

Understanding the Transition Process in a Public-Private Partnership Outsourcing Context: An Information Systems Case Study

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Abstract

The contemporary provision of software-centric information systems follows two main operating models: outsourcing and insourcing. Outsourcing involves the contracting of services to external vendors whereas insourcing involves contracting to wholly owned internal subsidiaries. The outsourcing lifecycle can be further divided into three main phases: decision, transition and operation. The decision phase mainly involves analysing internal requirements and looking for possible solutions, while the transition phase is an interim period in which implementation of a chosen solution begins or a handover to a new vendor is carried out. In the operation phase, previous arrangements cease to exist and the new arrangements take over. Disentangling these three phases and analysing them in isolation may not provide a complete picture of the outsourcing lifecycle in general and transition in specific. Therefore, in this thesis a holistic definition of transition is used which encapsulates the complete outsourcing lifecycle that covers all three phases of decision, transition and operation.

It has been asserted that more than 80% of IT outsourcing contracts are renegotiated during their lifespan. As such the need for consideration of the client-vendor relationship in outsourcing is continuous – it does not end when the contract is signed or even in operation when the services are outsourced. What happens, for instance, when a contract expires or when circumstances in an organization change, resulting in an outsourcing agreement being reviewed? The available options are to continue with an existing vendor using the same contract, renegotiate the contract with the same vendor, re-tender the contract and switch to a new vendor, or backsource the outsourced activities in-house. Research about decisions to backsource or switch vendors is scarce; however, decisions regarding backsourcing or vendor switching are becoming increasingly common in practice as firms seek reductions in their IT costs and improvements in quality. There is therefore a gap between theory and practice concerning the transition phase of outsourcing. The research reported in this thesis contributes towards a deeper understanding of this complex phase.

In this research an interpretive research philosophy underpins the conduct of a case study with a longitudinal perspective. In order to develop knowledge about the conduct of transition a process-oriented approach is used to structure the case study analysis. Narratives and dilemmas are used in the data analysis and the presentation of the results, with the narratives then conceptualised as Antecedent-Consequence diagrams. The case study at the centre of this research follows the transition process in the Novopay project, a Public-Private Partnership in the New Zealand education sector.

Methodologically this research demonstrates the use of publicly-available documents and sources to investigate a controversial topic, while leveraging multiple data analysis techniques provides rich insights. While the context for the work is the New Zealand public sector, readings from media reports suggest its wider applicability. Government agencies worldwide are frequently engaged in transitions for major software systems and e-government projects. Thus while this research benefits the New Zealand public sector by generating knowledge which is specific to the local context it can also be disseminated to other organizations involved in large-scale transitions – or that are planning to do so.

Some of the high-level recommendations made based on this research are as follows: network-based relationships cannot be established instantaneously, rather, they are developed progressively; in a vendor lock-in project, sharing the bidding costs with interested vendors can increase their interest; data migration and responsibilities for its transformation should be clearly defined; in order to increase the acceptability of a new system, multiple training methods should be used based upon end-users' capabilities; successful transition should be linked to Key Performance Indicators which indicate the number of end-users successfully using new business processes; when choosing 'Custom off the Shelf' based systems, complex business processes should be simplified; and extensions for 'Business As Usual' support should be negotiated in advance.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

A handwritten signature in black ink, appearing to read 'Bilal Raza', with a horizontal line underneath.

Bilal Raza

Dedication

To,

My Dear Ammi (Mother) ‘Fatima’,

Who, among her many attributes, instilled honesty and the pursuit of knowledge.

My Wife ‘Tehniat’,

Who, through her companionship, continues to help in managing the dilemmas of life.

My Daughter ‘Mashal’,

Who brought so much happiness and joy into our lives.

In the loving memory of Ms. Nasreen Gul & Mr. S.M Khalid.

And Haya !

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List of Publications

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- B. Raza, T. Clear, S.G. MacDonell. (2015). *Onshore to Near-Shore Outsourcing Transitions: Unpacking Tensions*. Paper presented at the 10th International Conference of Global Software Engineering Workshop (ICGSEW), Ciudad Real, Spain.
- B. Raza, S. MacDonell, and T. Clear. (2013). Research in Global Software Engineering: A Systematic Snapshot. In J. Filipe and L. Maciaszek, (Eds.) Proceedings of the 8th International Conference on Evaluation of Novel Approaches to Software Engineering (pp. 126-140). vol. 417. Springer Berlin Heidelberg, 2013.
- B. Raza, S. G. Macdonell, and T. Clear. (2013). *Topics and Treatments in Global Software Engineering Research – A Systematic Snapshot*. Paper presented at the 8th International Conference on Evaluation of Novel Approaches in Software Engineering, Angers, France. **{Best paper award}**
- T. Clear, B. Raza, and S. G. Macdonell. (2013). *A Critical Evaluation of Failure in a Nearshore Outsourcing Project What Dilemma Analysis Can Tell Us*. Paper presented at the 8th International Conference on Global Software Engineering, Bari, Italy.

In addition, the research was also presented at two doctoral symposia.

- Raza, B. (2013). *A Transition Framework for Geographically Distributed Software Projects*. Paper presented at the 22nd Australasian Software Engineering Conference, Melbourne, Australia.
- Raza, B. (2013). *Analysis of Dilemmas during Switching of Vendors in a Near Shore Outsourcing Context*. Paper presented at the 10th International Conference of Global Software Engineering Workshop (ICGSEW), Ciudad Real, Spain.

Chapter 1. Introduction and Background

1.1 Rationale for Research

With the increased use of outsourcing there has also been a higher incidence of failures, delays, relationship breakdowns and unsatisfactory performance (Beulen & Tiwari, 2010). The bulk of the outsourcing literature considers it to be a dyadic relationship between client and vendor (Bapna, Barua, Mani, & Mehra, 2010; Herz, Hamel, Uebernickel, & Brenner, 2012b), instead of taking into consideration that organizations are now moving towards more selective approaches of combining best-of-breed IT services from multiple vendors (Jin & Kotlarsky, 2012; Su & Levina, 2011). Increasingly, client companies are thus declining to renew or even continue their outsourcing contracts, and therefore switching of vendors (also known as ‘transition’) is becoming more common (Beulen, 2016).

Prior research suggests that researchers have focused more on establishing the drivers behind outsourcing while less attention has been given to issues relating to the switching of vendors and/or transition of software systems. Butler et al. (2011) divided the sourcing process into three main phases: Decision, Transition and Operation. They categorized 116 articles and found that just 2 of those articles were related to the transition phase. This finding coincides with the results of a systematic snapshot mapping study, carried out in the initial stages of this research, which categorized 301 articles across various dimensions and found that only 19 were related to transition (Raza, MacDonell, & Clear, 2013). Transition is defined in this research as the changing of systems, business processes and/or vendors.

Transition is a comparatively emergent and under-researched phenomenon of outsourcing, where clients replace their incumbent vendor (C. E. H. Chua, Lim, Soh, & Sia, 2012). It can be assumed that, when clients begin outsourcing for the first time, client-specific knowledge and human resources are transferred from the client organization to the vendor organizations (Olzmann & Wynn, 2012). However, during transition an outgoing vendor has limited interest in supporting an incoming vendor (Olzmann & Wynn, 2012). So what happens when an outsourcing contract expires or when a client organization decides to terminate their current contract with a vendor? (Butler et al., 2011). The three main options at this stage are either to renegotiate the

contract and continue with the same vendor, switch the vendor and continue with outsourcing, or backsource the previously outsourced activities and insource them to an internal entity (Whitten, Chakrabarty, & Wakefield, 2010). A common misconception pertinent to transition is that once part of business process is outsourced it can easily be ‘un-plugged’ and ‘re-plugged’ into another vendor (Sia, Kiat, & Periasamy, 2010). However, this substantially underestimates the complexities, efforts and risks involved (Sia et al., 2010).

This research is carried out to better understand the process of transition in outsourcing by carrying out an in-depth longitudinal case study.

1.2 Main Motivation

Understanding the sourcing strategies, what organizations go through during their change and what are effects on end-users provided the stimulation and curiosity to drive this research project.

By pursuing such a deliberate strategy of *transition*, clients can periodically bring fresh pairs of eyes and new perspectives to their sourcing arrangements. It also provides an opportunity to improve service delivery and inject new ideas (Sia et al., 2010). In order to learn from a particular organization’s success or failure it is imperative to be able to explain what is causing the observed outcomes. This research is motivated to develop knowledge about a process through which other organizations can learn and may familiarize themselves with the issues which can be faced and thus become more transition-ready.

It has been noted that about 50% of ongoing outsourcing contracts are discontinued, either in favour of switching vendors or carrying out insourcing by bringing the work in-house (Whitten et al., 2010). Transition of vendors is a complex, risky and resource intensive endeavour and not much is known about the methods, processes and strategies for carrying it out (Olzmann & Wynn, 2012). Having had the exposure of working as an IT Consultant for more than six years, this researcher gained first-hand experience of working in a multi-vendor environment and involved in transition of operations from onshore to offshore. In the past few decades, a considerable amount of research has been done in the area of outsourcing which focused primarily on achieving outsourcing, leaving much scope for learning about the phenomenon of switching vendors (Whitten,

2010). This research work is motivated by realizing this gap in literature and also by the personal interest of the researcher. This work was also motivated by numerous media reports regarding failed transition projects, including the Queensland Health Payroll System¹, replacement of the Phoenix System², the Integrated National Crime Information System (INCIS) ,³ and the Department of Works and Pensions (DWP) Transition Project ⁴.

1.3 Research Questions, Objectives and Scope

Taking into account the scarcity of research on the increasingly common practice of transition Figure 1.1 presents the questions and high level objectives of this research.

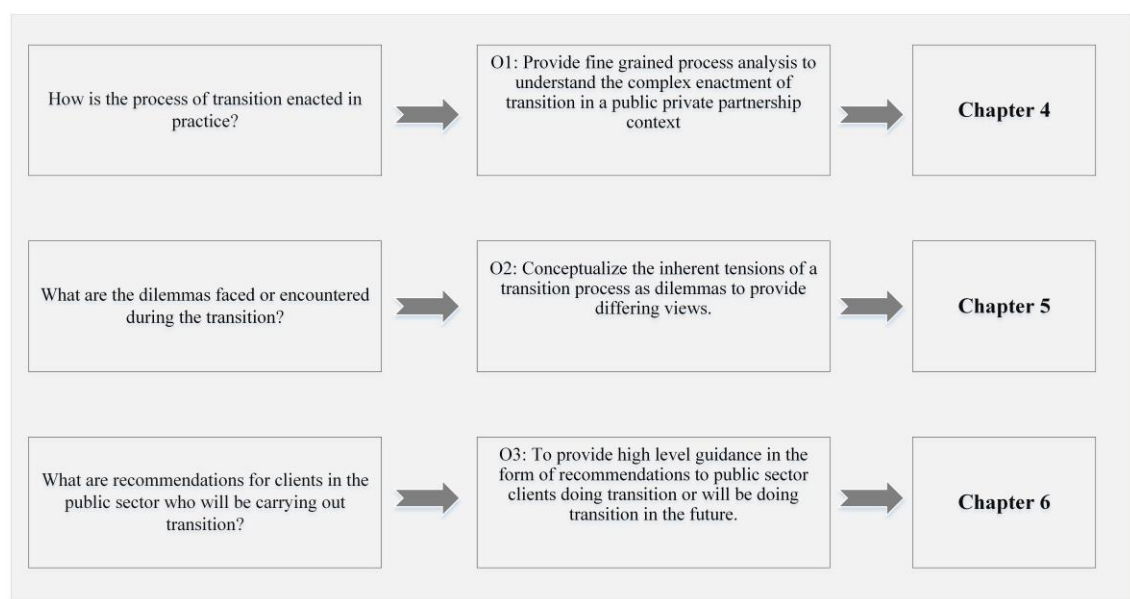


Figure 1.1 Objectives of this research

Pentland (1999) suggests that explanation is essential for understanding theory and practice – to reproduce success or prevent failure. Given that transition projects are complex and dynamic, and have multiple stakeholders, the aim of this research is to contribute towards our understanding and knowledge of the transition process. An enhanced understanding of this complex process may prevent or reduce issues arising in future transition projects. In seeking in-depth insights into the process it seems clear that, due to the inherent limitations of factor-based studies, an understanding about how

¹ www.kennedyslaw.com/article/queenslandhealthpayroll

² www.globalgovernmentforum.com/canada-plans-replace-phoenix-pay-system

³ www.computerworld.co.nz/article/487870/high_profile_govt_it_risk_adverse

⁴ www.computerweekly.com/news/1280097324/DWP-cancelled-300m-Fujitsu-deal-over-transition-deadline-failures

the transition of projects *is enacted* needs to be constructed. This research therefore follows a process-based research approach (Markus & Robey, 1988; Pentland, 1999) using an in-depth case study.

The scope of this particular research endeavour is limited to a large-scale project in the New Zealand education sector involving a public-private partnership. That said, government agencies worldwide are frequently engaged in transitions for major software systems and e-government projects. Thus while this research benefits the New Zealand public sector by generating knowledge which is specific to the local context it can also be disseminated to other organizations involved in large-scale transitions – or that are planning to do so.

However, the users of this research should consider that the scope of transition which has been set for this research is the scope of the Novopay Transition Project itself. While generalizing the results of this research the scope and context should be kept in mind, which included the following ⁵.

- “Set up a service desk and payroll centres
- Implement a payroll system (or systems)
- Receive a data extract from the existing payroll system; transform, clean and load the data into the new payroll system(s)
- Define and implement new service support and service delivery processes, including IT systems
- Deliver new business processes, and train Ministry staff and schools payroll support staff”.

1.4 Research Method

The case study is an eminently suitable research method for carrying out in-depth software engineering (SE) and related research (Runeson & Höst, 2009). Specifically, this research draws from a case study of the Novopay project based primarily on a large-scale ‘data dump’ that is available in the public domain. The data dump was released by the Ministry of Education, New Zealand, in line with the country’s Official Information Act 1982 which sought ‘to increase progressively the availability of official

⁵ Project Novopay Review Report, by Extrinsic, Jan 2010

information to the people of New Zealand'⁶. Although this form of data is not often used in SE-related case studies there are a few instances in which researchers have employed such data and provided effective results, with Verner & Abdullah (2012) noting that secondary data can be valuable to those carrying out case studies wherever there is information in the data sufficient to answer research questions. Srivastava & Teo (2011), for example, used three different sources of secondary data to understand the development and impact of e-government and ecommerce from the perspective of different national stakeholder groups: citizens, businesses and government. Of particular relevance to this research, Srivastava, Teo, & Mohapatra (2008) used secondary data to analyse differences and similarities between onshore IS outsourcing and IS offshoring. Srivastava (2008) in fact preferred secondary data over primary data because of the political sensitivity of the phenomenon under investigation and the possible lack of willingness of organizations to participate in research. In this particular case they considered audited financial data as likely to be more objective than perception-based data collected through interviews or surveys (Srivastava et al., 2008). Secondary data is also persistent, enabling other researchers to extend original work (Srivastava et al., 2008) or possibly to independently replicate a study. However, a potential disadvantage is that the researcher has no control over the collection of the data and so is limited by the nature of what is available (Srivastava et al., 2008). It can also take some time for researchers to become familiar with secondary data.

As noted above, given the intent of this research in terms of contributing to our understanding of the phenomenon of the transition process, an interpretive research approach is considered appropriate. In complement, an abbreviated dialectical analysis method is also used to reveal conflicting situations that can arise when stakeholders are faced with decisions, thus enabling a limited critical perspective to be taken. Using this plurality of paradigms, as well as multiple methods, richer and more reliable results can be obtained (Mingers, 2001). Specifically, three different research methods are used to support in-depth analysis of the data collected: narratives (Devos, Landeghem, & Deschoolmeester, 2013; Fincham, 2002), antecedents-consequences (Pentland, 1999) and dilemmas (Cuban, 1992; Pettigrew, 1990; Winter, 1982). Narratives enable the

⁶ <http://www.legislation.govt.nz/act/public/1982/0156/latest/whole.html#DLM65364>

construction of inter-related chronological sequences of events and Antecedent-Consequence diagrams complement these textual explanations by encapsulating the effects of different events. Dilemmas enable the researcher to identify and represent any competing options for stakeholders when making decisions.

1.5 Research Contributions

When considering the purpose and contribution of research Brinberg & McGrath (1985) identified three separate domains: conceptual, methodological and substantive. They framed them as follows: “All research involves the combination of some set of concepts, some set of methods for making observations and comparing sets of observations, and some set of substantive events that are to be the focus of study”. In arriving at the conclusions reported above this doctoral study has provided contributions across these three domains.

1.5.1 Conceptual

The conceptual domain relates to findings regarding the abstract representation of aspects of the substantive phenomenon. This research provides rich information as narratives to explain the *transition* process. These narratives are then conceptualized and modelled as *antecedent and consequence* diagrams. Moreover, in this research, conflict-filled situations are conceptualized as dilemmas that represent abstractions of the underlying choices and alternatives evident in the data.

1.5.2 Methodological

The methodological domain relates to findings regarding the set of methods used for making and comparing observations. This research demonstrates the utility of publicly available documents and sources in enabling the investigation of a controversial topic, that of *transition*. In this research, the application of multiple data analysis techniques, combining Narrative Analysis and Dilemma Analysis, has been demonstrated.

1.5.3 Substantive

The substantive domain relates to findings regarding the specific phenomenon that is the focus of this research. This research provides rich insights into the *transition* process, through the conduct of an in-depth longitudinal case study. To date this process has received very limited attention. These insights are presented in Chapter 4 and Chapter 5 of this thesis.

1.6 Novopay Case Overview

The widely publicised Novopay project, a New Zealand-wide transition from an onshore to a nearshore service provider (Datacom and Talent2, respectively) is the subject of the case study in this research. The project was intended to update the payroll processing system of the Ministry of Education (MoE) in New Zealand and implement a new nationwide payroll system responsible for the payment of teachers and education sector staff. This is the largest payroll in New Zealand and one of the largest in Australasia – approximately NZ\$4.2 billion is disbursed annually to over 120,000 employees of about 2,500 primary and secondary schools through 26 pay runs⁷.

In many organisational contexts payroll is a very standard function, but in this particular context complexity is endemic. Whereas most employees work at a single company in one role with a limited set of employment entitlements the New Zealand education sector permits employees to work at multiple schools with potentially different entitlements and agreements. Terms and conditions, e.g., pay rates, may be different for each role, but all these entitlements are aggregated to provide a single payment to each payee⁸. “Novopay has to manage many employees, who can work for multiple employers (schools), have entitlements that accrue at sector and school level, belong to more than one collective agreement, and all need to receive a single payslip and payment for tax purposes”⁹.

After the initiation of this project in 2005 it went through several variations and delays. An initial setback occurred when the implementation approach was modified only after two years from initiation, which necessitated a second round of the tender process. Later on, an external quality assurance company IQANZ raised concerns about this transition project. An excerpt from their report pointed out that: “Despite the positive changes witnessed and the evident desire of the project management team to be successful, we are concerned that there is not yet enough evidence to suggest the project will progress well and complete on time”¹⁰. Another review carried out by PwC also elaborated that: “The project milestones agreed in May 2010 were not realisable and key planning assumptions were not robust. There is currently no clear view on the remainder of the project tasks, timeline or ultimately its achievability”¹¹. Among the key reasons for

7 Report: Procurement Plan for: A School Payroll Business Continuity Option(MoE), March 2012

8 Novopay Tender Documents, Dec 2012

9 Ministry Response to Inquiry, May 2012

10 Independent Quality Assurance Report Rebaseline Health Check Review, By IQANZ, July 2010

11 Educational Services Payroll Project Review, By PwC, Nov 2010

the delays were unclear scope and delivery plan: “Ongoing project slippage, milestones are not being achieved. Unclear when the overall project can be delivered” ¹².

The above resulted in a second variation of contract and, subsequently, another timetable was established ¹³.

The Novopay project eventually went on-line in August 2012 with numerous known defects and work-arounds. Consequently, it faced technical issues and challenges due to lack of acceptance by end-users. For months, it generated over-payments, non-payments and reduced-payments in salaries of teaching and non-teaching staff. It led the New Zealand Government to carry out a Technical Review followed by a Ministerial Inquiry. Some of the public officials involved resigned from their positions and the fall-out resulted in the appointment of a Minister of the Crown to deal specifically with what had become known as ‘the Novopay debacle’.

The Novopay project was chosen as the case study subject for this research because of its relevance to transition as the phenomenon of interest, the availability of its data in the public domain and the opportunity for the data to be analysed from a longitudinal perspective.

1.7 Outline and Structure of the Thesis

Chapter 1: Introduction provides the background to and rationale for this research. High level research objectives and questions are stated.

Chapter 2: Literature review starts by briefly introducing Global Software Engineering (GSE), before describing the associated GSE sourcing strategies. It describes the key phenomenon of interest in this research, the *transition and switching of vendors*. It then moves onto public sector outsourcing and mentions some of the failures that have occurred in this context. This chapter in a nutshell lays the ground work for other chapters.

Chapter 3: Research design describes the approach taken to this research. It presents the research method along with justification for choosing such an approach. It then describes the methods used to analyse the data in this study.

¹² Educational Services Payroll Project Review, By PwC, Nov 2010

¹³ Second Variation Agreement, 2011

Chapter 4: Narratives uses a fine-grained process analysis to describe and explain the process of transition. The narratives of this chapter are conceptualized by ‘antecedents’ and ‘consequences’ which are then presented as fish-bone diagrams.

