency Performance Targets: A Case Study of New Zealand's Results Programme*. Collaborating Across Boundaries Series. IBM Center for The Business of Government. Washington, USA.
- Scott, T. A., & Thomas, C. W. (2017). Unpacking the collaborative toolbox: Why and when do public managers choose collaborative governance strategies? *Policy Studies Journal*, 45(1), 191-214.
- Scrutiny Unit. (2005). *Review of Departmental Annual Reports*. London, UK: Scrutiny Unit Retrieved from <http://www.parliament.uk/documents/upload/csudeptreviewreport.doc>
- Scupola, A., & Zanfei, A. (2016). Governance and innovation in public sector services: The case of the digital library. *Government Information Quarterly*, 33(2), 237-249.
- Seawright, J., & Gerring, J. (2008). Case selection techniques in case study research: A menu of qualitative and quantitative options. *Political Research Quarterly*, 61(2), 294-308.
- Segrestin, B., & Hatchuel, A. (2011). Beyond Agency Theory, a Post-crisis View of Corporate Law. *British Journal of Management*, 22(3), 484-499.
- Senyucel, Z. (2007). Assessing the impact of e-government on providers and users of the IS function: A structuration perspective. *Transforming Government: People, Process and Policy*, 1(2), 131-144.
- Silcock, R. (2001). What is e-Government. *Hansard Society for Parliamentary Government*, 54, 88-101.
- Sirisomboonsuk, P., Gu, V. C., Cao, R. Q., & Burns, J. R. (2018). Relationships between project governance and information technology governance and their impact on project performance. *International Journal of Project Management*, 36(2), 287-300.

- Skelcher, C., Klijn, E. H., Kubler, D., Sorensen, E., & Sullivan, H. (2011). Explaining the Democratic Anchorage of Governance Networks: Evidence from Four European Countries. *Administrative Theory & Praxis*, 33(1), 7-38.
- Small, V. (2009a, 23 July 2009). A jumbled recipe in the drive for more efficiency. *Dominion Post*. Retrieved from <http://www.stuff.co.nz/dominion-post/news/politics/2665209/A-jumbled-recipe-in-the-drive-for-more-efficiency>
- Small, V. (2009b, 21 July 2009). Public Servants told to lift game. *Dominion Post*. Retrieved from <http://www.stuff.co.nz/national/politics/2611378/Public-servants-told-to-lift-game>
- Small, V. (2009c, 20 March 2009). SSC faces 45pc budget cut. *Dominion Post*. Retrieved from <http://www.stuff.co.nz/national/politics/2278369/SSC-faces-45pc-budget-cut>
- Smith, M. L. (2010). Building Institutional Trust through e-Government Trustworthiness Clues. *Information Technology & People*, 23(3), 222-246.
- Soderstrom, F. (2016). *Introducing Public Sector eIDs*. Linkoping University, Linkoping, Sweden.
- Sorensen, E. (2006). Metagovernance : The Changing Role of Politicians in Processes of Democratic Governance. *The American Review of Public Administration*, 36, 98-114.
- Sorensen, E. (2012). Measuring the accountability of collaborative innovation. *The Innovation Journal: The Public Sector Innovation Journal*, 17(1), 1-18.
- Sorensen, E. (2013). A critical commentary to Mark Bevir's Democratic Governance. *Comparative European Politics*, 11(1), 143-151.
- Sorensen, E., & Lofgren, K. (2009). How do we meta-govern policy networks in e-government? *International Journal of Electronic Government Research*, 5(4), 43-56.
- Sorensen, E., & Torfing, J. (2016). Political leadership in the age of interactive governance: Reflections on the political aspects of metagovernance. In J. Edelenbos & I. van Meerkerk (Eds.), *Critical reflections on interactive governance*. Cheltenham, UK: Edward Elgar Publishing.
- Spano, A. (2009). Public Value Creation and Management Control Systems. *Journal of Public Administration*, 32(3), 328-348.