Chapter 5: Dilemmas presents the principal dilemmas encountered by the main stakeholders in the case study, as revealed in the data.

Chapter 6: Discussion considers the overall findings and provides recommendations mainly to public sector agencies who are undertaking transition or who are planning to carry out transition in the near future.

Chapter 7: Conclusion brings the research to a close. It provides a high-level summary, specifies the contributions of this research and outlines their implications. It briefly touches upon future work opportunities and the limitations of this study.

Chapter 2. Literature Review

Globalization has brought significant changes to the world's economies, and with it, the approaches taken to the procurement, development and provision of software systems. One such common strategy is outsourcing in which an organization turn over all its activities or parts to external vendors (Barthélemy & Adsit, 2003). Organizations are even looking across geographical boundaries to expand their customer base, employ new resources and work more closely with new customers (Beecham, Noll, Richardson, & Dhungana, 2011). At the same time a shortage of resources, tight budgets and shorter times to market encourage companies to look for partners, or set up sites and captive centres at remote locations (Šmite, Wohlin, Feldt, & Gorschek, 2008).

The concept of outsourcing originated with the advent of contract programming in the 1970's (Lee, Huynh, & Chi-wai, 2000), became global as a consequence of the PC revolution (Carmel, 1999) and increased exponentially over the last two decades (Šmite, Wohlin, Gorschek, & Feldt, 2009). Its importance has led to a specific area of research and practice called Global Software Engineering (GSE) (Šmite et al., 2009) or Global Software Development (GSD), with the terms used interchangeably in academia.

Rapid advances in computer networks, telecommunications, infrastructure and collaborative tools and technologies have enabled companies to take advantage of this phenomenon (Hossain, Bannerman, & Jeffery, 2011). The beginning of this era is generally linked to the decision of Eastman Kodak in 1989 to outsource its IT services to IBM (Butler et al., 2011; D. McLaughlin & Peppard, 2006). An outcome of this evolution was that many companies started building joint ventures and shifting development centres to low-cost countries, but they soon realized that this sort of distributed development approach, particularly from the viewpoint of project management, is more challenging than even the most complex project managed in-house (Karolak, 1998).

This chapter describes the various sourcing strategies that may be used in industry to develop and deploy software-centric information systems. It also formally introduces the concepts of 'transition' and 'switching vendors' and highlights the importance of the transition phase in outsourcing. The specific working context of public sector outsourcing is then considered. The main source for references used in this chapter came from the systematic mapping study into global software engineering (Raza,

MacDonell, et al., 2013) which was then complemented by snowballing efforts to ensure wider coverage of articles, including papers published after 2013. In hindsight we acknowledge this exercise could have been complemented by using direct research keywords in popular databases to uncover further relevant articles.

2.1 Sourcing Strategies

Global software engineering is a sourcing strategy that can be classified according to a combination of the geographical locations and relationship structure between or within the companies involved (Prikladnicki, Damian, & Audy, 2008; Smite, Wohlin, Galviņa, & Prikladnicki, 2014). To further elaborate, the two main models of GSE are (i) outsourcing: contracting services to an external company; and (ii) insourcing: contracting to a wholly-owned subsidiary (Prikladnicki et al., 2008). However, beyond these general sourcing strategies, many variations of the attributes or dimensions associated with global software projects have been introduced (Smite et al., 2014) and a number of terms have been used in academia to identify these variations. Thus four main sourcing arrangements (as shown in Figure 2.1) have become evident, and these are explained further in the following sub-sections.

	Same country	Different country
Different company	Onshore outsourcing	Offshore outsourcing
Same company	Onshore insourcing	Offshore insourcing

Figure 2.1 Types of sourcing arrangements (Moe, Smite, & Hanssen, 2012)

2.1.1 Insourcing

In an insourcing strategy the work is undertaken by employees of the same organization in a wholly-owned subsidiary (Ramamani, 2006). If the subsidiary is set up in the home country of the parent organization it is termed ‘onshore-insourcing’ whereas if it is set up in another country it is termed as ‘offshore-insourcing’ (S. Barney, Wohlin,

Chatzipetrou, & Angelis, 2011), as shown in Figure 2.2. In the wholly-owned subsidiary model, the transactional terms reflect an intra-firm phenomenon having residual rights (Ramamani, 2006). Insourcing helps the parent organisation to retain capabilities and operations 'in-house' in a vertically integrated model. Naturally it does not require complex agreements with external vendors (Ramamani, 2006).

India is a major IT offshore destination internationally and more than 33% of the companies listed with NASSCOM (the National Association of Software Companies - an Indian organization that represents all of the companies in the Information Technology industry in India) are wholly-owned subsidiaries. This shows the extensive prevalence of the insourcing phenomenon in practice (Ramamani, 2006).

2.1.2 Outsourcing

Software development outsourcing occurs when a client company contracts out part or all of their software development activities to an external vendor company. If the vendor company is located in the client's home country it is termed 'onshore outsourcing' whereas if the vendor company is located in another country it is termed 'offshore outsourcing' (Moe et al., 2012), as shown in Figure 2.2.

Outsourcing can enable organizations to reduce costs, improve efficiency and focus on their core business. However, it can and has often fallen short of a client's expectations (Barthélemy & Adsit, 2003). It has also brought about significant organisational consequences such as the loss of internal capabilities and skills at the hands of vendor organizations (Alaranta & Jarvenpaa, 2010). Substantial and/or increasing dependence on vendors, over a period of time, may reduce the power and control of the client and so can adversely impact the very goals of outsourcing – jeopardizing strategic flexibility, leading to increased costs and declining quality of services. Barthélemy & Adsit (2003) mentioned seven 'deadly sins' underlying most failed outsourced endeavours:

- Outsourcing activities that should not be outsourced.
- Selecting the wrong vendor.
- Writing a poor contract.
- Overlooking personnel issues.
- Losing control over the outsourced activity.
- Overlooking the hidden costs of outsourcing.

- Failing to plan an exit strategy.

Although the above mentioned factors are conceptually distinct, they are not independent or mutually exclusive and must be viewed as interrelated components of a complex system (Barthélemy & Adsit, 2003). Outsourcing typically represents a particularly hierarchical (rather than necessarily collaborative) business model, intended to support the development of high quality systems at low cost (Khan et al., 2009; McLaughlin, 2003). While cost reduction has indeed been a primary objective of many outsourcing organizations, some have been able to also take advantage of their partner's expertise so enabling them to deliver capabilities beyond those which could have been generated from within their organizations (Forbath, Brooks, & Dass, 2008).

Outsourcing is neither inherently good nor bad; rather, the outcome is determined by how well the outsourcing relationship is managed before and after a contract is signed (Cullen, Seddon, & Willcocks, 2006). Outsourcing is often used as a catch-all term to reflect general relationships between consumer and provider. However, it is a variable phenomenon, and so the specific nature of a client-vendor relationship must be adapted to address particular and changing demands and scenarios. Mirani (2006) provides an evolutionary framework, shown in Figure 2.2, that addresses the establishment and progression of client-vendor relationships in an outsourcing context.

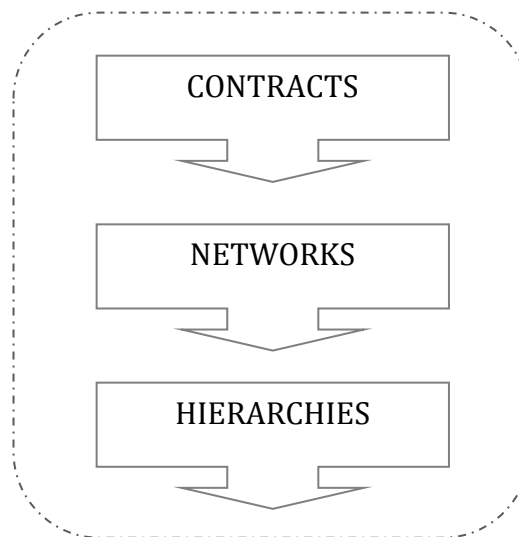


Figure 2.2 Evolutionary framework of outsourcing (Mirani, 2006)

Mirani (2006) argued that outsourcing typically begins with a 'Contract'-based relationship in which simple applications are contracted out to vendors. Over time more complex applications are assigned to selected vendors which demands the establishment of trust-based 'Network'-like relationships. As those applications evolve and become

business-critical, a 'Command-Based Hierarchy' form of relationship is established. The latter entails acquiring a formal stake in the vendor organization or setting up a captive subsidiary. Thus, outsourcing relationships are variable and dynamic rather than fixed and static.

Similarly, while in its early manifestations outsourcing relationships were singular, this is no longer the case. Yet, the majority of the outsourcing literature still holds a narrow view, considering it as a dyadic relationship between client and vendor (Bapna et al., 2010; Herz et al., 2012b). The reality in practice is that organizations are now moving towards more selective approaches of combining best-of-breed IT services from multiple vendors (Jin & Kotlarsky, 2012; Su & Levina, 2011) (as discussed further below).

Traditionally outsourcing was also restricted to cover only basic support services but in the past few years it has been extended to more crucial activities such as business process management and information technology management (Bharadwaj, Saxena, & Halemane, 2010). There has also been a more recent trend towards back sourcing, bringing back in-house the previously outsourced functions (Barney, Low, & Aurum, 2010), or towards vendor switching (Whitten et al., 2010). According to an international industrial survey reported in 2010 nearly half of the companies engaged in outsourcing terminated their contracts prematurely (Barney et al., 2010). What happens when such contracts are terminated? As noted in Chapter 1 there is in fact very limited research that deals with such questions (Barney et al., 2010). This phenomenon is further discussed in 2.2.

2.1.3 Multi-sourcing

Multi-sourcing is also referred to as a 'multi-vendor' or multi-supplier sourcing strategy, in which services are drawn from multiple internal or external vendors (Jin & Kotlarsky, 2012). It has emerged as a recent sourcing strategy in global information technology (Su & Levina, 2011) but this topic has gained little attention in global software engineering. In essence organisations are shifting from large-scale single-vendor-based contracts to smaller contracts with multiple vendors. One such example is that of a \$2.2B five-year outsourcing deal between ABN AMRO, a Netherlands-based bank, with five vendors: IBM, Accenture, Infosys, Patni Computer Systems and Tata Consultancy Services (TCS) (Oshri, Kotlarsky, & Willcocks, 2007). With the maturing

of the outsourcing industry and an increasing number of outsourcing service providers moving up the value-chain to offer strategic and knowledge-intensive services, clients are looking for more than one supplier for various IT and business process services (Jin & Kotlarsky, 2012). Advantages of multi-sourcing can include the reduction of risks, improving agility and adaptability, accessing specialist resources, and reducing costs (Su & Levina, 2011). If conducted effectively the client can choose an optimal set of company-internal and company-external suppliers (Herz, Hamel, Uebernickel, & Brenner, 2012a).

There are potential disadvantages with such an approach, however. Interdependencies between tasks can pose additional challenges for overall project governance, meaning that coordination between vendors may be critical to the success of a multi-sourcing arrangement (Bapna et al., 2010). Multi-sourcing necessitates collaborative efforts to create seamless and integrated services but this introduces significant challenges to motivate vendors to not only put in their best efforts but also to cooperate and help other vendors (Bapna et al., 2010).

Multi-sourcing may also generate ‘coopetition’ a complex form of relationship in which two or more organizations benefit from ‘cooperation’ and ‘competition’ simultaneously. This is fundamentally different and contradictory to the underlying logic of interaction in which ‘cooperation’ and ‘competition’ are built upon (Bengtsson & Kock, 2000). Contemporary literature tends to focus either on cooperation or competition, and each is argued to harm or threaten the other (Baruch & Lin, 2012). Given the emergence of coopetition there is a need to further develop knowledge about this kind of relationship. This type of relationship should essentially be regarded as valuable, and in which companies ‘help each other’ and to some extent ‘force each other’ to achieve desired objectives (Bengtsson & Kock, 2000). In terms of the current study coopetition can be relevant to the switching of vendors, when an incoming vendor is reliant upon the outgoing vendor to help support the transition and to transfer knowledge.

2.1.4 Backsourcing

While the outsourcing of information systems development has become common practice (Grim-Yefsah, 2011), up to 80% of such contracts are renegotiated during their life span (McLaughlin & Peppard, 2006). The options available to the client at this stage are to either continue with the same vendor, renegotiate the contract with the same

vendor, re-tender the contract in the open market or to backsource in part or in full the previously outsourced activities (McLaughlin & Peppard, 2006).

Backsourcing is a comparatively new sourcing strategy which brings the previously outsourced services back in-house (Kotlarsky & Bognar, 2012; Veltri, Saunders, & Kavan, 2008). Multiple factors could be attributed to it, such as: cost savings, internal organizational changes, loss of control over outsourced services, or redefining the role of a particular department (Veltri et al., 2008). However, it too is not a straightforward phenomenon as it carries significant challenges regarding re-integrating and re-transferring knowledge, resources and capabilities back in-house (Bhagwatwar, Hackney, & Desouza, 2011). Under an outsourcing strategy it may be in the best interest of the client to transfer as many staff members as possible to the vendor in order to maintain continuity of service. However, during backsourcing vendors may not have the same motivation to transfer those staff members back to the client (Butler et al., 2011).

A relevant case study, conducted in the health sector, describes the reasons for backsourcing (Young & Macinati, 2012). The findings suggest that initiation of outsourcing was driven by a desire for cost control and the flexibility of the workforce – however backsourcing occurred due to increased cost, lack of control, and to enable staff moving flexibly between departments (Young & Macinati, 2012). The study provided two main insights for public sector managers: the need for their attention on outsourcing decisions while writing contracts and monitoring them, and the threat of vendor opportunism. Opportunism in market-based relationships is associated with the *winner's curse* (Kern & Willcocks, 2002) in which vendors make low bids to win contracts and afterwards recover by performing activities and earning fees which were not included in the contracts (Yang, Hsieh, & Li, 2007), while perhaps not delivering on the contracted work.

2.1.5 Business process outsourcing (BPO)

A 'business process' is defined as a set of coordinated activities that are carried out to help accomplish a specific task or achieve business-related goals (Bharadwaj et al., 2010). Overall performance of the tasks is determined by the order in which they are carried out and the efficiency by which they are performed (Garvin, 1997). Organizations are increasingly sourcing their business processes through external

service providers (Lacity, Solomon, Yan, & Willcocks, 2011). They may choose to outsource a certain activity within a business process (Bharadwaj et al., 2010) or to outsource an entire business process, the latter being known as Business Process Outsourcing (BPO) (Lacity et al., 2011). Due to the successful sourcing of business processes using low-cost destinations, BPO has emerged as an important phenomenon requiring strategic decision-making (Bharadwaj et al., 2010). Under a BPO approach a single vendor can be accountable for the development and delivery of a complete business process, however, clients still need to develop strategies to manage this. BPO can be a risk-sharing strategy but the need for risk management remains.

2.2 Transition and Switching of Vendors

Software development outsourcing has emerged as a global sourcing strategy (Smite et al., 2014) in which a client company contracts out part or all of their software development activities to an external company, referred to as a vendor (Ali Babar, Verner, & Nguyen, 2007). It generally represents a hierarchical (rather than necessarily collaborative) model, intended to support the development of high-quality software and information systems at lower costs (Khan, Niazi, & Ahmad, 2009; McLaughlin, 2003). Although cost reduction has typically been a primary driver, many companies have also been able to take advantage of vendor expertise, enabling them to deliver software capabilities beyond those that could be generated inside their organizations (Forbath et al., 2008). While such gains are possible in principle, however, their achievement relies on overcoming any negative impacts.

Outsourcing is thus neither good nor bad *per se*. Rather, the outcome depends upon how well the outsourcing relationship is managed. It may bring substantial benefit to a client organization; or it may massively complicate management and governance structures. ‘Outsourcing’ as a catch-all term is often used to reflect certain general relationships between consumers and providers but the reality is that it is a variable phenomenon; as such client-vendor relationships must be adapted to address these various and changing demands and scenarios. In this regard Mirani (2006) provides an evolutionary framework that addresses the establishment and progression of client-vendor relationships. He argues that it typically begins with a ‘Contract’-based relationship in which simple applications are contracted out to vendors. Over time, more complex applications are assigned to the selected vendors which, in effect, demands the

establishment of trust-based 'Network'-like relationships. As applications evolve and become business-critical, a 'Command-Based Hierarchy' form of relationship is established. The latter entails acquiring a formal stake in vendor organizations or setting up a captive subsidiary. Thus the outsourcing relationship is both complex and dynamic.

Moreover, Bharadwaj et al. (2010) notes that outsourcing demands continuous decision making throughout its lifecycle. In the beginning it requires decisions about whether to outsource, followed up by decisions about choice of vendor, duration and the project scope. The client then has to monitor performance regularly and decide whether to continue the outsourcing relationship, perhaps with the same vendor. Different stakeholders will have varying viewpoints on outsourcing, meaning that often the decisions made rely on 'good enough' compromises and 'not neat' solutions.

Selecting a suitable vendor is crucial to the overall success of an outsourced project (Barthélemy & Adsit, 2003). One of the techniques to increase the likelihood of a successful selection is to test vendors' capability by delegating simpler tasks before outsourcing more complex activities (Barthélemy & Adsit, 2003). An alternative method is to invest heavily in verifying the technical capabilities of vendors by using dummy projects (Tiwana, Bush, Tsuji, Yoshida, & Sakurai, 2008). These activities may provide useful first-hand experiences but it could be costly to validate whether specific vendors are proficient. Organisations often spend a considerable amount of effort and time before forming relationships and the negotiations are typically drawn out (Thomas & Nandakumar, 2006). This upfront investment for selecting vendors may discourage clients from changing vendors.

As a result, when an outsourcing contract reaches its completion, the incumbent vendor is often awarded an extension to avoid the trouble of choosing a new vendor and going through the process of transition again (Thomas & Nandakumar, 2006). However, in the recent past there has been an increasing trend of switching vendors or terminating contracts (Chua, Lim, Soh, & Sia, 2012). According to a report based on a survey from 500 executives across Europe, large outsourcing vendors who dominated previously might see their high-value contracts broken up and distributed amongst a number of vendors (Thomas, 2007). Chua et al. (2008) also pointed out that vendor replacement is becoming common, even though it is held to be an expensive endeavour.

Deventer & Singh (2012) remark that almost 50% of IT-related outsourcing contracts are discontinued and vendors are either replaced by another vendor or by internal staff. In an earlier study McLaughlin (2003) asserted that more than 80% of IT outsourcing contracts are renegotiated during their lifespan. While there is disagreement in these figures what is not in doubt is that a substantial proportion of contracts are revisited, either during or at the end of their tenure. The available options are then to continue with an existing vendor using the same contract, renegotiate the contract with the same vendor, re-tender the contract and switch to a new vendor, or backsource the outsourced activities in-house. This research aims to contribute towards the understanding of the phenomenon that occurs when a sourcing switch is made – the process of *transition*.

Research about decisions to backsource or switch vendors is scarce (Deventer & Singh, 2012; D. McLaughlin & Peppard, 2006), even though decisions regarding backsourcing or switching vendors are common in practice as firms seek reductions in their IT costs and improvements in quality (Whitten & Leidner, 2006). In one of the few studies on this topic Whitten and Leidner (2006) examined the factors associated with decisions to backsource or switch vendors. Their findings suggested that product quality, service quality, relationship quality and switching costs are associated with decisions to backsource application outsourcing. It was also established that even though some clients experienced a higher level of service and achieved better product quality with an existing vendor they still switched because of low relationship quality and low switching costs (Whitten & Leidner, 2006).

In considering the limited body of research on transition Yakhlef & Sié (2012) indicated that researchers have focussed more on establishing the drivers behind outsourcing whereas less attention has been given to the changing roles that firms go through in transition. They go on to argue that consuming services through outsourcing necessitates different skills than producing them internally. It often requires full-blown immersion into outsourcing practice and development of ‘interactional knowledge’. This knowledge includes performance monitoring, development of metrics for establishing costs and prices, and benchmarking which encourages communication, reduces transaction costs and facilitates trade between the consumers and suppliers (Yakhlef & Sié, 2012). When changing vendors this knowledge needs to be re-established with the new incoming vendor. Parts of this knowledge can be can be tacit and so may not be redeveloped and established readily.

Lever (1997) categorized the outsourcing process into four specific phases: discovery, negotiation, transition and assessment. In the discovery phase, an organization comprehends its internal requirements, creates benchmarks for service levels and issues requests for proposal. In the negotiation phase, a vendor is chosen, areas of improvement are identified, followed by transition planning and delivery. In the transition phase often the chosen vendor simply takes over. In the final stage of assessment, the vendor starts providing services and eventually the contract is renegotiated or ended. Dibbern et al. (2004) took a simpler approach, dividing the outsourcing process into two phases: the decision phase, which covers the ‘What’, ‘Why’ and ‘Which’ aspects, and the implementation phase which covers ‘How’ and ‘Outcome’. Thus their approach addressed the processes of deciding on and managing the resulting outsourcing agreement, but left out any explicit consideration of the transition process. Butler et al. (2011), on the other hand, after analysing numerous articles on outsourcing, divided the process into three main phases: decision, transition and operation. They categorised 116 articles and found that only two articles were related to the transition phase. This coincides with the results of a systematic snapshot mapping (SSM) study that was carried out in the initial stages of this research. In that review study 301 articles were categorised across various dimensions and it was found that only 19 were related to transition (Raza, MacDonell, et al., 2013). This corroborates the claim that limited research attention has been directed towards the transition phase of outsourcing.

Within the overall outsourcing process transition is itself considered to be a complex, risky and challenging phase but one that is of strategic importance (Olzmann & Wynn, 2011). A common misconception pertinent to transition is that once part of a business process is outsourced it can easily be ‘un-plugged’ and ‘re-plugged’ into another vendor (Sia et al., 2010). However, this substantially underestimates the complexities, efforts and risks involved (Sia et al., 2010). It has been noted that some organizations deliberately pursue a course of changing vendors and consider it as an opportunity to improve service delivery by injecting new ideas and competencies.

According to a contract manager of British Aerospace “it is unhealthy to perpetuate the same relationships for too long because you then know each other so well that you very rarely bring a new perspective onto things” (Sia et al., 2010). In other contexts, such an approach is mandated. In France (Grim-Yefsah, 2011) and Finland (Alaranta & Jarvenpaa, 2010), for instance,

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the public sector procurement process requires retendering after every three years and four to six years respectively, which may lead to the changing of vendors. In spite of this, little is known about the management of these type of changes (Alaranta & Jarvenpaa, 2010).

As mentioned in the previous section, as outsourcing continues to gain momentum so transition in the form of switching from one supplier to another is also becoming common, and it is therefore imperative that organizations develop their readiness for such changes (Sia et al., 2010). Being transition-ready does not necessarily imply that organizations must change their vendors, rather, it gives them leverage to better tap into the competitive dynamics of the outsourcing market. It reduces the risk of vendor opportunism and maintains a healthy tension between collaborative partnership and market competition (Sia et al., 2010).

Sia et al. (2010) discussed the management challenges associated with transitioning from one vendor to another and provide insights into what makes client organizations 'transition-ready'. The three main challenges identified were:

- Ownership of key resources
- Loss of process knowledge over time
- Relationship tensions between client, incumbent vendor and new vendor

It was further described that, in order to ensure minimal disruption to business operations, client organizations should be prepared for transitions before they even begin to outsource and they should remain positioned and ready to manage transition (Sia et al., 2010). To ensure this type of readiness, organizations should identify critical, strategic and organization-specific resources along with their ownership and rights of access (Sia et al., 2010). Clarifying ownership and defining specific roles of the 'old' vendor will help to avoid disputes during transition (Sia et al., 2010). This, however, may not be straightforward. Outgoing vendors may have a marginal interest in supporting the incoming vendor thus creating a tripartite relationship challenge for the client, incumbent provider and new provider (Olzmann & Wynn, 2012). In the research reported in this thesis the case that has been analysed provides insights into an instance of a tripartite relationship.

2.3 Public Sector Outsourcing

Governments around the world are steadily adopting e-government (Gauld & Goldfinch, 2006) and digital services¹⁴. In order to keep pace with the private sector along with citizen demands many governments have embarked upon wide ranging and ambitious digital programs – countries including Australia, the UK and the United States are at the forefront. New Zealand, to some extent behind its counterparts, released its first e-government strategy in April 2001, stating: ‘New Zealanders will be able to gain access to government information and services and participate in democracy using the internet and ICT as they emerge’ (Gauld & Goldfinch, 2006). While e-government is said to promise a radical shift in the organization and operation of the public sector it is still in an embryonic phase. There are also numerous unknowns about this practice and it remains unclear whether its promise will transpire. The issues around such initiatives are complex and depend on many overlaying and interconnected factors – social, organizational, legal and technical (Gauld & Goldfinch, 2006).

In addition, public sector agencies generally lack the specialised expertise needed to conduct large-scale digital projects in-house and so often outsource such activities to private sector organizations. Reports show that public sector IT outsourcing has been a growing phenomenon (Alaranta & Jarvenpaa, 2010) but the impact of the associated risks are usually high, given the scale of many public sector initiatives, and such risks may not readily be outsourced to private organizations (Raza, Clear, & MacDonell, 2014). Due to differences in culture, policies, environments, governance structures and the like, the models, processes or frameworks which have been designed and studied in the context of private organizations may not apply to public sector projects, or projects undertaken with partners from the private sector (Raza et al., 2014). This warrants the creation of a parallel body of knowledge specifically related to public sector projects.

2.4 Public Sector Outsourcing Failures

The failure of IT-related projects in public sector partnerships with private organizations depicts a depressing state of affairs (Raza et al., 2014). In the UK, under the Labour Government, the strategy cost the British tax payers £26 billion, as projects either suffered delays, ran over-budget or were abandoned altogether (Jowitt, 2010). Two

¹⁴ The United States Digital Service, <https://www.whitehouse.gov/participate/united-states-digital-service>

major contracts were terminated in 2010: the £750m e-Borders project and the £225m Firecontrol project, further, the UK government recommended to close down 32 projects and to reshape another 68 (Hall, 2011). The UK government also decided to scrap the National Health Service's centralized £12.7bn 'National Project for IT' which was plagued with problems due to the failure of vendors to meet their targets. A report conducted by cross-party MPs concluded that it was "beyond the capacity of the Department of Health to deliver" (Computer Weekly News, 2010). Gauld and Goldfinch (2006) attribute these outcomes to governments' *dangerous enthusiasms*, some of which are made evident in the case study reported in this thesis:

- ICT 'Idolization', always seen as leading to great benefits
- 'Technophilia', a perception that more or better technology prevents or fixes problems
- 'Lomanism', feigned or genuine belief of suppliers and sales staff in their products
- 'Managerial Faddism', utility of new management or structures.

2.5 Transition in the Public Sector

The changeover of major software systems or vendors is frequent in government agencies. In 2011, the UK's Department of Works and Pensions (DWP) cancelled a £300m contract with Fujitsu. The six-year contract was ended when Fujitsu, after being chosen over HP, the incumbent, failed to meet its transition targets. Mark Lewis, partner and head of outsourcing at law firm Berwin Leighton Paisner, says "It would be very embarrassing for a supplier to have a major contract terminated because it could not even transition" (Computer Weekly, 17th March 2011). In 2002, the Queensland state government in Australia established a program called the Shared Services Initiative (SSI), to centralize various departments and IT services across the sector. Thereafter, a new internal entity Corptech was setup to help deliver SSI. In 2007 when it was realized that Corptech would be unable to deliver this program, the scope was curtailed severely and the overall approach was changed. An independent vendor was then entrusted to design, build and deliver an accounting and human resource management system (including payroll) (Chesterman, 2013).

The payroll system, officially known as Queensland Health (QH), was given priority because of urgency. The existing system was becoming obsolete and unsupportable by the previous vendor. QH was a large department with complex workforce arrangements – around 80,000 staff were employed under two acts of parliament, covering 12 different awards and six different industrial agreements. Taken together they resulted in 200 separate allowances and 24,000 different combinations of salary contracts (Chesterman, 2013). The QH payroll system was marked with urgency, throughout, from the selection of vendor to the delivery of system. Even then, it did not end well – it cost four times more than budgeted, took three times as long to deliver and when it went live it had serious deficiencies, causing many staff members to not get paid or to be paid inaccurately (Chesterman, 2013).

Coincidentally, at a time when the Queensland state government was struggling to manage its transition to a new payroll system, in New Zealand, the Ministry of Education was also struggling to manage the transition phase of their Novopay payroll project. As the subject of the case study in this research this project is covered in detail in subsequent chapters.

2.6 Concluding Remarks

This chapter has reviewed background literature regarding outsourcing in general and the transition phase of outsourcing in particular. It has highlighted the importance of the transition phase and discussed its relevance for this research. The specific challenges that arise when undertaking transitions in the context of public sector projects have also been described.

The next chapter sets out and justifies the research design adopted in this research.

Chapter 3. Design of the Study

This chapter describes the overall research design of this study. Figure 3.1 depicts the high level research design choices in red, adapted from Saunders, Lewis, & Thornhill (2009). The research philosophy, approach, method and validity procedures are described in turn in the sections that follow.

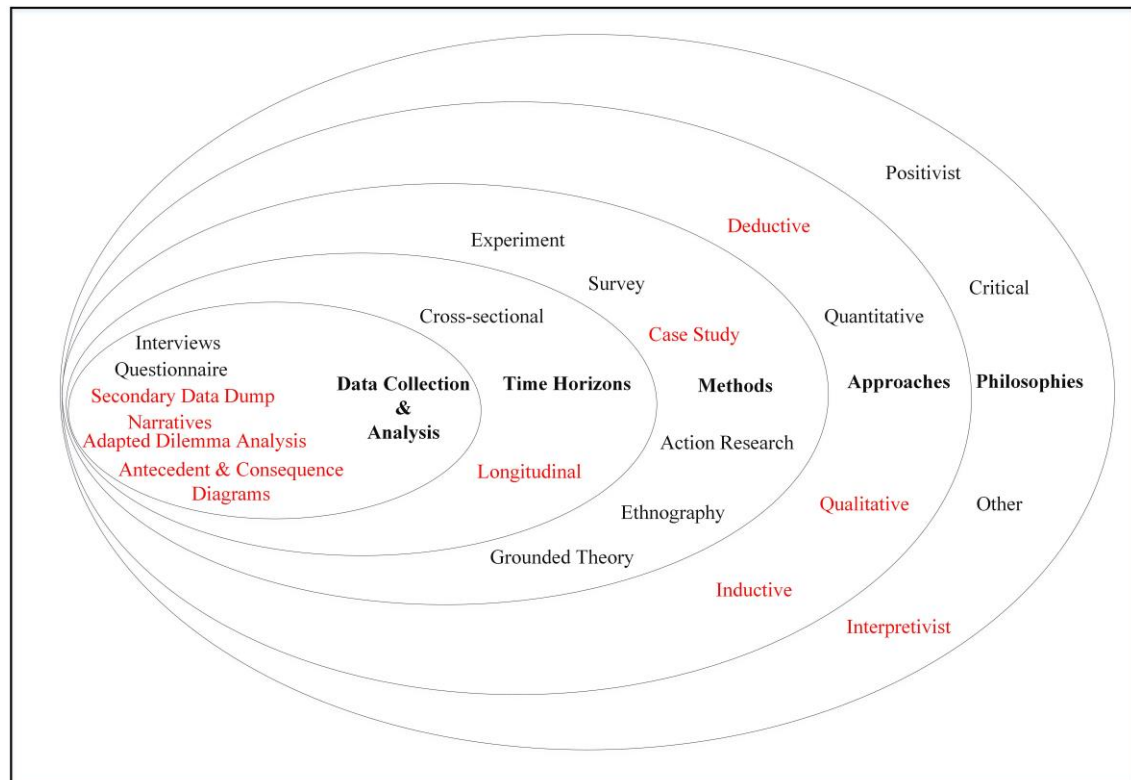


Figure 3.1 Research design choices, adapted from (Saunders et al., 2009)

3.1 Research Philosophies

Beliefs about knowledge can be divided into two related sets of perspectives - epistemological and methodological (Chua, 1986). Epistemological perspectives relate to the criteria by which knowledge about phenomena can be constructed and evaluated (Orlikowski & Baroudi, 1991) or the researcher's assumptions about knowledge and how it can be obtained (Myers, 1997). Methodological perspectives relate to the methods that are considered appropriate for gathering valid evidence (Chua, 1986).

Following Chua's (1986) classification, epistemologies can be divided into three distinct philosophies or world views: positivist, interpretive and critical.

3.1.1 Positivist Perspective

A positivist perspective uses evidence from formal propositions, quantifiable measures of variables, hypothesis testing and the drawing of inferences from a representative sample to a stated population (Klein & Myers, 1999; Orlikowski & Baroudi, 1991) (Harrison & Wells, 2000). From this perspective the phenomenon of research is considered single, tangible and fragmented and there often exist (or are assumed to exist) cause-effect type relationships, capable of being identified and tested through hypothetic-deductive logic (Orlikowski & Baroudi, 1991). Those approaching research with a positivist perspective view knowledge as being based upon logical inferences in which complex phenomena can be divided into simpler constituents, and corresponding knowledge is built up incrementally by verifiable observations (Easterbrook, Singer, Storey, & Damian, 2008).

This perspective tends to be adopted and supported by those working in the physical and natural sciences, in which theories are testable and can provide explanations and predictions (Gregor, 2006). A positivist perspective assumes one-to-one correspondence between researchers' constructs and the objects of interest, where the researcher plays a passive role (Orlikowski & Baroudi, 1991). It further supports a position that facts and values are distinct, and scientific knowledge consists only of facts (Archer, 1988).

3.1.2 Interpretivist Perspective

The positivist perspective has been critiqued due to its inability to accommodate the 'richness' of social interactions (Easterbrook et al., 2008). In contrast, the interpretivist perspective asserts that reality and knowledge are social products, incapable of being understood independent from social actions (Orlikowski & Baroudi, 1991). These social constructions are gained through language, consciousness, shared meanings, documents, tools, and other artefacts (Klein & Myers, 1999). The epistemological belief underpinning the interpretive philosophy is that knowledge of social processes cannot be captured through hypothetical deductions and covariance, rather it involves getting inside the world of those generating it (Orlikowski & Baroudi, 1991).

Dawson et al. (2004) noted the importance of both positivist and interpretivist approaches in SE and IS. Initially research in these fields tended more towards positivism but on recognizing the limitations of such an approach when investigating human activities the use of interpretive methods gradually increased (Dawson et al.,

2004; Klein & Myers, 1999; Walsham, 1995). The aim of interpretive research is to understand phenomena under investigation *in context* which may lead towards empirically grounded theories (Dawson et al., 2004). In an interpretive approach, hypotheses are either ‘supported’ or ‘rejected’ but not ‘proved’.

3.1.3 Critical Perspective

The two previously discussed perspectives – positivist and interpretivist – are said to be content to predict or explain the status quo, whereas the third perspective – critical – is concerned with critiquing existing social systems and revealing any contradictions or conflicts within it (Orlikowski & Baroudi, 1991). In contrast to the use of the positivist and interpretivist approaches, critical research has received minimal attention in SE (Clear & MacDonell, 2011; Glass, Vessey, & Ramesh, 2002). The aim of this form of research is to take a critical stance towards assumptions regarding information systems that are taken for granted and to expose deeply seated contradictions (Myers & Klein, 2011; Orlikowski & Baroudi, 1991).

Critical researchers argue that although human beings are generally not restricted to exist in a particular state their potential is constrained by prevailing systems of dominance which operate at the level of consciousness through material economic and political relations (W. F. Chua, 1986). Critical research emphasizes the historical development of the phenomenon to understand “what it has been, what it is becoming, and what it is not” and thus serves to understand critical functions of rigidities and ahistorical relations that restrict human potential (Chua, 1986). In comparison with interpretive research, critical researchers also believe in understanding the human language within temporal and spatial contexts but they do not rely only on this interpretation of the social world – in addition to explaining social rules and structures it also involves a critique of these practices and relations (Orlikowski & Baroudi, 1991).

3.1.4 Research Philosophy Used in this Research

Each of the research philosophies described above can offer insightful perspectives. However, researchers should ensure that their adopted perspective is compatible with their interests and predispositions (Orlikowski & Baroudi, 1991). Although, each perspective highlights a particular aspect none provides a superior or all-encompassing framework.

The positivist research paradigm has dominated SE research, but it might be suboptimal when addressing the social or cultural dimensions that are frequently encountered in a global team setting (Clear & MacDonell, 2011). It is similarly arguable whether a positivist approach would be suitable in supporting the understanding of transition in a public-private partnership context, given that the phenomenon is so reliant on social aspects. Fitzgerald & Howcroft (1998) believe that the world is best described by an interpretivist point of view where reality or knowledge is socially constructed – which is both time and context dependent, however, multiple realities exist in this type of socially constructed research.

Interpretive researchers further argue that relationships between people, organizations and technology are not fixed and that organizations overall are not static. As a consequence, they seek to understand a moving phenomenon (Klein & Myers, 1999). Furthermore, these organizations, groups or systems do not exist independently from humans and hence cannot be understood and measured in an objective and universal way (Orlikowski & Baroudi, 1991).

In light of these considerations an interpretive research approach is considered to be more suited to this research and its intent to generate understanding of the phenomenon of *transition*. In complement, an abbreviated dialectical analysis method is also used to reveal the conflicting situations that might arise when various stakeholders are required to make decisions, thus also applying a critical perspective (though to a lesser extent). Using such a plurality of paradigms and methods should enable the generation of richer and more reliable results (Mingers, 2001).

3.2 Process-Based Research Approach

Markus & Robey (1988) differentiated between two contrasting approaches to research: *factor-based* research and *process-based* research. In factor based-research the focus is upon predicting outcomes from a range of precursor variables, whereas in process-based research precursors are assumed to be insufficient to *cause* outcomes – rather they are just considered as a mere necessity for those outcomes to occur (Markus & Robey, 1988). The basic assumption underlying factor-based research is that independent variables can and do account for variations in the dependent variables. However such an approach may neglect to ascertain how and why these outcomes are related, so the evidence surrounding the phenomenon, such as any events and actions that link the

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independent and dependent variables, may be missing or overlooked in a factor-based study (Newman & Robey, 1992). Process-based approaches thus present an alternative to factor-based research, in that the former focuses on the dynamics of social change and so can provide a ‘story’ that *explains* the association between the precursors and outcomes (Newman & Robey, 1992). In other words, it opens up the ‘black box’ to explain the events which connect the precursors and outcomes (Pentland, 1999). Due to the static nature of factor-based research and its limited capacity to explain a social phenomenon a process-based approach is chosen for this research.

3.3 Research Methods

The selection of research methods is influenced by a researcher’s underlying ontological and epistemological perspectives (Chua, 1986). Positivist researchers typically believe that large-scale surveys and laboratory-based experiments are suitable research methods (Orlikowski & Baroudi, 1991). Surveys enable the researcher to take a snapshot of a current situation without controlling or interfering with the phenomenon (Harrison & Wells, 2000). Experiments generally take place within a restricted environment allowing stringent controls to be applied to the data collection (Harrison & Wells, 2000) and supporting its analysis by manipulating design parameters and statistical procedures (Orlikowski & Baroudi, 1991)

Given that interpretive research is based on different epistemological and ontological perspectives (Orlikowski & Baroudi, 1991) those who conduct it use different research methods. Examples of such methods include Action Research, Case Study research, Ethnography and Grounded Theory. The latter is also considered as a useful data analysis technique. As this research is following an interpretive philosophy only interpretive methods were considered. Candidate approaches are now described.

3.3.1 Action Research

Action research (AR) follows an iterative process in which researchers and participants collaborate in a cycle of activities comprising problem diagnosis, action intervention, and reflective learning (Avison, Lau, Myers, & Nielsen, 1999).

In a typical action research scenario a researcher applies some *theory* in a real setting or plans a change to address a specific need or concern, and then observes the effect of that intervention based on their experience (Avison et al., 1999). They may afterward

modify and repeat the same process, as many times as necessary. The main goal is to develop a contextualised solution and/or improve a theory through close collaboration between researcher and participants. While this can indeed be a useful research approach it can be viewed sceptically as *consultancy* rather than research, and the outputs and results could be prone to practitioner or participant bias. Action research could have been an appropriate method for this research if the goal had been to improve an already available theory or to work within the Novopay project.

As noted previously the phenomenon of transition has seen limited investigation and so is supported by minimal theoretical knowledge and propositions. Therefore, this method could be considered as more appropriate for a follow-up study on a limited scale in potential future work. Furthermore, the phenomenon of interest is of a controversial nature and so it might have been difficult to find organizations willing to work in cooperation with researchers on such a topic.

3.3.2 Grounded Theory

Grounded Theory (GT) generates theory from data and so can be useful in enabling understanding of how people resolve issues surrounding them (Adolph, Hall, & Kruchten, 2011). Although the method looks deceptively simple its implementation can be challenging (Adolph et al., 2011). The basic principle behind GT is that hypotheses or theories can be generated ‘bottom up’ from the data, rather than ‘top down’ from existing theory (Carver, 2007). Using this method a researcher begins with an existing data set and abstracts towards hypotheses or theory that accurately describes the data, and with more analysis so the hypotheses or theory are refined continuously (Carver, 2007). It is the interplay between data collection and analysis that makes GT different from other qualitative research methods (Urquhart, Lehmann, & Myers, 2009).

While GT could have been an appropriate method for this research it may not have met the broad high level objectives listed in the introduction. It could have been useful in principle because the phenomenon being addressed has limited theoretical knowledge and propositions, and GT could have helped the researcher to generate relevant hypotheses and underlying theory. Such an approach could be used in a future replication study. In this research, an alternative strategy is used to explain the phenomenon by looking for tensions, oppositions or contradictions between multiple

stakeholder groups, to simulate the development of more encompassing results as discussed by Poole & Van de Ven (1989).

3.3.3 Case Study

A scientific discipline without a large number of case studies is without exemplars and without such exemplars a discipline is ineffective (Flyvbjerg, 2006). Case studies provide a systematic and scientific method for posing research questions, collecting and analysing data and presenting results (Perry, Sim, & Easterbrook, 2004; Verner, Sampson, Tasic, Abu Bakar, & Kitchenham, 2009). A case study does not provide conclusions with statistical significance; rather, evidence in the form of figures, statements and documents are linked together to support strong conclusions (Runeson & Höst, 2009).