- Stafford, A., & Stapleton, P. (2017). Examining the Use of Corporate Governance Mechanisms in Public-Private Partnerships: Why Do They Not Deliver Public Accountability? *Australian Journal of Public Administration*, 76(3), 378-391.
- Stalla-Bourdillon, S., Pearce, H., & Tsakalakis, N. (2018). The GDPR: A game changer for electronic identification schemes? The case study of Gov.UK Verify. *Computer Law & Security Review*, 34(4), 784-805.
- State Sector Act No 20. (1988). Retrieved from [http://legislation.govt.nz/act/public/1988/0020/latest/DLM129110.html?search=ts\\_act%40bill%40regulation%40deemedreg\\_state+sector\\_resele\\_25\\_a&p=1](http://legislation.govt.nz/act/public/1988/0020/latest/DLM129110.html?search=ts_act%40bill%40regulation%40deemedreg_state+sector_resele_25_a&p=1)
- State Services Commission. (2001). *Annual Report of the State Services Commission 2001*. Wellington, NZ: Author
- State Services Commission. (2003a). *Annual Report of the State Services Commission 2003*. Wellington, NZ: Author
- State Services Commission. (2003b). *Working Paper #18, Whither Accountability?* Wellington, NZ: Author
- State Services Commission. (2005). *Annual Report of the State Services Commission 2005*. Wellington, NZ: Author
- State Services Commission. (2006a). *Annual Report of the State Services Commission 2006*. Wellington, NZ: Author
- State Services Commission. (2006b). *Enabling Transformation: A strategy for e-government 2006*. Wellington, NZ: Author
- State Services Commission. (2007). *Annual Report of the State Services Commission 2007*. Wellington, NZ: Author
- State Services Commission. (2008a). *Annual Report 2008*. Wellington, NZ: Author
- State Services Commission. (2008b). *New Zealand E-Government 2007: Progress Towards Transformation*. Wellington, NZ: Author

- State Services Commission. (2008c). Performance Measurement: Advice and examples on how to develop effective frameworks. Retrieved from [www.ssc.govt.nz/upload/downloadable\\_files/performance-measurement.pdf](http://www.ssc.govt.nz/upload/downloadable_files/performance-measurement.pdf)
- State Services Commission. (2008d). *Political Neutrality Fact Sheet 1*. Wellington, NZ: Author
- State Services Commission. (2009). *State Services Commission Annual Report 2009*. Wellington, NZ: Author
- State Services Commission. (2011). *Guidance for monitoring major projects and programmes*. Wellington, NZ: Author Retrieved from [www.ssc.govt.nz/sites/all/files/monitoring-guidance\\_0.pdf](http://www.ssc.govt.nz/sites/all/files/monitoring-guidance_0.pdf)
- State Services Commission. (2018). Better Public Services 2012-2017. Retrieved from <http://www.ssc.govt.nz/better-public-services>
- State Services Commission. (2019a). Changes to the State Sector Act 1988. Retrieved from <http://www.ssc.govt.nz/changes-state-sector-act-1988>
- State Services Commission. (2019b). *A Guide to New Zealand's Central Government Agencies*. Wellington, NZ: Author
- State Services Commission. (2019c). *State Sector Act Reform Factsheet: Overview of the reform proposals*. Wellington, NZ: Author
- State Services Commission, & Treasury. (2000). *The Chief Executive Accountability Framework and Budget Process as they Relate to Information Technology Projects*. Wellington: Author
- State Services Commission, & Treasury. (2001). *Guidelines for Managing and Monitoring Major IT Projects*. Wellington: Author
- State Services Commission, & Treasury. (2005). *Getting Better at Managing for Outcomes: A tool to help organisations consider their progress in results-based management and identify development objectives*. Wellington: Author
- Steelman, T. (2016). *Adaptive governance*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Stefanick, L. (2007). Outsourcing and transborder data flows: the challenge of protecting personal information under the shadow of the USA Patriot Act. *International Review of Administrative Sciences*, 73(4), 531-548.