The case study has come to be considered as an appropriate method for carrying out SE-related research (Host & Runeson, 2007; Perry et al., 2004; Runeson & Höst, 2009; Verner et al., 2009; Wohlin et al., 2012). Although the emphasis of much early SE research was on its technical dimensions SE is fundamentally a human-intensive activity in which individuals, groups and organizations carry out software development activities within political and social realms (Runeson & Höst, 2009; Wohlin et al., 2012). Successful implementation of software does not only concern the technical solutions but it must also derive from organizational issues (inter or intra), human behaviour and project management (Verner & Abdullah, 2012). Case study research methodologies are gaining increasing attention in software engineering research because they can provide an understanding about what actually happens in the real world (Verner & Abdullah, 2012). They are ideally suited to study contemporary phenomena that are difficult to isolate from their context (Runeson & Höst, 2009). Case study results are typically not intended to be generalizable as they are considered as individual pieces of evidence, however, it remains important to acknowledge and record this evidence as it could become part of a bigger (theoretical) picture (Dawson et al., 2004).

3.3.4 Research Method Used in this Research

The general need for case study research arises out of a desire to understand complex phenomena and focus on a specific ‘case’ to retain holistic and real-world perspectives (Yin, 2014). The importance of social issues related to software engineering and computer-based information systems has long been recognised which has in turn led

empirical researchers to focus on case studies (Walsham, 1995). While in computer science in general such approaches remain rare their adoption in SE has grown in the last decade. The use of case studies is also evident in Figure 3.2 which suggests that the predominant methods used in GSE-related research are Field and Case studies and Interviews (Raza, Macdonell, & Clear, 2013).

A common critique about the case study method is its perceived difficulty of generalisation (Flyvbjerg, 2006). However, the main intention of doing a case study is to enable *analytic* generalisation (Yin, 2014; Runeson & Höst, 2009) where the results are extended to common cases which have similar characteristics. This type of generalisation leads to the provision of increasingly unassailable theoretical statements or theoretical propositions which can take the form of principles such as lessons learned or working hypotheses believed to be applicable to other similar cases (Yin, 2014).

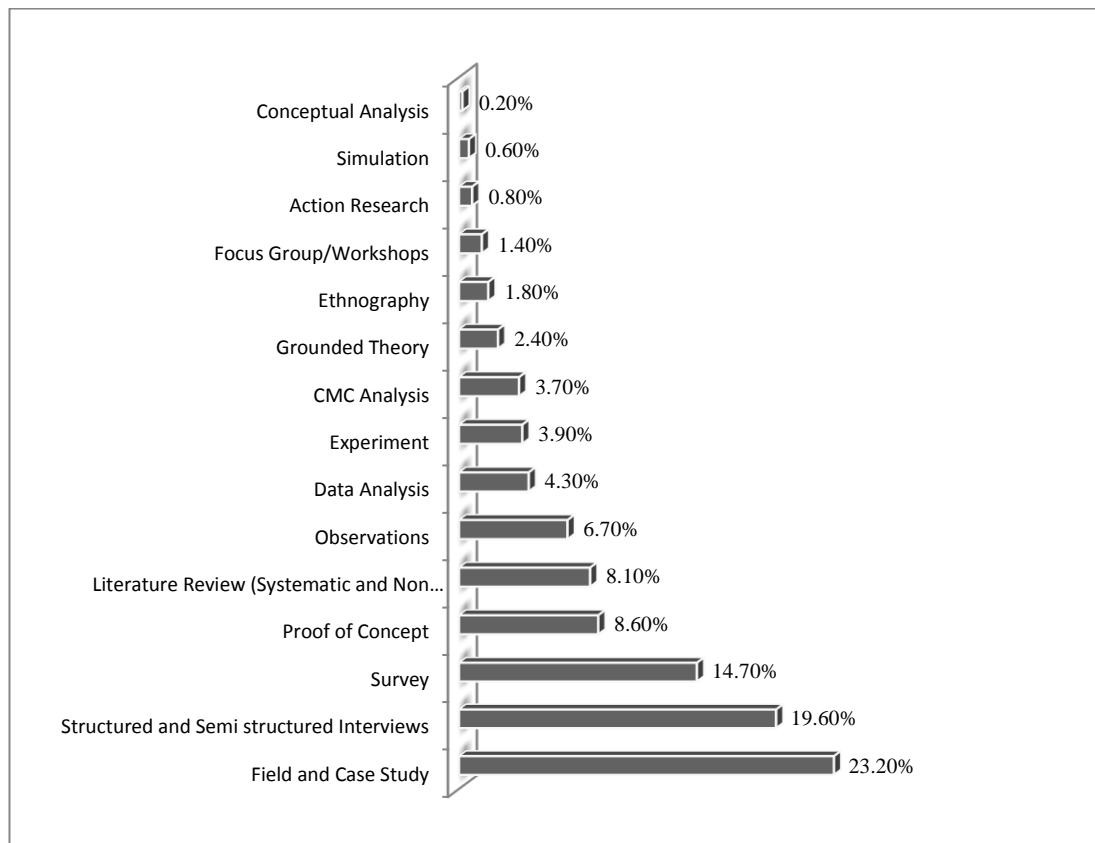


Figure 3.2 Classification of Research Methods in GSE (Raza, MacDonell, et al., 2013)

In the current research, a longitudinal perspective is applied to the case study in order to focus upon events as they unfold. In a longitudinal examination a phenomenon is

studied at different points in time to understand how certain conditions and their underlying processes change over a given time period (Yin, 2014). This provides an opportunity to examine continuous processes and draw from various interconnected levels of analysis, which is crucial for explaining patterns in the process of change (Pettigrew, 1990). It enables a researcher to analyse how events are linked to one another over a period of time (Mitchell, 1983).

Choosing any particular research method implies a trade-off between *level of control* and *degree of realism*. A case study is ideal for conducting research in a real world setting, thus having a high level of realism, but mostly at the expense of control (Runeson & Höst, 2009). Due to the suitability of case studies for enabling the researcher to develop understanding of a phenomenon in its natural setting, drawing on available contextualised data that covers a longitudinal time period, the case study was chosen as the main method used in this research.

3.3.5 Type of Case Study Used in this Research

Case studies can be classified into four types: descriptive, exploratory, explanatory or evaluatory (Verner et al., 2009). The purpose of an exploratory case study is “finding out what is happening, seeking new insights and generating ideas and hypotheses for new research” (Runeson & Höst, 2009). Case studies may also be used for descriptive purposes in which the goal is only to portray a situation or phenomenon (Runeson & Höst, 2009). Explanatory case studies involve testing of existing theories (Yin, 2014), whereas evaluatory case studies are used to evaluate methods, tools or processes (Kitchenham, Pickard, & Pfleeger, 1995). For this research, an exploratory case study is undertaken. The aim of the research is not to test any theory or evaluate any tool but rather to seek insights and new ideas about the phenomenon of *transition*. In doing so the applicability of using a rich mine of publicly available data by applying plurality of paradigms and data analysis methods.

The reliance of research on the conduct of a single case study has often been critiqued for its limited generalizability (Flyvbjerg, 2006). However, it may be considered as an appropriate method under several circumstances. Yin (2014) mentions five rationales for using it: where the study is *critical*, *unusual*, *common*, *revelatory*, or *longitudinal*. In this research, two of these circumstances warrant the use of a single case study: *revelatory* and *longitudinal*. Although switching or transitioning of vendors or software

systems is not uncommon in private and public sector organizations this phenomenon is usually inaccessible to researchers. This makes the proposed case study *revelatory*. The case under consideration also affords the researcher an opportunity to analyse the phenomenon at multiple points in time due to the public domain availability of a data set collected and augmented over a period of years, thus making it *longitudinal*.

Walsham (1995) explained that four types of generalisation were feasible from interpretive case studies: development of concepts, generation of theory, drawing specific implications and contributions to rich insights. It should also be noted that these types of generalisations are not mutually exclusive. In this research, new concepts are developed and portrayed (in the form of antecedent-consequence diagrams in Chapter 4 and as dilemmas in Chapter 5). Contributions to rich insights are provided in the form of narratives (in Chapter 4). Specific implications in the form of recommendations are provided (in Chapter 6). In addition, the applicability of a plurality of paradigms and multiple data analysis methods contributes towards methodological theory development.

3.3.5.1 Selection of the Novopay Project

Prior to choosing the Novopay project as the case study subject a small number of companies and individuals were contacted to see if they would be willing to participate in this research. One notable contact happened to be an academic who had completed a PhD in IT Sourcing Strategies. Following is an excerpt from his email. “My one concern for you would be gaining access to organisations that have carried out the back sourcing [transition/switching] process within the last few years. Two issues here; the first is to identify such organisations & get agreement to carry out the research, the second is that it is no so long in the past that the people you need access to have not moved on, forgotten the details or do not wish to discuss it because it is 'in the past'.

The key will be the primary research, as the public persona (in the media etc) of these types of decisions are often very different from the real situation - something I found that was very strongly”¹⁵.

After encountering initial setbacks while identifying organizations that had carried out transition and seeking their approval for data sharing, consideration was given to public sector projects as an alternate source. Private sector organisational reluctance seemed to centre on the commercial sensitivity of the phenomenon, questions over the relevance of

¹⁵ Taken from a personal email, attached as Appendix A4

the available data, and its non-longitudinal nature. At the same time the researcher became aware of the Novopay project and the Ministry's data dump. A pilot study was therefore carried out on a subset of the data, to determine its relevance to transition and to generate feedback as to its adequacy from the research community. Both were found to be acceptable, and the results of this pilot study were published (Clear, Raza, & MacDonell, 2013). After establishing the relevance and appropriateness of this rich data set, a full scale case study was conducted.

3.3.5.2 Context of the Study

In order to draw valid conclusions it is important that the researcher understands and describes the context of their studies (Petersen & Wohlin, 2009). Individual studies might address a similar phenomenon of interest but the process may have been carried out in different domains, with different cultural settings. This implies that conclusions drawn from a particular case study are true *in that specific context*. Descriptions of the context of studies makes it feasible to build and integrate an evidence base (Petersen & Wohlin, 2009). Other individuals, groups, companies or organisations may compare their context with those in other studies to make more informed decisions about their choices of solutions and recommendations. According to Johns (2006), in order to better capture context research could benefit by carefully considering journalistic practices describing who, what, when, where and why in the design and reporting. Dyba (2013) similarly suggested that what works for whom, where, when and why are the key questions that should be considered in evidence-based software engineering.

To describe the context of this research the taxonomy proposed by Smite et al. (2014) has been used in an adapted form. Figure 3.3 indicates the context of the Novopay transition from the incumbent state to a new state. It particularly involves changing vendors from one based in New Zealand to another based in Australia. The operating model proceeds through multiple transitions (from full outsourcing to selective insourcing then changing back to full outsourcing and then back to selective insourcing). With the new vendor based in Australia, the distance and temporal transition are classified as 'medium to small'. New Zealand based companies are also involved in carrying out 'customizations' and 'testing'. There is no substantial change in culture and industry, but the type of relationship between the client and the new

vendor is contract-based, as compared to their relationship with the old vendor which became loosely defined, trust-based and network-based.

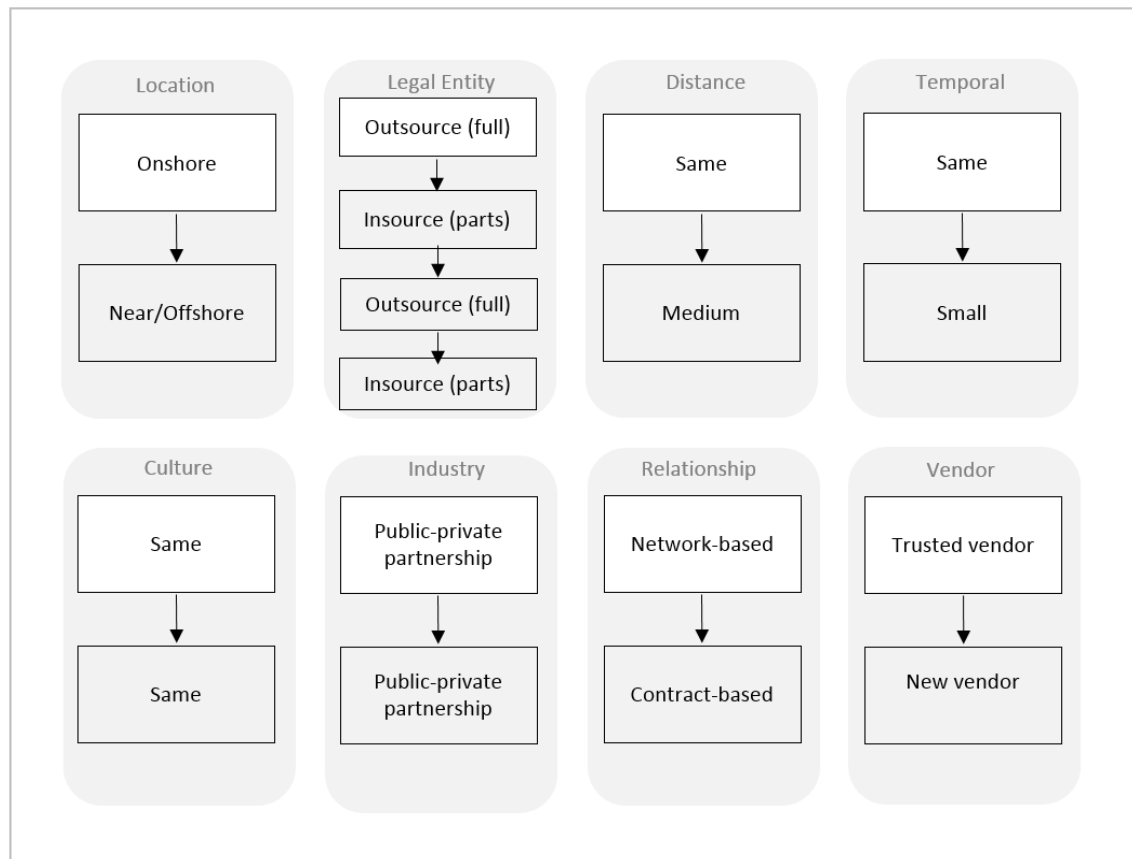


Figure 3.3 Context of Novopay Transition

3.3.6 Level of Analysis

The unit or level of analysis refers to the object(s) on which research focuses (Vessey, Ramesh, & Glass, 2005) or the group or point of contact between the researcher and the environment in which the research is being carried out (Karanja & Patel, 2012). A typical research issue or phenomenon of interest may be examined at different levels of analysis, having different meanings for (similar) variables at mixed levels of aggregation (Bariff & Ginzberg, 1982). Typically there are four units or levels of analysis used in behavioural IS research: individual, group, organizational, and inter-organizational or societal (Bariff & Ginzberg, 1982). This classification was expanded on and used in the SSM study referred to previously (Raza, MacDonell, et al., 2013) to classify the levels of analysis used in GSE-related studies, and the following Figure 3.4 represents this analysis.

While much research in business and IS has adopted a macro-level view, generating economic theories or strategic management concepts primarily of interest at the larger-scale levels of analysis, this does leave aside the understanding of and motivations for individual stakeholder views (Dibbern et al., 2004). A similar pattern was found in the prior SSM of GSE-related studies (Raza, MacDonell, et al., 2013). As can be noted from Figure 3.4, organizational and inter-organizational levels of analyses dominate. There is a noted absence of studies regarding individual or group levels.

In this research multiple methods are used to draw on data at the ‘stakeholder – group level’ and the ‘transition-level’, the latter being at the project and concept level. These analyses are further described in the next two sub-sections and are summarised in detail in Table 3.1.

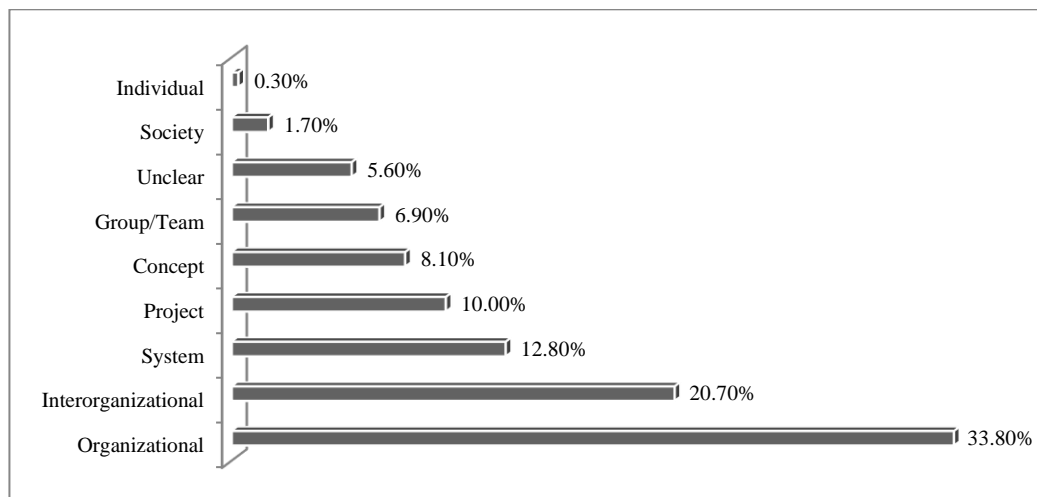


Figure 3.4 Level of analysis in GSE

Stakeholders	Transition Scope	Stakeholders' Actions
Talent2	Setting up of service desk and centres	Actions performed by stakeholders
Datacom	Implementation of system	Consequences of those actions taken
MoE	Data migration	Issues faced by stakeholders
End-Users	Define new processes	Decisions taken by stakeholders
Third party vendors	End-user training	Concerns shown by stakeholders
Service desk and centres	Implement new processes	Risks and issues considered for the project
School Staff		

Table 3.1 Levels of analysis used to extract key-points

3.3.6.1 Stakeholder Groups Level

The Novopay project had multiple stakeholders. In order to be of most benefit the so-called ‘High impact stakeholder groups’ were chosen from a Change Impact Assessment Report prepared internally by MoE ¹⁶. This list contains five stakeholder groups: Schools, Education Service Payroll (ESP), Service Centre Support, MoE, Third Parties External. While analysing the data some of these stakeholder groups were further divided; e.g., Schools were divided further into Payroll Reference Group, Payroll Admins (end-users) and School Staff, whereas ESP was combined with MoE as the data did not at times explicitly differentiate between them (although MoE (non-ESP) managed governance and MoE (ESP) managed operations). ‘Third party external’ was divided into the outgoing vendor and the incoming vendor..

3.3.6.2 Transition Level

At the transition project level Novopay was to deliver the implementation of a new payroll system along with a range of associated new service models and business processes. It also included training of end-users and data migration. According to an independent review carried out by Extrinsic, an external company, the scope of the Transition Project included responsibilities to: ¹⁷

- “Set up a service desk and payroll centres
- Implement a payroll system (or systems)
- Receive a data extract from the existing payroll system; transform, clean and load the data into the new payroll system(s)
- Define and implement new service support and service delivery processes, including IT systems
- Deliver new business processes, and train Ministry staff and schools payroll support staff”.

¹⁶ Change Impact Assessment Report, Internal MoE Report, Dec 2011.

¹⁷ Project Novopay Review Report, by Extrinsic, Jan 2010

3.4 Using the Novopay Data Dump

Data dumps such as that released regarding Novopay provide an alternate source of data for research to that normally used. Verner & Abdullah (2012) suggested that secondary data such as this can indeed be valuable for carrying out case studies, so long as there is sufficient information to enable the researcher to address the research questions – an issue also noted by Srivastava et al. (2008). While such an approach is not common in SE and IS research some examples do exist. Verner & Abdullah (2012) themselves investigated a ‘BskyB’ project as a case study and utilized data from transcripts of court proceedings and media reports to determine factors leading towards failure of an outsourced project. Bleistein et al. also used secondary data regarding a ‘Seven-Eleven Japan’ project to investigate strategic IT development (Bleistein, Cox, & Verner, 2005, 2006, Bleistein, Cox, Verner, & Phalp, 2006a, 2006b). In doing so they sourced material from newspapers, the Economist magazine, journal articles and exercises developed for Stanford Business Schools (Bleistein et al., 2005; Bleistein, Cox, & Verner, 2006; Bleistein, Cox, Verner, et al., 2006a, 2006b). Raymond et al. (2006) also used secondary and publicly available data to identify motivations for adopting ERP in e-government. These authors did acknowledge, however, that the data used by them may have suffered from selection bias because the chosen success stories were published by the vendors themselves.


In their investigation of the development and impact of e-government and ecommerce Srivastava & Teo (2011) utilised data from three publicly available sources: the UN Global E-government Readiness Report 2004, the World Economic Forum Global Competitiveness Report 2005 and the World Economic Forum Global Information Technology Report 2005. Bhattacharya & Seddon (2011) also used a sample of 100 business transformation cases published online by the SAP organization to investigate the benefits of using Enterprise Systems. This data should be treated as credible but with a degree of caution, because while the reports included quotes of interviews as well as the contact details of organizations and their executive management the data was provided by SAP, and therefore there is a possibility of selection bias.


Of particular relevance to the research reported here is a study by Srivastava et al. (2008). They used secondary data collected via the ‘TechsUnite’ website to analyse the differences and similarities between onshore IS outsourcing and IS offshoring. More

than that, they expressed a preference for secondary data because of the political sensitivity of the phenomenon and the consequent possible lack of willingness of companies to contribute to a primary data collection effort (Srivastava et al., 2008). The value of secondary data is also noted by Jarvenpaa (1990): “[G]ood secondary data researchers are inspired by the opportunities this data provides and recognize it as a potential ‘gold mine’ of empirical evidence. Through their patience, discrimination and skill, secondary data researchers sieve the streams of existing data to mine its wealth. Data source that other might views as too ‘noisy’ and inaccessible is gold in the pan of a skilful secondary data researcher” (Jarvenpaa, 1990).

The Novopay data used in this research is indeed available in the public domain. The data set was published by the Ministry of Education, New Zealand, via their website ¹⁸. Figures 3.5 and 3.6 shows screen shots of the Novopay data published online. Considering the potential utility of such a source of data and noting that there has been a limited focus of researchers on the transition phase of outsourcing when this data set was released to the public in 2013 it was examined through a pilot study (as noted above) (Clear et al., 2013). After confirming the breadth and relevance of the Novopay data to the research topic at hand, full-scale analysis was initiated.

¹⁸<http://www.education.govt.nz/ministry-of-education/information-releases/novopay-information-release> (Last access 2015)





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Novopay governance and assurance

A number of key Ministry of Education documents relevant to the Ministerial Inquiry into Novopay were released on 4 June 2013. The governance and assurance phase includes documents relating to audit, quality assurance and the Novopay Project Board minutes.

Related downloads

- Novopay Project Board minutes 2011 [PDF; 47kb]
- Letters from Talent2 to the Ministry December 2011 - September 2012 [PDF; 1.22mb]
- Novopay Project Board minutes 2012 [PDF; 622kb]
- Education Report: Novopay post implementation review 23 November 2012 [PDF; 1.15mb]
- Assurity test summary report service centre readiness 7 August 2012 [PDF; 295kb]
- Novopay pre-implementation controls assurance: August 2012 [PDF; 2.89mb]
- Novopay quality assurance of re-baseline plan February 2012 [PDF; 1.22mb]
- Novopay project board minutes part one [PDF; 8.92mb]
- Novopay project board minutes part two [PDF; 1008kb]
- Extrinsic Project Novopay review report: January 2010 [PDF; 2.97mb]
- Assessment and Improvement of culture in the Novopay Project: June 2011 [PDF; 1.75mb]

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Links to other Ministry sites

Accessible documents


Documents are available in PDF format only. Accessible versions can be supplied on request from info@minedu.govt.nz.


Information withheld or deleted

Deletions may have been made to these documents for reasons consistent with one or more of the following sections of the Official Information Act 1982:

- section 9(2)(a) to protect the privacy of natural persons.
- section 9(2)(b)(ii) to protect information where making the information available would likely unreasonably prejudice the commercial position of the person who supplied or is the subject of that information.
- section 9(2)(h) to maintain legal professional privilege.

Figure 3.5 Novopay Information release





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Novopay information release

The Ministry of Education uses the Novopay payroll service to pay teachers and other staff at 2,457 schools. Novopay pays approximately 90,000 school employees every fortnight, and up to 110,000 over the course of a year.

The Novopay service went live in August 2012 with the first pay run on 5 September 2012.

There is a high level of public interest in decisions about Novopay and its performance as shown by the number of Official Information Act requests received by the Minister and the Ministry of Education. Consequently we are proactively publishing a comprehensive set of Novopay related information from project inception to the current time.

Note that explanations are provided about why information has been withheld, edited or changed (redacted).

For further information please contact us at info@minedu.govt.nz. Media queries should be directed to media.team@minedu.govt.nz.

In this section

- Ministerial Inquiry into the Novopay project
Documents relating to Ministerial Inquiry into the Novopay project
- Background on Novopay
This document project lists key Cabinet and Ministerial decisions on Novopay and provides a general timeline covering the period from June 2005 to the present.
- Novopay project initiation
The steps in the process of developing a business case, selecting a vendor (Talent2) and concluding a contract followed approved government processes.
- Developing Novopay
Once the vendor (Talent2) was selected and approved, a project was established to develop and implement Novopay.
- Fallback planning and alternatives
In 2012, the Ministry requested Datacom to propose a business continuity option in the event that Talent2 did not meet its milestones. This section lists key fallback planning and alternatives documents.
- Datacom contingency proposal April 2013
The documents on this page include Datacom's proposal to take over running the education sector payroll, Deloitte reports on key risks in the proposal and advice provided to the Minister.
- Novopay testing and readiness for go-live
Information outlining the testing process and the results achieved together with information on system and sector readiness for go-live.
- Novopay test plans
Information outlining the test plans in the Novopay schools' payroll project.
- Novopay Remediation Programme
Novopay Remediation Programme
- Briefings and correspondence about the Novopay project
Briefings provided to the Minister responsible for Novopay, the Ministry of Education Chief Executive, Cabinet Papers and Minutes and correspondence between the Ministry and Talent2.
- Ministerial advice
This page contains the advice on Novopay provided by the Ministry to Ministers.
- Novopay payroll statistics
This page contains statistics from 5 September 2012 (pay period 12) which show the number of school staff paid, the total value of the payroll and other related statistics.
- Novopay Technical Review
Terms of reference and the final report for the Technical Review of Novopay, February 2013.

Links to other Ministry sites

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Documents

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Report on recent pay periods

- Report on pay periods 9 and 10
- Report on pay periods 6, 7 and 8

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Deletions have been made under the following sections of the Official Information Act 1982:

- section 9(2)(a) to protect the privacy of natural persons.
- section 9(2)(f)(iii) to maintain the constitutional convention protecting the neutrality of officials.
- section 9(2)(b)(ii) to protect information where making the information available would likely unreasonably prejudice the commercial position of the person who supplied or is the subject of that information.
- section 9(2)(f)(iv) to maintain constitutional conventions which protect the confidentiality of advice tendered by Ministers of the Crown and officials.
- section 9(2)(g)(i) to maintain the effective conduct of public affairs through the free and frank expression of opinions.
- section 9(2)(h) to maintain legal professional privilege.
- section 9(2)(j) to enable a Minister of the Crown or any Department holding the information to carry out negotiations without prejudice or disadvantage.

Figure 3.6 Novopay Information release documents

3.4.1 Data Classification

All the Novopay-related data was published by the Ministry of Education, New Zealand in 13 different folders (data folders) and 375 PDF files (data files) in 2013. Each data folder contained various data files. Some of these data files were repeated in multiple locations, others contained meeting minutes recorded over a period of multiple years in

a single data file. These data files were downloaded and stored separately into folders in Mendeley¹⁹ as shown in Appendix A5. Table 3.2 list the names of these data folders.

Novopay Data Folders
Background on Novopay
Briefings and correspondence
Datacom Contingency Proposal April 2013
Developing Novopay
Fallback Planning and Alternatives
Ministerial Advice
Novopay Project Initiation
Novopay Project Ministerial Inquiry
Novopay Remediation Programme
Novopay Test Plans
Payroll Statistics
Technical Review
Testing Novopay

Table 3.2 Novopay Data Folders

Internal Reports and Meeting Minutes	Communication
Memos of Ministry of Education (MoE)	Correspondence between representatives of MoE and Exec. of the main vendor
Cabinet Meeting Minutes	Correspondence emails of end-users
Status Reports	Project Related Documents
Steering Committee Meeting Minutes	Risk Registers
Payroll Reference Group Meeting Minutes	Project Initiation Doc.
Novopay Board Meeting Minutes	Request For Proposal Doc.- including revised versions
Quarterly Meeting Reports for High Risk Projects	Business Case Doc.
Periodic Reports of External Companies	Fallback plans and proposals
PwC	Test Plans and strategies
Deloitte	Communication plans
Equinox	Reports about variations in the agreement
Maven	Progress review reports
IQANZ	Surveys carried out from end-users
Extrinsic	Remedial plans and programs

Table 3.3 Classification of the Novopay data dump (Raza, Clear, & Macdonell, 2015)

¹⁹ www.mendeley.com

The data set comprised a wide range of material: periodic reports from external consulting companies PwC, Deloitte, Equinox, Maven, IQANZ and Extrinsic covering various time periods; internal memos of the MoE; correspondence between representatives of MoE with Executives of the *incoming vendor-Talent2*; Cabinet Meeting minutes; status reports, Steering Committee Meeting minutes; Payroll Reference Group meeting minutes; Novopay Board Meeting Minutes; Risk Registers; Project Initiation Documents; tender-related documents including RFP documents and revised versions; end-users' correspondence emails; Business Case-related documents; High Risk Projects - Quarterly Meeting reports; fallback proposal information; communications plans; test plans and strategy; Variation in Agreement reports; Progress Review Reports; results of end-user surveys; and a Post Go-live Remedial Programme. These data files were classified by the researcher as shown in Table 3.3 (Raza, Clear, & MacDonell, 2015). This data covered numerous phases of the Novopay project from the inception of the idea to justification of the project. These covered the decision phase, an interim period when transition was going on and the initial operation period after the new vendor took over. Most of these documents were dated between 2008 and 2012-13, but the entire data corpus also included reports from 1996, 2004-05 and 2007. This provided an opportunity to chronologically arrange data and carry out a case study with a longitudinal perspective.

3.5 Data Analysis

Pettigrew (1990) suggested that the longer a researcher stays connected to an emerging process and the further he or she goes back to extricate its origins, the more that can be identified about the continuities and patterns involved. The collection of qualitative data can also be satisfying and enjoyable as it gives a sense of closeness to reality. However, analysing data is not nearly as inspiring as its collection (Seaman, 1999). Data analysis generally consists of examining, categorizing, tabulating or otherwise recombining evidence to address propositions (Yin, 1994). In this research, the *postformed coding process* (Seaman, 1999) was used in which codes were formed during the analysis phase which were afterwards merged, added, deleted, and modified during the course of

the study. In order to store, analyse, code and categorize the data in a manageable way a spread-sheet and NVivo 10²⁰ were used.

Name	Sources	References	Created On	Created By	Modified On	Modified By
D_3rd party issues	3	3	18/07/2014 3:10 p.m.	BR	27/11/2014 11:15 a.m.	BR
D_Alesco	1	1	23/07/2014 2:44 p.m.	BR	18/08/2014 6:29 p.m.	BR
D_Communication Issues	5	25	8/07/2014 1:07 p.m.	BR	14/08/2014 4:51 p.m.	BR
D_Confidence on Nov	2	21	17/07/2014 3:36 p.m.	BR	20/10/2014 7:10 p.m.	BR
D_Configuration Management_D	3	12	7/07/2014 7:44 p.m.	BR	14/08/2014 4:51 p.m.	BR
D_Cost and quality issue	3	7	1/07/2014 10:37 p.m.	BR	20/10/2014 11:41 p.m.	BR
D_Culture team	1	7	8/07/2014 5:08 p.m.	BR	15/08/2014 2:28 p.m.	BR
D_Custom work milestone_D	3	14	2/07/2014 1:44 p.m.	BR	11/08/2014 7:14 p.m.	BR
D_Data Entry	2	5	23/07/2014 4:26 p.m.	BR	15/10/2014 3:47 p.m.	BR
D_Data issues_D	8	65	4/07/2014 12:31 p.m.	BR	14/08/2014 4:12 p.m.	BR
D_Datacom contract	2	13	9/07/2014 2:15 p.m.	BR	18/08/2014 3:19 p.m.	BR
D_DC_TR_Risk Mitigation	4	27	3/07/2014 6:55 p.m.	BR	21/08/2014 6:41 p.m.	BR
D_Defects Status	7	55	2/07/2014 1:56 p.m.	BR	9/10/2014 1:28 a.m.	BR
D_Descope project	1	3	2/07/2014 1:46 p.m.	BR	27/11/2014 11:27 a.m.	BR
D_Difference btw T2 and Datacom	6	31	2/07/2014 3:53 p.m.	BR	18/08/2014 4:12 p.m.	BR
D_Documentation_D	1	4	9/07/2014 2:27 p.m.	BR	14/08/2014 4:51 p.m.	BR
D_Drivers for change	3	36	11/07/2014 3:10 p.m.	BR	14/08/2014 4:51 p.m.	BR
D_Evaluation of Tenders	1	3	24/07/2014 11:21 p.m.	BR	27/11/2014 11:25 a.m.	BR
D_Expectations new system	4	6	3/07/2014 6:54 p.m.	BR	18/08/2014 5:41 p.m.	BR
D_External Reviews	2	5	2/07/2014 2:01 p.m.	BR	15/10/2014 3:52 p.m.	BR
D_failed deliverables	1	2	2/07/2014 2:08 p.m.	BR	27/11/2014 11:28 a.m.	BR
D_History	1	5	21/07/2014 12:30 p.m.	BR	18/08/2014 2:47 p.m.	BR
D_Introduction Novopay	8	43	4/07/2014 4:49 p.m.	BR	15/08/2014 12:23 a.m.	BR
D_KPI	2	8	2/07/2014 6:45 p.m.	BR	15/10/2014 3:06 p.m.	BR
D_Missed milestone	3	9	10/07/2014 12:24 p.m.	BR	19/08/2014 10:57 p.m.	BR
D_Op_End user issues	4	62	2/07/2014 3:08 p.m.	BR	13/10/2014 5:01 p.m.	BR
D_Op_Extra work	2	3	2/07/2014 2:12 p.m.	BR	14/10/2014 5:56 p.m.	BR
D_OP_Functionality	1	2	2/07/2014 2:59 p.m.	BR	20/10/2014 11:33 p.m.	BR
D_OP_Generic issues	1	4	2/07/2014 2:14 p.m.	BR	20/10/2014 11:56 p.m.	BR
D_OP_Over Payments	3	4	2/07/2014 2:13 p.m.	BR	14/10/2014 6:03 p.m.	BR
D_OP_Post Go-Live Issues	2	9	9/07/2014 1:25 p.m.	BR	17/10/2014 7:21 p.m.	BR
D_OP_PRG feedback	1	5	17/07/2014 11:45 p.m.	BR	21/10/2014 12:03 a.m.	BR
D_OP_Relief teachers issue	1	3	4/07/2014 11:41 a.m.	BR	14/10/2014 6:31 p.m.	BR
D_OP_Stabalization Actions	1	2	18/07/2014 11:58 a.m.	BR	14/10/2014 6:46 p.m.	BR
D_OP_Suggestion to improve	3	6	4/07/2014 3:08 p.m.	BR	14/10/2014 7:41 p.m.	BR
D_OP_System issues	5	39	3/07/2014 7:47 p.m.	BR	9/11/2014 6:44 p.m.	BR
D_OP_Usability	1	4	23/07/2014 3:08 p.m.	BR	14/10/2014 6:43 p.m.	BR
D_OP_User experience	2	5	9/07/2014 6:02 p.m.	BR	14/10/2014 7:11 p.m.	BR
D OP User Feedback Post	1	3	29/07/2014 2:13 p.m.	BR	16/10/2014 7:05 p.m.	BR

Figure 3.7 Sample codes used in Step2 of the data analysis process

²⁰ <http://www.qsrinternational.com/>

Name	Sources	References	Created On	Created By	Modified On	Modified By
D_OP_User Feedback Post	1	3	29/07/2014 2:13 p.m.	BR	16/10/2014 7:05 p.m.	BR
D_Relationship_D	2	10	9/07/2014 2:31 p.m.	BR	14/08/2014 4:51 p.m.	BR
D_Replacement options	1	8	3/07/2014 6:45 p.m.	BR	18/08/2014 5:53 p.m.	BR
D_Resistant Factors	1	2	21/07/2014 4:36 p.m.	BR	18/08/2014 6:54 p.m.	BR
D_Resource Constraints_D	6	46	2/07/2014 3:36 p.m.	BR	14/08/2014 4:51 p.m.	BR
D_risks and issues	4	48	8/07/2014 3:48 p.m.	BR	30/09/2014 1:18 a.m.	BR
D_Scope	1	3	8/07/2014 1:00 p.m.	BR	19/08/2014 10:23 p.m.	BR
D_Service	2	7	24/07/2014 3:35 p.m.	BR	19/08/2014 10:34 p.m.	BR
D_Specification (requirements)_D	5	30	2/07/2014 2:18 p.m.	BR	12/08/2014 3:23 p.m.	BR
D_Stakeholders	2	8	22/07/2014 2:08 p.m.	BR	6/10/2014 12:40 a.m.	BR
D_System Integration Testing	5	14	2/07/2014 1:48 p.m.	BR	19/08/2014 11:55 p.m.	BR
D_TR_Go-Live Milestone	5	34	2/07/2014 2:11 p.m.	BR	25/09/2014 12:33 a.m.	BR
D_TR_Joint Exit Possibility	1	2	2/07/2014 2:34 p.m.	BR	21/10/2014 12:06 a.m.	BR
D_TR_Leave balances	2	6	10/07/2014 3:02 p.m.	BR	20/08/2014 7:00 p.m.	BR
D_TR_Material Breach	3	48	2/07/2014 1:49 p.m.	BR	22/09/2014 1:49 a.m.	BR
D_TR_NOS	2	2	4/07/2014 12:21 p.m.	BR	20/08/2014 7:00 p.m.	BR
D_TR_OP_Media Publicity	4	27	2/07/2014 2:01 p.m.	BR	9/10/2014 11:11 p.m.	BR
D_TR_OP_Online uptake	5	28	4/07/2014 3:12 p.m.	BR	13/10/2014 1:22 p.m.	BR
D_TR_OP_Payslips	3	18	4/07/2014 12:23 p.m.	BR	10/10/2014 12:42 a.m.	BR
D_TR_OP_Service1	6	95	2/07/2014 1:49 p.m.	BR	14/10/2014 3:14 p.m.	BR
D_TR_Overlapping testing phases	3	19	7/07/2014 7:35 p.m.	BR	26/08/2014 12:03 a.m.	BR
D_TR_Pilot	4	9	2/07/2014 6:49 p.m.	BR	20/08/2014 7:00 p.m.	BR
D_TR_Project Management	2	3	9/07/2014 6:08 p.m.	BR	21/08/2014 6:51 p.m.	BR
D_TR_Staggered Implementation	2	7	7/07/2014 7:24 p.m.	BR	20/08/2014 6:59 p.m.	BR
D_TR_Termination	1	1	17/07/2014 3:14 p.m.	BR	20/08/2014 6:59 p.m.	BR
D_TR_Testing	4	33	4/07/2014 11:44 a.m.	BR	26/08/2014 1:17 a.m.	BR
D_TR_Timeline	2	7	23/07/2014 12:47 a.m.	BR	21/08/2014 5:51 p.m.	BR
D_TR_Training	8	77	2/07/2014 3:19 p.m.	BR	18/09/2014 12:32 a.m.	BR
D_TR_Transition Approach 1	4	14	3/07/2014 7:00 p.m.	BR	27/08/2014 11:35 p.m.	BR
D_TR_Transition approach 2	3	42	3/07/2014 7:03 p.m.	BR	28/08/2014 11:56 p.m.	BR
D_TR_Transition imp	3	16	18/07/2014 12:11 p.m.	BR	28/08/2014 12:42 a.m.	BR
D_TR_Unsatisfactory Progress	3	11	2/07/2014 2:15 p.m.	BR	20/08/2014 6:59 p.m.	BR
D_TR_Variation Agreement	5	28	2/07/2014 3:00 p.m.	BR	24/09/2014 1:32 a.m.	BR
D_TR_Verification Payroll	4	12	9/07/2014 1:13 p.m.	BR	20/08/2014 6:59 p.m.	BR
N_Auditor role	1	1	8/07/2014 2:46 p.m.	BR	18/08/2014 6:26 p.m.	BR
N_Change in approach	2	8	3/07/2014 6:57 p.m.	BR	18/08/2014 2:05 p.m.	BR
N_Contingency	1	1	9/07/2014 6:10 p.m.	BR	18/08/2014 4:53 p.m.	BR
N_Contract	1	1	31/07/2014 12:03 p.m.	BR	18/08/2014 4:51 p.m.	BR
N_Disaster Recovery	1	1	8/07/2014 2:55 p.m.	BR	18/08/2014 7:02 p.m.	BR

Figure 3.8 Sample codes used in Step2 of the data analysis process

An alternative strategy to this process, called ‘pseudoanalysis’, is to simply write down the researcher’s impressions based upon the experience and time which has been spent while collecting the data (Seaman, 1999). It may be argued that most researchers would know a great deal about the settings and phenomenon they have analysed, however, this process is neither scientific nor reliable and so is largely attributed with the scepticism directed by positivists towards qualitative methods (Seaman, 1999). Hence, such an approach was not considered for this research.

The data analysis process also comprised *thematic synthesis* steps (Cruzes & Dyba, 2011). Thematic synthesis draws on the principles of thematic analysis to infer recurring themes or issues from multiple primary studies (Cruzes & Dyba, 2011). As the Novopay data files captures information at varying levels of abstraction, thematic synthesis, although time intensive, helped in the movement of understanding constantly from the whole list of recurring themes to its new constituent parts and themes. As the data files were analysed one by one, understanding of the transition process improved as a whole and in its constituent parts. These steps are listed in Figure 3.9. Appendices A1, A2 and A3 indicates the sample output from the initial 3 steps.