- Stephen, J., Page, J., Myers, J., Brown, A., Watson, D., & Magee, I. (2011). *System Error: Fixing the flaws in government IT*. London, NZ: Institute for Government
- Stoker, G. (1998). Governance as Theory: Five Propositions. *International Social Science Journal*, 50(155), 17-28.
- Stoker, G. (2006). Public Value Management: A New Narrative for Networked Governance? *The American Review of Public Administration*, 36, 41-57.
- Stout, M., & Love, J. M. (2017). Integrative Governance: A Method for Fruitful Public Encounters. *The American Review of Public Administration*, 47(1), 130-147.
- Stremitzer, A. (2018). *Agency Theory: Methodology, Analysis*. Bern, Switzerland: Peter Lang International.
- Subramaniam, N., Stewart, J., Ng, C., & Shulman, A. (2013). Understanding corporate governance in the Australian public sector. *Accounting, Auditing & Accountability Journal*, 26(6), 946-977.
- Sullivan, C., & Burger, E. (2019). Blockchain, Digital Identity, E-government. In R. Beck & H. Treiblmaier (Eds.), *Business Transformation through Blockchain* (pp. 233-258). Cham, Switzerland: Springer.
- Suomi, R. (2008). E-democracy in action: Websites of Finnish members of parliament. *The Journal of Global Business Issues, Conference Edition 2008*, 63-69.
- Tavory, I., & Timmermans, S. (2014). *Abductive Analysis: Theorising Qualitative Research*. Chicago, USA: The University of Chicago Press.
- Thielman, S. (2018). Yahoo hack: 1bn accounts compromised by biggest data breach in history. *The Guardian*. Retrieved from <https://www.theguardian.com/technology/2016/dec/14/yahoo-hack-security-of-one-billion-accounts-breached>

- Thomson, A., & Perry, J. (2006). Collaboration processes: inside the black box. *Public Administration Review*, 66, 20-32.
- Timmermans, S., & Tavory, I. (2012). Theory Construction in Qualitative Research: From Grounded Theory to Abductive Analysis. *Sociological Theory*, 30(3), 167-186.
- Toland, J. (Ed.) (2010). *Return to tomorrow: 50 years of computing in New Zealand*. Wellington: New Zealand Computer Society.
- Tonelli, A. O., de Souza Bermejo, P. H., Dos Santos, P. A., Zuppo, L., & Zambalde, A. L. (2017). It governance in the public sector: a conceptual model. *Information Systems Frontiers*, 19(3), 593-610.
- Torring, J. (2016a). *Collaborative innovation in the public sector*. Washington, USA: Georgetown University Press.
- Torring, J. (2016b). *Metagovernance*. Cheltenham, UK: Edward Elgar Publishing Ltd.
- Treasury. (2005). *A guide to the Public Finance Act*. Wellington, NZ: Author Retrieved from [www.treasury.govt.nz/publications/guidance/publicfinance/pfaguide](http://www.treasury.govt.nz/publications/guidance/publicfinance/pfaguide)
- Treasury. (2010). *Better Administrative Services*. Wellington: Author
- Treasury. (2017). *Managing Benefits from Projects and Programmes: Guide for Practitioners*. Wellington, NZ: Author
- Ulbrich, F. (2006). Improving shared service implementation: adopting lessons from the BPR movement. *Business Process Management*, 12(2), 191-205.
- Ulbrich, F. (2010). Adopting shared services in a public-sector organization. *Transforming Government: People, Process and Policy*, 4(3), 249-265.
- Ulrich, D. (1992). Strategic and Human Resource Planning: Linking Customers and Employees. *HR. Human Resource Planning*, 15(2), 47-62.
- van Dijck, J., & Jacobs, B. (2020). Electronic identity services as sociotechnical and political-economic constructs. *New media & society*, 22(5), 896-914.