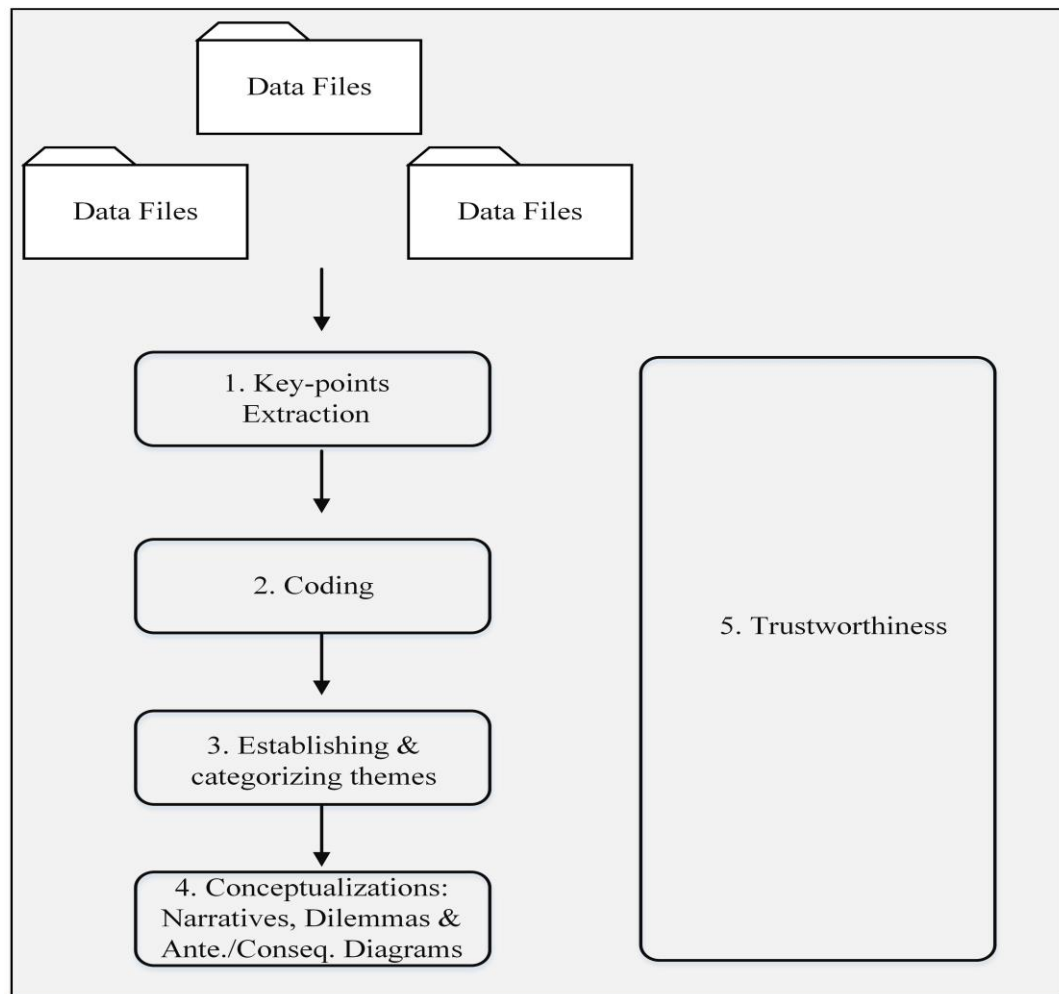


Figure 3.9 Steps of data analysis and synthesis used in this research

Criteria used to extract data from data files was influenced by the *levels of analysis* of interest: stakeholders and transition, defined previously in this research. This is highlighted in Table 3.1, in which stakeholder actions are also listed. This was the first step (level) of analysis, termed key-point extraction (Cruzes & Dyba (2011) call this step ‘Extract data’). A key-point is a snippet of relevant text, and its composition can vary from a few lines to paragraphs. In this research it included relevant information either about stakeholders, the scope of transition or stakeholder actions, which was then used in further analysis. Examples of these snippets are shown in Appendix A1.

As most of the data files were direct scans taken from physical copies of documents the nature of these files was ‘image-based’. The downside of working with image-based files is an inability to directly ‘select’ and ‘code’ data in NVivo. An initial challenge faced by the researcher was to ‘code’ data in these image-based data files. Multiple OCR tools were then used to extract text from the image based files. These tools had

limitations on the number of pages that could be processed, however. To overcome this issue, the original PDF data files were split using the 'Split-PDF' tool and then OCR tools were used on each sub file to extract relevant text. In all it took the researcher about a year to go through all the documents and extract relevant 'data' based upon the above criteria. Large snippets of data were extracted to ensure the context of key-points was maintained.

All the key-points extracted from the 375 data files were placed in a spread-sheet for further analysis. These key-points comprised approximately 234,452 words over 724 A4 size pages. The extensive time spent during coding and then analysis helped the researcher in linking different categories and concepts in the later stages.

After the key-point extraction step a second level of analysis was carried out, in which all the key-points were coded in NVivo 10. Cruzes & Dyba (2011) have used the term 'Code data' for this step, while in this research it is referred to simply as 'Coding'. During this step selected relevant sections of the key-points were identified and labelled across the entire extracted text. Figure 3.7 and Figure 3.8 shows a sample of the NVivo coding outcomes. This process initially followed an inductive reasoning approach, however, after creating an initial list of codes, this was supplemented by a deductive reasoning process. The coding process in NVivo 10 was iterative, as some of the initial codes were renamed, merged, or subdivided into other codes. In total 245 parent and child Nodes in NVivo were merged together to form 86 parent Nodes. They comprised 35,876 lines of NVivo. A sample list of Nodes from NVivo is presented in Appendix A2. During this period of analysis each original link was kept in order to connect codes and associated key-points with the actual *data folder* and *data files*. This was helpful in the latter stages when it was necessary to go back to the source files and analyse them again to clarify the context. Most of the data files were read line by line, although for some official reports only the summary and conclusion were read as these captured the key content. The approach taken in this step thus tended towards *exhaustive* rather than *selective*. This is also evident from the emerging patterns of data associated with the parent Nodes. Of the 86 Nodes just 12 had a single 'reference', whereas the top ten by number of references comprised 95, 77, 65, 62, 55, 48, 48, 46, 43 and 42 respectively. This is different to theoretical saturation used in grounded theory, which does not only refer to emerging new ideas, but rather extends to fully explain the relationships between the categories and to validate them. It has not been argued here that thematic

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saturation was achieved – rather, it serves to indicate the high number references associated with codes which may give a certain level of confidence that the themes discussed later in Chapter 4 and Chapter 5 were indeed referenced multiple times.

The coding step was followed by step 3, ‘establishing and categorizing themes’. In this step codes and associated key-points were merged and combined as they were categorized into ‘themes’. Cruzes & Dyba (2011) refer to this step similarly as ‘Translate codes into themes’. Constant comparison of codes, sub-themes and categorized themes was consistently carried out during this step. A sample list of categories is presented in Appendix A3.

The resulting categorised themes were then used in step 4 to explore relationships and connections between them. Cruzes & Dyba (2011) call this step ‘Create a model of higher-order themes’. In this research three different methods were used at this step: Narratives (Devos et al., 2013; Fincham, 2002), Antecedent-consequence diagrams (Pentland, 1999) and Dilemmas (Cuban, 1992; Pettigrew, 1990; Winter, 1982). The key narratives and antecedent-consequence diagrams which provide a rich and detailed portrayal of the events are presented in Chapter 4. To complement this, and support effective theorizing dilemmas were inferred from categories, as presented in Chapter 5.

As indicated by Mingers (2001) and noted previously, research results are likely to be richer and more reliable if multiple, complementary research methods are sensibly combined. Use of these methods is described further in the following sub-sections. During the process of data analysis care was taken to ensure that interpretations stayed connected to their *source(s)* by creating a clear chain of evidence and maintaining a link between them.

In order to signify the trustworthiness and reliability of the synthesis, in step 5 the researcher lens and external people lens were used, as explained further in section 3.6. In fact these activities were established and carried out in parallel with all stages of the data analysis and synthesis process.) Appendix A1 to Appendix A3 list sample quotes used in the thesis and show how they can be traced back to the original source through various stages of data analysis steps.

3.5.1 Narratives and Antecedent-Consequence Diagrams

Narratives and antecedent-consequence diagrams are used in step 4 of the data analysis process to explore the relationships and connections between themes and to inform the building of higher-order themes. These narratives and antecedent-consequence diagrams are presented in Chapter 4 of this thesis.

Narratives enable the researcher to create shareable understanding of a socio-technical phenomenon (Devos et al., 2013) in which events and consequences are connected (Fincham, 2002). Fincham (2002) goes on to suggest that application of such an approach enables the researcher to place thematic interpretations upon a train of events, which can constitute core organizational knowledge (Czarniawska, 1997). While they can be treated discretely these events are made (more) understandable by integrating them within a sequence (Fincham, 2002).

Use of such an approach in this study is appropriate in that the process of transition clearly occurs over time in a sequence of related events – considering them as part of a narrative can help the researcher in gaining an understanding of this complex process. The insights gained and reported here may help to prevent issues arising in other transition projects. As indicated by Walsham (1995), these generative mechanisms identified about phenomena should be viewed as '*tendencies*' rather than wholly predictive for future situations, but even then the explanations derived from this empirical interpretive research endeavour could be valuable in the future for other organizations (Walsham, 1995). The narratives were complemented by the conceptual depiction of relationships between antecedents and consequences. Note that this should not be seen as an attempt to create definitive or complete cause-effect type relationships; antecedents are not claimed to be the necessary and sufficient precursors that will lead to the consequences described. Rather, they abstract away from the specific case study data to provide some degree of explanatory capability as to why consequences might occur.

3.5.2 Analysis for Dilemmas

Causation of change in complex socio-technical contexts is neither linear nor singular and any search for a linear theory may not provide fruitful results; the explanations are rather bound to be multi-faceted and holistic (Pettigrew, 1990). People also make

organizations complex and fuzzy (Avison et al., 1999). They can have different and conflicting views and their perceptions and attitudes change over time.

Traditional theory construction methodologies lead towards the provision of theories that are stable and internally consistent but are narrow or limited in scope, and such approaches tend to dissuade researchers from paying attention to potentially fruitful but challenging opportunities to learn from tensions and contradictions (Poole & Van de Ven, 1989). Therefore, an alternative is to deliberately look for tensions or oppositions in data and then use them to build more encompassing theories.

According to Cuban (1992), dilemmas are tensions and conflict-filled situations that require choices and decisions to be made between options with competing values that cannot be fully satisfied, that have good-enough compromises but not-neat solutions. He linked the term '*satisfice*' with dilemmas, i.e., one has to '*satisfy*' and '*sacrifice*' simultaneously (Cuban, 1992). McKernan (1991) similarly points out that "institutions have conflicts of interests, that members are split and divided, and all of this is beset by dilemmas". As such he was sceptical of the validity of applying a researcher's interpretations directly to critical social theory and so used the theory of contradiction to guide his process of data analysis. Conceptualizing conflicting realities in order to generate rich understandings of complex phenomena has also been suggested by Pettigrew (1990).

One particular technique that can be used to explore the complex and contradictory ways through which change emerges is Dilemma Analysis (Talanquer, Tomanek, & Novodvorsky, 2007; Winter, 1982). In this study, at step 4 of the data analysis and synthesis process, an adapted version of dilemma analysis is applied as a mechanism for dialectical analysis. The classic dilemma analysis procedure involves carrying out interviews with relevant stakeholders and then analysing the data in terms of tensions, contradictions or dilemmas (Clear et al., 2013). In this research, however, the Novopay data files are used as the source of such phenomena, enabling the researcher to determine a range of 'grounded dilemmas'.

The categorized themes resulting from step 3 were re-analysed to infer the dilemmas presented in chapter 5. The fundamental basis for inferring dilemmas was the existence of conflicting situations faced by different stakeholders when decisions were being made. These decisions indeed had multiple choices and often competing values. For instance, in a multiple-vendor outsourcing scenario, vendors are often competing and

cooperating at the same time (Jin, Kotlarsky, & Oshri, 2014). Analysing the empirical data in this way was considered a practical approach to identify the competing demands and interests faced by stakeholders and to abstract and conceptualise the *higher order themes* in the form of dilemmas. Regular sessions were held with the supervisors and mentors of this research to ensure the efficacy of this process.

3.6 Threats to Validity

Creswell & Miller (2000) proposed a useful two-dimensional framework to help qualitative researchers identify appropriate validity procedures. These two dimensions were based on ‘viewpoints/lens’ and ‘paradigm’. The viewpoints and lens have a further three types:

- *Researcher lens*: the researcher determines how long to remain in the field, whether data is saturated to establish themes and categories and how the analysis of data evolves into a persuasive narrative – the researcher, the topic and sense making interact with each other.
- *Participant lens*: participants in the study are actively involved to ensure the interpretations actually represent them, reflecting the importance of how participants’ realities have been represented.
- *External people lens*: external reviewers not affiliated with the project may comment to establish validity.

The ‘paradigm’ dimension relates to the researcher’s worldview which may influence their selection of validation procedures (Creswell & Miller, 2000). Three different qualitative paradigms labelled as post-positivist, constructivist and critical (Lincoln & Guba, 1985) influence the choice of validation procedures. Based on a combination of view-points, lens and paradigm assumptions, a set of nine validity procedures were suggested by Creswell & Miller (2000).

In this research multiple procedures were employed from this list (Creswell & Miller, 2000). As the Participant lens may not have been applicable in this case it was not considered. Moreover, given the members were embroiled in the controversy, or damaged by the fall-out, in many cases they would probably have been reluctant to comment. The Researcher lens and External people lens were considered, however,

using the following procedures: *triangulation, peer debriefing, audit trail and thick rich description*.

3.6.1 Triangulation

Although the primary source of data used in this research was published by the Ministry of Education on its website the data set itself contained a wide range of reports, meeting minutes, risk registers, user feedback logs and other forms of information, all emanating from varying sources. As described above all of these materials were systematically analysed and their associated codes were considered, compared, merged, decomposed and categorized to enable robust synthesis and convergence across these multiple sources of information.

3.6.2 Peer Debriefing

Peer debriefing as described by Creswell & Miller (2000) is a process in which data and the research process are reviewed by someone who is familiar with the research and/or the phenomenon of interest. In this research, peer debriefing was carried out by having discussions with and seeking and incorporating feedback from the following:

- Two Adjunct Professors of AUT with expertise in aspects of GSD
- The two supervisors of the researcher

As noted by Creswell & Miller (2000) this can have a two-fold benefit: it can provide assistance to the researcher and it can add credibility to their results.

Peer debriefing can also be carried by taking feedback from other research team members, e.g. other PhD students or senior academics from other research labs, who are not formally involved in the specific research project. It could have provided an opportunity to improve the validity of results at different stages of data analysis. In hindsight, this procedure could have been formally applied in this research during the key-point extraction, coding, theorizing and/or conceptualization stages by taking feedback on samples from other PhD students of our lab. It can be argued that this procedure may have improved the validity of results. It is acknowledged that it was a missed opportunity, however, many informal discussions and sessions were held with other members of the research lab to discuss the outcomes of data analysis process. Although, it was not formally carried out, those informal discussions provided valuable contributions to the data analysis process.

3.6.3 Audit Trail and thick, rich description

Another procedure that can lend credibility and validity to a study is to describe the settings, context and themes of the study in rich, traceable detail (Creswell & Miller, 2000). To establish an audit trail, decisions and activities of the research process describing the details of the data collection procedures were documented and the outcomes can be linked and tied back to their original sources.

3.7 Generalization

Generalization refers to the degree to which the results of a study are applicable to other settings (Gheondea-Eladi, 2014). However, leading methodologists from different schools of thought agree that generalizations can never be made with complete certainty (Polit & Beck, 2010). As pointed out by Seddon & Scheepers (2012), researchers may never prove with certainty if their generalized knowledge is true, but with appropriate arguments and caveats they may argue that it is highly likely. Gheondea-Eladi (2014) also rejects the idea of total generalization and instead refers to the notion of 'moderatum generalization', which means that the conclusions are open to change rather than holding as true indefinitely.

Firestone (1993) developed a typology of three models for considering generalization in quantitative and qualitative studies. The first model addresses statistical generalization, which is appropriate for quantitative studies and not applicable for this research. The second model is analytic generalization and the third model is case-to-case generalization or transferability. The latter two models as indicated by Firestone (1993) are relevant for qualitative research and are thus appropriate here.

Through analytic generalisation the results of this research can be generalised from this particular case study to broader constructs. For instance, some of the constructs developed in Chapter 4 and Chapter 5 may well apply in other cases, albeit their specific effects may differ from those observed here.

Polit & Beck (2010) note that it is the responsibility of researchers to provide detailed descriptions and then allow readers and consumers of research to make inferences and extrapolations about the relevance of the findings in their local settings. By providing thick and rich descriptions about the phenomenon under study, through descriptions of stakeholders, narratives and the preamble to the dilemmas in this research, effort has

thus been made to help readers and users of research to understand and consider the findings in their own context.

3.8 Concluding Remarks

This chapter has described the overall research design of this PhD. It began by discussing research philosophies and then justified the interpretive philosophy as chosen for this research. It then compared factor-based and process-based approaches to research and briefly justified the use of a process-based approach in this research. This was followed by a discussion of candidate research methods and justification of the chosen case study method. Afterwards, the main steps used in data analysis and synthesis were described and the techniques used to mitigate threats to validity were considered.

The next chapter presents the first set of results arising from step 4 of the data analysis and synthesis process, being the narratives, and their complementary conceptualisation in the form of antecedent-consequence diagrams.

Chapter 4. Narratives

4.1 Brief Introduction to the Chapter

The adoption of a narrative approach in the analysis of data challenges the prevalent notion that success and failure in systems development are brought about by simple factor-based causation (Delone & Mclean, 2003; Fincham, 2002).

One of the main justifications for using this method was that it enables the researcher to deal with the complexity of the phenomenon *as a whole*, rather than as fragments of reality (Devos et al., 2013). To create sense of what happened in the Novopay transition project this chapter presents the key narratives. In order to structure these narratives the classification of Butler et al. (2011), which divided the whole sourcing process into *Decision*, *Transition* and *Operation* phases, has been used. This classification scheme provides a high-level scaffold within which to organize the sequential relation of events.

Although the emphasis of this study remains on the *Transition* phase of outsourcing it became clear during data analysis that, in this case at least, numerous transitions occurred, around which the decision and operation phases also took place. Furthermore, the process did not always follow the expected cycle: at times transition led not to operation but to another decision phase. Given this, excluding consideration of the other phases will not have enabled the development of a full understanding of the *Transition* phase. Therefore data from the whole sourcing cycle was analysed and the associated narratives are presented in this chapter as a sequential account of events. In order to ensure that the narratives are genuinely grounded in evidence empirical data in the form of quotes is used extensively.

The narratives are complemented by graphical representations that seek to further describe and conceptualise the sequences of events by connecting antecedents with consequences in fishbone diagrams. The main purpose of these graphical representations is to display the *interactions* between events. This should not be seen as an attempt to create cause-effect type relationships, where a definite set of precursors lead directly to certain outcomes. Rather, this is in an effort to explain that certain outcomes occurred *in part* as a consequence of a potentially incomplete set of preceding inter-related and inter-dependent events. In this case they have value in capturing and explaining data concerned with transition in the Novopay project but may not hold true

for future situations. These antecedents *may* play a role in the occurrence of outcomes in other contexts but they are not sufficient for a particular outcome to occur; even if they are present these consequences may not arise. Pentland (1999) suggests that the use of process-based approaches enables the researcher to open up the black-box between antecedent and consequences and to explain the events which connect them. Using narratives complemented by antecedent-consequence diagrams in this analysis is an attempt to do just that.

After establishing and categorizing themes as shown, in Appendix A3, higher order themes were developed to explore the relationships and inter connection between them and then organized under the decision-transition-operation phases of outsourcing. As the data files were temporal therefore corresponding key-points, codes, categories were able to be arranged into different phases and sub-phases inside the narratives.



Figure 4.1 Phases of outsourcing. Highlighted phase under discussion

4.2 Decision Phase

Based upon the overall project timeline the decision phase began when *client-MoE* discovered that their current payroll system needed to be replaced. It was recognized that a new system was required to fulfil their requirements. After this ‘discovery’ options for implementing a new project were assessed and a formal process for transition was initiated. Figure 4.2 depicts the narratives that are related to the decision phase as built upon the higher-order themes that resulted from the data analysis. These narratives are associated with the period when the need for a transition project was established and various initial assessments were made (as per Butler et al. (2011)).

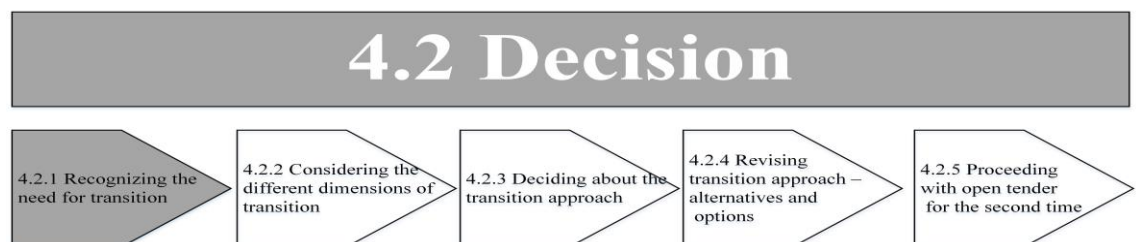


Figure 4.2 Narratives in the Decision Phase. Highlighted narrative under discussion

4.2.1 Recognizing the need for transition

This narrative describes the reasons and justifications behind initiating this transition project, as classified by the researcher into four main categories: system related, end users related, vendor related and client related. Figure 4.3 illustrates the emergent antecedents and consequences for discontinuing a sourcing relationship in Novopay. These are elaborated in the next sub-sections.

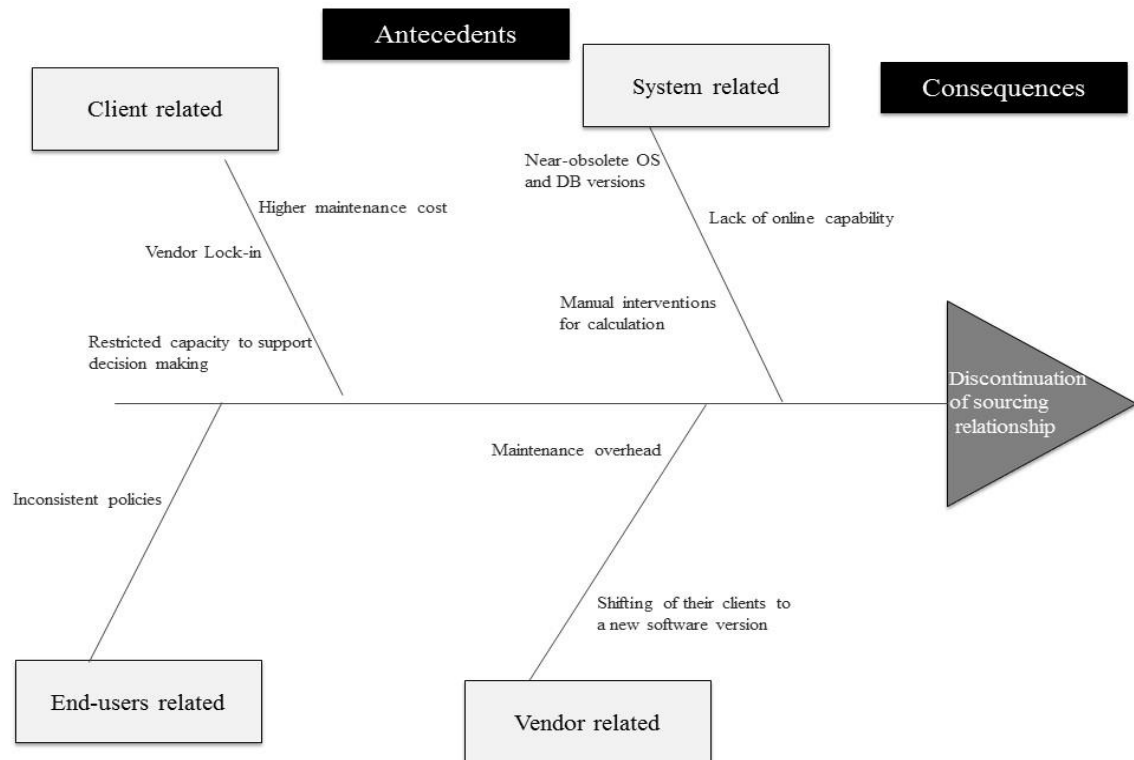


Figure 4.3 Antecedents that impacted on discontinuing a sourcing relationship

4.2.1.1 System Related

- *Sustainability of Legacy System*

In 2004 it was becoming infeasible for the main *vendor* at that time (*Datacom*) to keep the MoE payroll system operational. One of the technical reasons for this issue was that it relied on an unsupported server OS and database. There was uncertainty about whether the third-party *vendors* (Microsoft and Oracle) would provide assistance, if issues arose. “The two major sustainability issues identified in this report [Technical review carried out by a third party] are the unsupported versions of the TeacherManager [Incumbent system] Server operating system and database currently used. The Microsoft Windows NT 3.51 operating system used

has been unsupported by Microsoft since September 2002, and version 7.2.x of the Oracle Database has been unsupported since October 2000”²¹.

- ***Lack of Support for Decision Making***

Over the course of its use it became increasingly evident that the incumbent system did not support the new decision-making demands of *client-MoE* and *schools*, in terms of processing complex information and their broadening research needs. “[T]he lack of timely access to HR/Payroll information means that schools are less than adequately supported in planning resourcing requirements, managing attestation, managing recruitment and performance management, as well as a number of other administrative activities”²².

4.2.1.2 End-users Related

- ***Inconsistent Application of Policies***

Similarly, the incumbent system had limited in-built automated rules which was contributing towards the inconsistent implementation of policies by end-users at different pay centres. “[E]mployment agreements are being interpreted manually in different pay centers, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements”²³.

4.2.1.3 Vendor Related

- ***Shifting of Clients***

If *client-MoE* had continued using the incumbent system, then there was a likelihood of them becoming a sole user. As the *outgoing vendor-Datacom* began transferring their *other customers/clients* to a new system, any remaining sole user might have to bear the entire maintenance cost and associated risks. “Extending the time of operation on the existing TM4/DATAPAY [Incumbent System] system means that the ministry will be the sole user of TM4/DATAPAY [Incumbent System] for an extended period of time. Datacom is currently migrating its clients to JETPAY [new system] and expects to have completed this before June 2011. The ministry will therefore bear all costs and risks of a functionally and technically obsolete system”²⁴. Moving systems was easier said than done. Due to probity requirements the *client-MoE* could

²¹ Datacom Payroll Application Sustainability Review, Carried out by Equinox, Aug 2004

²² Cabinet Meeting Minutes, CABMin_05_20_2, EXG Min (05) 4/1, June 2005

²³ Cabinet Meeting Minutes, CABMin_05_20_2, June 2005

²⁴ Internal Memo: Recommendations for Next Steps, May 2007

not simply migrate to the newly proposed system – Jetpay – as they were required to follow an open tender process to choose a new system.

4.2.1.4 Client Related

- ***Vendor Lock-in***

The incumbent system was operating through a BPO contract and *client-MoE* lost visibility and knowledge of its payroll processes. This negatively affected *their* ability to manage the services or improve their quality. Their heavy reliance upon the *outgoing vendor-Datacom* contributed towards a ‘vendor lock in’ situation which was aggravated due to lack of contestability for other vendors. “The ministry’s management of the outsourced payroll service provider led to substantial loss of ministry visibility and knowledge of payroll processes, systems, and performance. This reduced the ability of the ministry to effectively manage the payroll service provider”²⁵. “Lack of Ministry knowledge placed the incumbent vendor in a monopolist role, with the Ministry uncertain about whether it was getting value for money and whether it had an accurate view of service performance and risk”²⁶.

As the incumbent system was written, owned, operated, and maintained by the *outgoing vendor-Datacom*, *client-MoE* had limited leverage to negotiate favourable terms and conditions. *MoE* was solely reliant upon them for payroll services and application support. “[I]t is difficult for the Ministry to change providers because the software is bespoke, owned by the existing service provider, and working practices are undocumented”²⁷.

- ***New Policy Implementation***

Modifications in HR and Payroll policies created a need for *schools* to be given direct access to their HR information. These changes were considered in order to enable schools to manage their employees more effectively. It was apparent that the incumbent system would not be able to support such additional functionality. “The lack of access for schools to the payroll system is hindering their ability to effectively manage their employees. Direct access to information would also lower the transaction cost involved with these inquiries, both for the central payroll operation and the schools making the inquiries”²⁸.

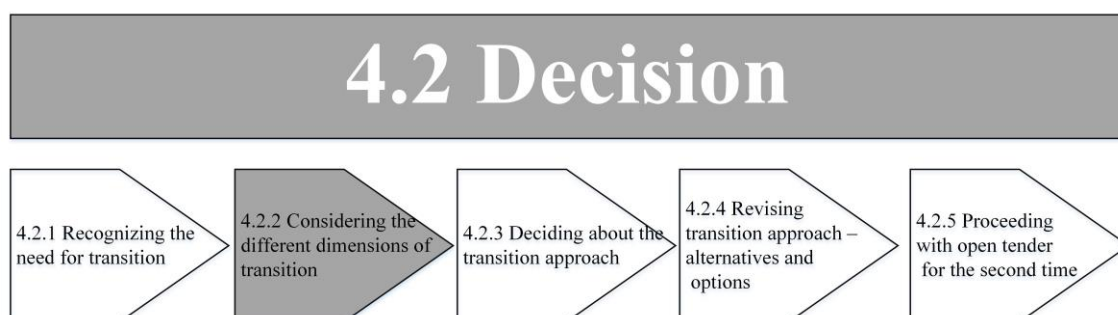
²⁵ Novopay Tender Documents, Revised Stage2 Business Case, Nov 2007

²⁶ Revised: Stage2 Business Case Payroll Strategy for Schools, Nov 2007

²⁷ Cabinet meeting Minutes, CABMin_05_20_2, EXG Min (05) 9, May 2005

²⁸ Stage 2 Business Case, May 2005

The incumbent system also had increasingly limited features in comparison to modern payroll systems e.g. there was no on-line access; limited leave management; and no linking of salaries to pay grades. If these features were implemented in future, or if changes to legislation required *client-MoE* to make these changes, then it might have to rely on manual and error-prone workarounds. Therefore, continuing the maintenance and usage of the existing payroll system carried an inherent risk of failure at some point in time. “This may be through a failure of the payroll itself so that significant number of staff are paid incorrectly or an inability to implement government policy (e.g. tax changes, superannuation)” ²⁹. All the above contributed towards recognising the need for transition.



4.2.2 Considering the Different Dimensions of Transition

This narrative describes various dimensions considered in this transition project. After recognizing the need for transition, in 2004-05, three main dimensions were identified around which the stakeholders could consistently compare and evaluate the options available to them. These dimensions, as pointed out in ³⁰, are as follows:

- Level of centralization
- Engagement model
- Core technology choices

In this narrative, these dimensions are described in detail along with their underlying options.

²⁹ Internal Memo Recommendations for Next Steps, May 2007

³⁰ Stage 2 Business Case, May 2005

4.2.2.1 Level of Centralization

Centralization relates to how the payroll operations should be managed. In this project, *client-MoE* had three main options ³¹, which are described below. Table 4.1 provides a summary of the different options for *centralization* that were considered³².

De-centralized	Partially De-centralized	Completely Centralized
Schools to operate their payroll independently	Sharing of activities between Schools and consolidation points	All activities to be performed centrally
Suitable for a small minority of Schools	Increase in access to information by Schools	Increased in staffing requirements at the central level
No possibility of managing employee's historical data between Schools	Better quality and management of data	Low risk for <i>MoE</i>
No economies of scale	Economies of scale	Training and additional resources at School's level are not required
Require major changes in policy	Reduction in staff at consolidation points	
High risk and require additional School staff	Additional activities and responsibilities by Schools	

Table 4.1 Dimensions of transition: Options for centralization

- ***De-centralization***

In *de-centralization*, “schools operate their schools own payrolls independent of each other and Ministry” ³³. In short, *schools* would be given the authority to manage their own payroll. This option suited a smaller percentage of *schools* which had the required expertise for its management. However, this option provided limited economies of scale. “This option would suit a small minority of schools” ³⁴. It was considered a high risk and high cost option, requiring additional resources and shift in policy.

³¹ Stage 2 Business Case, May 2005

³² Stage 2 Business Case, May 2005

³³ Stage 2 Business Case, May 2005

³⁴ Stage 2 Business Case, May 2005

- ***Centralization***

In a *centralized* model, *client-MoE* would have taken full ownership. The number of *staff* would increase substantially.³⁵

- ***Partial Centralization***

In the middle of the continuum, there was an additional option to partially decentralize. This option suggested the sharing of responsibilities and activities between *schools* and consolidation points known as ‘*pay-centers*’.³⁶ It was considered as the most suitable option as it was expected to improve the consistency of payroll operations and reduce central staffing requirements.

4.2.2.2 Engagement Model

The engagement model relates to the level of outsourcing. In this project, *client-MoE* had three main options which are described below. Table 4.2 provides a summary of the different options for *engagement*³⁷.

- ***Wholly In-house***

In a ‘wholly in-house’ option “[A]ll functions owned and operated by the Ministry”³⁸. This would have provided greater control to MoE, an aspect that was lacking in the previous arrangement. Simultaneously, it required internal expertise and capability. “The Ministry would have complete control over the service”³⁹. The downside was its lack of provision to share risks with external vendors, therefore, it was considered as a high-risk option. “The Ministry does not have the expertise or capability to run a payroll on this scale, No opportunity to risk share with a vendor”⁴⁰.

- ***Wholly Outsource***

In this type of engagement model, all the functions are owned and operated by an external vendor. The downside would have been the loss of capabilities and control by

³⁵ Stage 2 Business Case, May 2005

³⁶ Stage 2 Business Case, May 2005

³⁷ Stage 2 Business Case, May 2005

³⁸ Stage 2 Business Case, May 2005

³⁹ Stage 2 Business Case, May 2005

⁴⁰ Stage 2 Business Case, May 2005

the client. “The Ministry loses expertise on payroll and HR management, reducing its ability to effectively link a quality workforce to employment conditions to payment”⁴¹.

- ***Partially Outsource***

In the middle of continuum there was a third option to *partially outsource*. In this option key functions would have been owned and operated by the *client-MoE* and non-core activities would be outsourced. “Ministry retains core expertise. Risk shifted to outsourced vendor in contracted non-core activities”⁴². It was seen as a flexible approach with an inherent ability to further outsource, if required. However, it required in-built capabilities to manage the non-core activities and clear distinction between core and non-core activities.

Wholly in-house	Wholly outsource	Partially outsource/insource
All functions are owned and operated internally by MoE	All functions are owned and operated by external vendor (s)	Key functions owned and operated by the MoE and noncore activities are outsourced
All the risks are managed internally	Risks are shifted externally	MoE retains core expertise
MoE retains core/noncore	MoE loses expertise on payroll operations	Partial shifting of risks externally
MoE require extensive expertise	Reduced quality outcomes	Better management of quality outcomes
Improved quality outcomes		Selective outsourcing of activities

Table 4.2 Dimensions of transition: Engagement models

4.2.2.3 Core Technology Options

Core technology relates to how the new technology would be acquired and implemented. “[W]hether the Ministry should upgrade what it has, build a new system, or buy another system”⁴³. In this project, *client-MoE* had three main options, which are described below. Table 4.3 provides a summary of different options⁴⁴.

⁴¹ Stage 2 Business Case, May 2005

⁴² Stage 2 Business Case, May 2005

⁴³ Stage 2 Business Case, May 2005

⁴⁴ Stage 2 Business Case, May 2005

Custom-built	Upgrade-Existing	COTS
Tailored to specific needs of Schools	Low cost but short term solution	Possibility of getting required functionality
High risk and high cost approach	Doesn't fit with MoE vision	Competitive market
Maintenance liability	May not address all the functional issues	Risks are shared
	Not prone to vendor opportunism	Prone to vendor opportunism

Table 4.3 Dimensions of transition: Options for implementation

- **Custom-built**

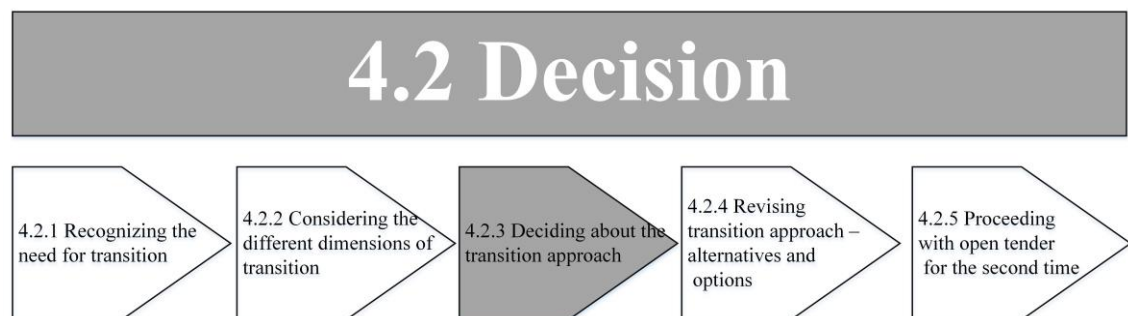
A custom-built system is a bespoke system, built according to a specific client's requirements and tailored according to the needs of end-users ⁴⁵. In this case, it would have better suited end-user needs but the cost and associated risks would have been high. This option was rejected because of higher risks. The other options were considered further.

- **Upgrade-existing**

Upgrade-existing option relates to enhancement of the current system and services ⁴⁶. This option would have lower associated costs in the short run, but it did not support the long term vision of *client-MoE* and could only work for a shorter period of time.

- **Commercial-off-the-shelf**

Acquiring a commercial-off-the-shelf or packaged system could provide the required functionality, with the flexibility around vendors for implementation and support.



4.2.3 Deciding about the transition approach

Based upon the above-mentioned dimensions and options an initial approach (Transition1) of *selective insourcing* was chosen. After two years, however, this initial

⁴⁵ Stage 2 Business Case, May 2005

⁴⁶ Stage 2 Business Case, May 2005

approach was changed and a revised approach (Transition2) of *complete outsourcing* (BPO) was taken up. Once the transition project became operational, the BPO approach was revised again (Transition3). Ultimately, an internal entity was established to help support operational services. In this narrative, a brief description is provided about the circumstances in which an initial approach was chosen and what circumstances led to its change. Figure 4.4 illustrates the emerging antecedents and consequences related to the volatility of sourcing strategies. Due to its temporal setting, Transition3 is discussed in sections 4.4.6.1 and 5.16.

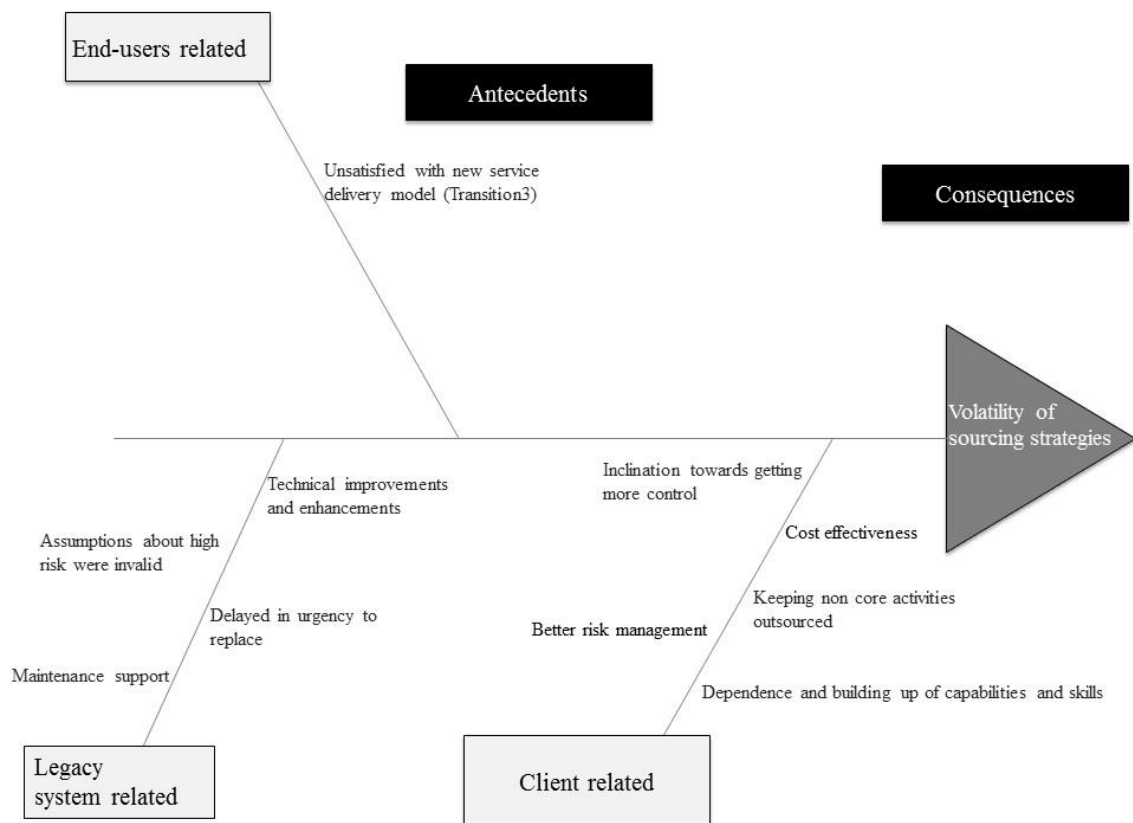


Figure 4.4 Antecedents that impacted on changing sourcing strategies

4.2.3.1 Initial Approach for Transition

After realizing the need for transition and considering the relevant dimensions *client-MoE* initiated the process of acquiring a new payroll system. It was determined that continuing with the current arrangements carried insurmountable risks. Moreover, if the current incumbent system had continued to be in operation, then *client-MoE* may have had to bear all the costs for its maintenance, as other customers were expected to migrate to a newer version. “The projected ‘status quo’ has also made provision for the increased

share of the DATAPAY application overhead to be borne by the Ministry as Datacom's other payroll service customers are migrated off the application leading up to 2011/2012"⁴⁷. Therefore, it was decided that a new system should be acquired and afterwards, *client-MoE* would integrate its components internally. "This would have involved the ministry purchasing a new payroll system and operating as a 'systems integrator' for all the various components of the solution"⁴⁸. "The ministry was to manage the hosting of the infrastructure, with the pay-clerk services continuing to be provided by the existing supplier until these services could be re-tendered"⁴⁹.

Subsequently, a request for information (RFI) and a request for proposal (RFP) were issued. In 2005, *client-MoE* chose *Fronde* and *Talent2* consortium and *Talent2*'s ALESCCO software package as the preferred option. Some of the key elements of this approach⁵⁰, are listed below in Table 4.4.