- Van Ees, H., Gabrielsson, J., & Huse, M. (2009). Toward a behavioral theory of boards and corporate governance. *Corporate Governance: An International Review*, 17(3), 307-319.
- Van Gigch, J. P. (2002). Comparing the epistemologies of scientific disciplines in two distinct domains: modern physics versus social sciences Part 1. *Systems Research and Behavioral Science*, 19(5), 199-209.
- Van Grembergen, W. (2004). *Strategies for information technology governance*. London, UK: Idea Group Publishing.
- Van Thiel, S. (2014). *Research methods in public administration and public management*. Oxfordshire, UK: Routledge.
- Vangen, S., & Huxham, C. (2012). The Tangled Web: Unraveling the Principle of Common Goals in Collaborations. *Journal of Public Administration Research and Theory*, 22(4), 731-760.
- Vassil, K. (2015). *Estonian e-Government Ecosystem Foundation, applications, outcomes*. University of Tartu. Tartu, Estonia.
- Vejseli, S., & Rossmann, A. (2017). *The Impact of IT Governance on Firm Performance A Literature Review*. Paper presented at the PACIS, Langkawi, Malaysia.
- Von Solms, B., & Von Solms, R. (2005). Information Security governance: COBIT or ISO 17799 or both? *Computers & Security*, 24, 99-104.
- Wallis, J., & Gregory, R. (2009). Leadership, Accountability and Public Value: Resolving a Problem in "New Governance"? *International Journal of Public Administration*, 32(3), 250-273.
- Walsh, P., McGregor-Lowndes, M., & Newton, C. J. (2008). Shared Services: Lessons from the Public and Private Sectors for the Nonprofit Sector. *The Australian Journal of Public Administration*, 67(2), 200-212.
- Walter, N. (2009). *The Walter Report*. Wellington, NZ: State Services Commission Retrieved from <http://www.ssc.govt.nz/inquiry-report-march09>
- Wang, S., & Wang, H. (2007). Shared Services Beyond Sourcing the Back Offices: Organizational Design. *Human Systems Management*, 26, 281-290.

- Weerakkody, V., & Dhillon, G. (2008). Moving from e-government to t-government: A study of process reengineering challenges in a UK local authority context. *International Journal of Electronic Government Research*, 4(4), 1-16.
- Weerakkody, V., & Reddick, C. (2012). *Public sector transformation through e-government*. London, UK: Routledge.
- Weill, P., & Ross, J. (2004). *IT Governance*. Boston, USA: Harvard Business School.
- Wilkin, C. L., & Chenhall, R. H. (2010). A review of IT governance: A taxonomy to inform accounting information systems. *Journal of Information Systems*, 24(2), 107-146.
- Wilkin, C. L., & Chenhall, R. H. (2019). Information Technology Governance: Reflections on the Past and Future Directions. *Journal of Information Systems*.
- Willis, J. W. (2007). *Foundations of Qualitative Research: Interpretive and Critical Approaches*. Los Angeles, USA: Sage.
- Wilson, J. (1989). *Bureaucracy: What Government Agencies Do and Why They Do It*. New York, USA: Basic Books.
- Wong, J. C., & Solon, O. (2018). Google to shut down Google+ after failing to disclose user data leak. *The Guardian*. Retrieved from <https://www.theguardian.com/technology/2018/oct/08/google-plus-security-breach-wall-street-journal>
- Woodward, D., Edwards, P., & Birkin, F. (2001). Some evidence on executives' views of corporate social responsibility. *The British Accounting Review*, 33(3), 357-397.
- Yin, R. K. (2011). *Qualitative Research from Start to Finish*. New York, USA: The Guildford Press.
- Young, S., & Tavares, A. T. (2004). Centralization and Autonomy: Back to the Future. *International Business Review*, 13, 215-237.
- Zefferer, T., & Teufl, P. (2015). *Leveraging the adoption of mobile eID and e-signature solutions in Europe* (Vol. 9265). Cham, Switzerland: Springer.