Initial approach for transition
"The new payroll system would be licensed by the ministry"
"The ministry would purchase hardware on which to operate the payroll system"
"The new payroll system and hardware would be supported and hosted by third parties"
"Datacom would continue to provide payroll processing and pay clerk services using the new system until these services were re-tendered; and the ministry would increase its internal resource to enable the effective operation of the payroll"

Table 4.4 Key elements of initial approach

This approach required *client-MoE* to build internal capabilities for effective management of payroll operations. "The enhancement of the business processes includes the establishment of a Central Advisory Unit (CAU) within the ministry. This would establish a payroll operations and management capability enabling the ministry to manage the complex integration required"⁵¹. This approach addressed the two main issues prevailing in the incumbent system and service model: "loss of ministry IP and the growing technical and functional obsolescence of the DATAPAY/TM4 system"⁵².

As the project began, one of the central premises for initiating this transition project, the technical unsustainability of the incumbent system, was invalidated. In December 2005,

⁴⁷ Revised Stage2 Business Case, Nov 2007

⁴⁸ Cabinet Meeting Minutes, CABMin_08_29_2, July 2008

⁴⁹ Cabinet Meeting Minutes, CABMin_07_30_3B, Aug 2007

⁵⁰ Cabinet Meeting Minutes, CABMin_07_30_3B, Aug 2007

⁵¹ Revised Stage2 Business Case, Nov 2007

⁵² Revised Stage2 Business Case, Nov 2007

PwC reviewed the business case and concluded that the central premise of ‘urgent change’ was no longer valid. “A review of the May 2005 Business Case in late 2005 identified developments at the incumbent payroll service provider and within the wider IT market-place that appeared to invalidate the central premise of the Business Case.”⁵³. This advancement overruled the need for urgent replacement of the legacy system and provided an opportunity for *client-MoE* to reconsider their approach.

4.2.3.2 Revised Approach

- ***Technology-upgrades***

PwC was engaged to provide an independent and expert opinion about the circumstances in which the initial approach were chosen. The main conclusions of this opinion were: “...that the assumptions, upon which the Business Case is based, are no longer valid. Specifically, we consider that the conclusion in the Business Case, that the option of upgrading the existing system presents unacceptably high technology risks, is no longer correct”⁵⁴. As a result the potential use of the existing incumbent system was projected beyond 2011, on the basis of plausible technology upgrades, platform upgrades and extension of support by third party IT vendors. “One of the key premises for urgent systems change was therefore no longer considered valid”⁵⁵.

- ***Internal Capabilities of client-MoE***

The *client-MoE* also realized their capabilities lay in creating policies rather than managing the operation of a large-scale IT project. “The operation of systems and processes required by a large payroll is not the core expertise of the ministry”⁵⁶. *MoE* subsequently reassessed this approach and advised the Cabinet that after all a BPO approach was potentially more cost-effective and manageable at lower risk. “As a result, in Aug 2007 Cabinet rescinded the May 2005 decision for the Ministry to own and operate the schools’ payroll system and agreed that the ministry could start the acquisition of a BPO services vendor”⁵⁷.

In a BPO approach a single vendor is accountable for the implementation of systems *and* operational services. “Under this approach, a single prime vendor would be accountable for a total payroll service. The ministry would ensure it retained the key expertise necessary to effectively

⁵³ Revised Stage2 Business Case, Nov 2007

⁵⁴ Revised Stage2 Business Case, Nov 2007

⁵⁵ Cabinet Meeting Minutes CABMin_07_30_3B, Aug 2007

⁵⁶ Revised Stage2 Business Case, Nov 2007

⁵⁷ Novopay Tender Documents - Collated

manage this arrangement”⁵⁸. The following lists some of the recommendations made about this revised approach, drawn from excerpts taken from an internal MoE memo: “a BPO arrangement is less costly on a purely cash basis a projected 10 year cost, a BPO arrangement transfers risk from the ministry to the BPO vendor, a BPO arrangement requires less implementation and management expertise and resource from the ministry, and a BPO arrangement avoids the requirement for the ministry to increase its capital base and baseline depreciation funding”⁵⁹. The above established the basis for another round of RFI and RFP.

- ***Requirements of Tender Process***

The decision to follow a revised BPO approach required the complete tender process to be carried out again: “A BPO approach is a significant departure from the approach agreed to earlier, and therefore the Ministry would need to return to the market to choose a BPO services vendor”⁶⁰. While necessary it was acknowledged that this was not itself without risk: “A return to the market will negatively impact the Ministry’s reputation as it will be perceived that almost three years have been spent with no decision”⁶¹.

In the meantime *Datacom* upgraded its system and addressed some of the technical issues that had been constraining ongoing use of the incumbent system. This brought *Datacom* and *Talent2* into direct competition for the new contract. “On this basis, the project Steering Committee agreed in January 2006 that Datacom as the incumbent supplier would be given the opportunity to prepare and submit a proposal to upgrade its current services to the ministry in competition with the proposal from Talent2”⁶².

At this time tentative suggestions were made that, given the work that had already been done, the new BPO contract should simply be awarded to *Talent2*. However: “[t]his presents significant reputation risk to the ministry: there is a possibility of third party challenge which would delay implementation, negating the elapsed time advantages, and as this option breaches the Cabinet mandatory procurement guidelines, Cabinet would need to approve this option. This is potential reputation risk to Cabinet”⁶³. Another option was to carry out a closed tender process between the existing known vendors *Talent2* and *Datacom*. There were still significant probity issues and concerns about following such a process, however. “If a closed tender were conducted between Talent2 and Datacom, the ministry would need to demonstrate reasonable

⁵⁸ Cabinet Meeting Minutes, CABMin_07_30_3B, Aug 2007

⁵⁹ Internal Memo: Recommendations for Next Steps, May 2007

⁶⁰ Cabinet Meeting Minutes, CABMin_07_30_3B, Aug 2007

⁶¹ Internal Memo: Recommendations for Next Steps, May 2007

⁶² Internal Memo: Recommendations for Next Steps, May 2007

⁶³ Internal Memo: Recommendations for Next Steps, May 2007

evidence that these were the two most appropriate vendors, and that there were no other vendors able to reasonably deliver the same services to the level required under comparable commercial conditions. Because of the size of the potential contract, the elapsed time since the 2004 tender, and the lack of opportunity for other vendors to bid, there is a possibility of third party challenge and potential delay to implementation”⁶⁴.

On the other hand, going back to the market by following a complete cycle of RFI and RFP processes might affect the commercial reputation of *MoE*. “The market is aware that the ministry has not been able to come to decision for two years and so will be potentially sc[k]eptical regarding their own chances of finalising a contract”⁶⁵. Another round of RFI and RFP also involved additional costs for vendor(s) and the *MoE*. “Responding to an RFP will be a costly exercise for a vendor. Evaluation of the RFP will be a costly exercise for the ministry”⁶⁶.

In short, *client-MoE* had two broad alternatives to consider: either return to the market for a full tender so as to ensure probity⁶⁷, or choose from either *Talent2* or *Datacom*⁶⁸. These alternatives can be further categorized into four options⁶⁹ listed in Table 4.5, and as further discussed in section 4.2.4.

Options for revised approach
“Option 1 — cancel current tender and proceed with a new tender”
“Option 2 — conduct a closed tender between Talent2 and Datacom”
“Option 3 — select Talent2 under the current 2004 tender, but negotiate a BPO approach”
“Option 4 — cancel current tender and renew Datacom with JETPAY”

Table 4.5 Options for revised approach

⁶⁴ Internal Memo: Recommendations for Next Steps, May 2007

⁶⁵ Internal Memo: Recommendations for Next Steps, May 2007

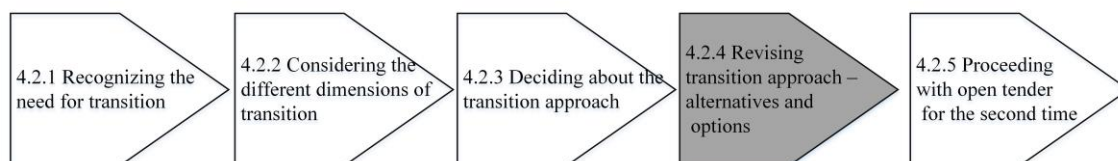
⁶⁶ Novopay Tender Documents – Collated

⁶⁷ Internal Memo: Recommendations for Next Steps, May 2007

⁶⁸ Internal Memo: Recommendations for Next Steps, May 2007

⁶⁹ Internal Memo: Recommendations for Next Steps, May 2007

4.2 Decision



4.2.4 Revised transition approach – Alternatives and options

Four options were considered for the revised transition approach. In this narrative, these options are discussed in detail, with pros and cons about each considered in turn. These four main options were: Option 1 — cancel current tender and proceed with a new tender, Option 2 — conduct a closed tender between *Talent2* and *Datacom*, Option 3 — select *Talent2* under the current 2004 tender, but negotiate a BPO approach, Option 4 — cancel current tender and renew *Datacom* with JETPAY.

4.2.4.1 Option 1 - Cancel current tender and proceed with a new tender

This option had the highest commercial risk, but the lowest probity risk ⁷⁰. The commercial risk was due to the consideration that, even after a few years, this project is going back for retender. There was also a possibility that *Talent2* may even decline to bid and also a consideration that this option will take more time: “it will delay implementation by 10 to 12 months, increasing payroll operational risk as the system moves close to June 2011” ⁷¹, “it is probable that the commercial conditions gained will not be as advantageous as the current *Talent2* proposal. *Talent2* may even decline to bid” ⁷².

On a positive note, this option could have been proceeded with and taken up without requiring approval from the Cabinet Committee, and it also addressed the technical risks. “[It] complies with Cabinet mandatory procurement guidelines and OAG requirements. Either directly choosing a vendor or conducting a closed tender without returning to the market is likely to result in a third party challenge and damage the ministry’s public reputation” ⁷³. However, it would

⁷⁰ Internal Memo: Recommendations for Next Steps, May 2007

⁷¹ Internal Memo: Recommendations for Next Steps, May 2007

⁷² Internal Memo: Recommendations for Next Steps, May 2007

⁷³ Internal Memo: Recommendations for Next Steps, May 2007

require a carefully planned communications strategy: “A communications plan will need to be developed as a matter of urgency to mitigate reputation issues in the marketplace” ⁷⁴.

4.2.4.2 Option 2 – Conduct a closed tender between *Talent2* and *Datacom*

This option did not address probity issues and was against the Office of the Auditor General (OAG) guidelines for carrying out a procurement process. “Cabinet mandatory procurement guidelines are not complied with and so Cabinet would need to approve this” ⁷⁵. “If the ministry chooses an option that breaches either, OAG requirements or Cabinet mandatory procurement guidelines, Cabinet permission must be sought for an exemption. However, this case would fall outside the criteria for exemptions in the mandatory guidelines. This creates significant risk that Cabinet will not support the ministry’s preferred solution against their own procurement guidelines” ⁷⁶.

Concerns remained over the system being proposed and promoted by *Datacom*, which had not been evaluated in the previous RFI – as such there was no proof or evidence that it would (or would not) be suitable. “Datacom JETPAY [new system of Datacom] has not been chosen on the basis of any formal research or public RFI. It was not offered by Datacom in the 2004 tender round” ⁷⁷.

4.2.4.3 Option 3 - Select *Talent2* under the current 2004 tender, but negotiate a BPO approach

Option 3 was the preferred option of the Steering Committee as it carried the lowest commercial and payroll-related risks: “It provides the smoothest implementation and the best value for money. It adds no additional direct cost and elapsed time. It is also likely to present the best commercial conditions that the ministry will ever achieve” ⁷⁸. However, it too did not comply with OAG procurement guidelines – as such “it has a high probity risk and will require Cabinet agreement as it breaches the mandatory procurement guidelines. If there is a third party legal challenge, this will delay the implementation start date” ⁷⁹.

⁷⁴ Internal Memo: Recommendations for Next Steps, May 2007

⁷⁵ Internal Memo: Recommendations for Next Steps, May 2007

⁷⁶ Internal Memo: Recommendations for Next Steps, May 2007

⁷⁷ Internal Memo: Recommendations for Next Steps, May 2007

⁷⁸ Internal Memo: Recommendations for Next Steps, May 2007

⁷⁹ Internal Memo: Recommendations for Next Steps, May 2007

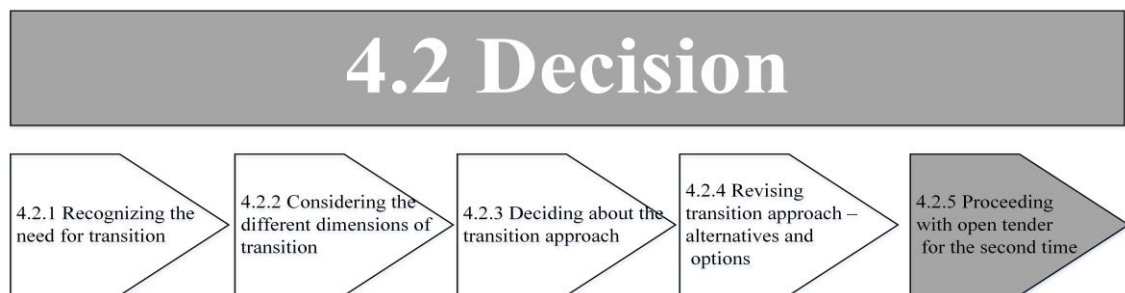
4.2.4.4 Option 4 - Cancel current tender and renew *Datacom* with JETPAY

In comparison to the other options considered this path also carried probity risks. Moreover, even though their new system had not been evaluated the Steering Committee did not prefer choosing the *outgoing vendor-Datacom* over *incoming vendor-Talent2*: “The Steering Committee favours Talent2 over Datacom and there are significant probity issues with this option that cannot be overcome. JETPAY was not selected as part of the 2004 tender and there is no new evidence to favour it over Talent2’s ALESCO”⁸⁰.

Based upon the pros, cons and risks associated with each option, *client-MoE* agreed to choose either:⁸¹

- Option 1 — Cancel current tender and proceed with a new tender, or
- Option 3 — Select *Talent2* under the current tender

Due to the probity issues associated with Option 3, and in spite of the reputational risks associated with Option1, it was subsequently decided to take up the latter option: *Cancel current tender and proceed with a new tender*.



4.2.5 Proceeding with open tender for the second time

Thereafter, an open tender was again convened, but this time to select a BPO vendor. This narrative provides a description of this process. Figure 4.5 draws on sections 4.2.4 and 4.2.5, illustrating the emerging antecedents and consequences for carrying out this process again for the same transition project.

Before initiating the tender process, and in spite of its open nature, the *client-MoE* acknowledged that the most appropriate vendors would likely be *Talent2* or *Datacom*. “Either choosing Talent2 or Datacom has the lowest commercial risk. Costs and conditions have been

⁸⁰ Internal Memo: Recommendations for Next Steps, May 2007

⁸¹ Internal Memo: Recommendations for Next Steps, May 2007

agreed to a large extent and the competition between Datacom and Talent2 has enabled favourable commercial terms to be gained for the ministry”⁸². There was also a realization by *client-MoE* that one or both might simply choose to opt out: “Both vendors have invested significant resources over three years to win the Ministry’s business with little perceived progress. Requiring them to continue to invest may result in increased proposed costs to cover the costs incurred to win the Ministry’s business. There is also a possibility that Talent2 may withdraw from the process”⁸³.

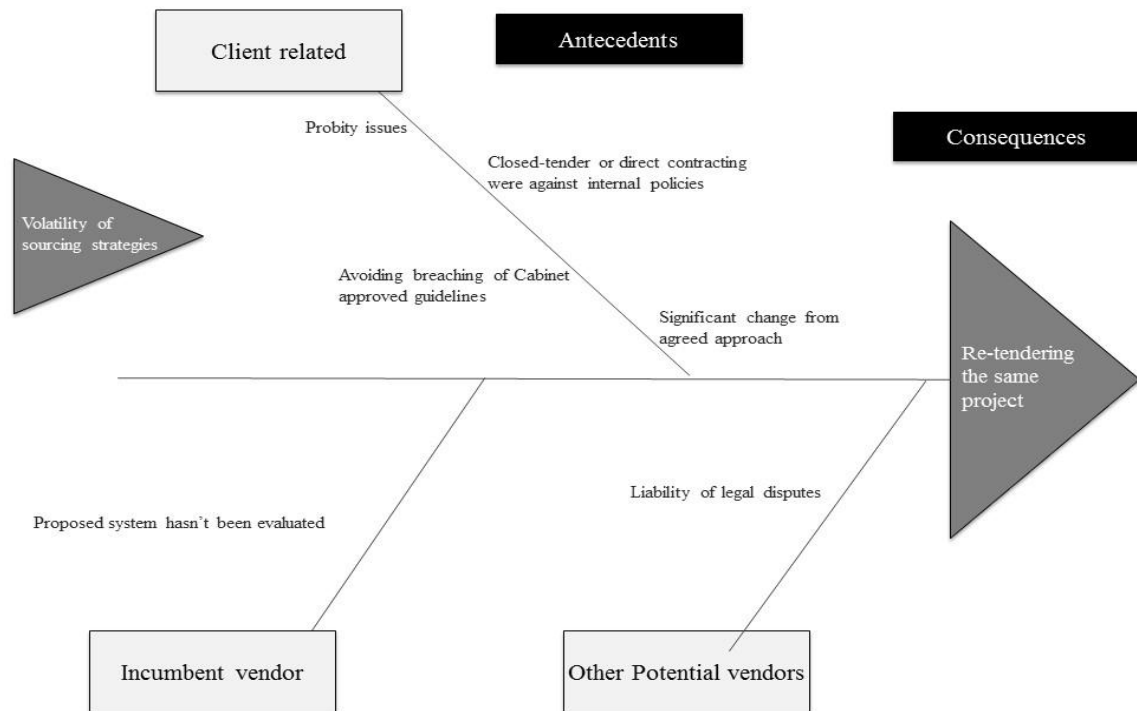


Figure 4.5 Antecedents which impacted on retendering the same project

4.2.5.1 Competition between Datacom and Talent2

As it transpired three main vendors responded to the RFP: “As a result of this ROI, a shortlist of four vendors was identified to enter a Request for Proposal. The ministry issued the RFP on 12 December 2007 and obtained responses from three vendors on 5 March 2008: Datacom, EDS, and Talent2”⁸⁴. During the course of this second tender process incumbent Datacom and Talent2 (chosen in 2005) became direct competitors: “Both Talent2 and Datacom were fully aware that they were now in competition with each other”⁸⁵. Talent2 had been the favoured choice of the Steering Committee in the initial assessment. However, over the

⁸² Internal Memo: Recommendations for Next Steps, May 2007

⁸³ Internal Memo: Recommendations for Next Steps, May 2007

⁸⁴ Cabinet Meeting Minutes, CABMin_08_29_2, July 2008

⁸⁵ Novopay Project History, March 2007

intervening three-year period, Datacom had strengthened its position and so became a (more) viable contender. “With the passage of time the relative position of Datacom has been strengthening and it is not clear that Talent2 would continue as the recommended option in the next draft of the Revised Business Case”⁸⁶.

Given that they had unexpectedly continued in a relationship with *MoE*, *Datacom* had improved its offering and had demonstrated the usefulness of their proposed new system. BAU extensions with *Datacom* were strategically negotiated by *client-MoE* before finalizing the outcome of the second tender process. It was considered that, since *Datacom* was bidding for the project, it had an incentive to extend ‘business as usual’ (BAU) with conditions favourable to MoE. However, “If Datacom is not chosen as the vendor for the new schools’ payroll, it will no longer have this incentive. It is therefore important that the contact extension be signed as soon as possible, certainly before the RFP responses from vendors are received and the evaluation starts”⁸⁷.

During the tender evaluation process, it was established that *Datacom*’s proposal did not demonstrate adequate understanding about the differences between the business process outsourcing services requested in the Request for Proposal and the services the organisation was currently providing. It was considered that the new services were seen as BAU and did not demonstrate any significant change. “There was also a poor understanding of the data quality issues. In addition, the proposal assumed varying amounts of effort from the Ministry and that the Ministry would accept a high level of risk associated with the transition. The relationship management proposed was an informal model and did not meet the Ministry’s requirements as defined in the RFP”⁸⁸. On the other hand, *Talent2*’s proposal was considered fit for purpose and showed good understanding of the services that MoE was seeking. “The transition project reflected the significance of the activities that need to be undertaken. There was a very good understanding about the data quality issues with a low risk approach proposed”⁸⁹. *Talent2* was, therefore, selected as the preferred vendor for the second time. “Talent2’s proposal had the highest overall weighted evaluation score, could deliver a solution at acceptable risk, and was within the schools’ payroll funding envelope”⁹⁰.

⁸⁶ Novopay Project History, March 2008

⁸⁷ Revised Stage2 Business Case, Nov 2007

⁸⁸ Novopay Tender Documents-Collated, April 2008

⁸⁹ Novopay Tender Documents-Collated, April 2008

⁹⁰ Cabinet Meeting Minutes, CABMin_08_29_2, July 2008



4.3 Transition Phase

According to the timeline of sourcing, the transition phase is the period during which an old vendor is working in BAU mode supporting an ongoing system while a new vendor is working on the implementation of a new system. In this phase, an actual hand-over is carried out between vendors. During this time, the client and end-users must develop new relationships with the incoming vendor, while the incoming vendor relies on support from the client, the outgoing vendor and end-users to help implement the new system. Preparation and training of end-users are also carried out during this phase, in order to get them sufficiently acquainted with the new system and service model. Narratives associated with the transition phase are described in this section, as depicted in Figure 4.6.

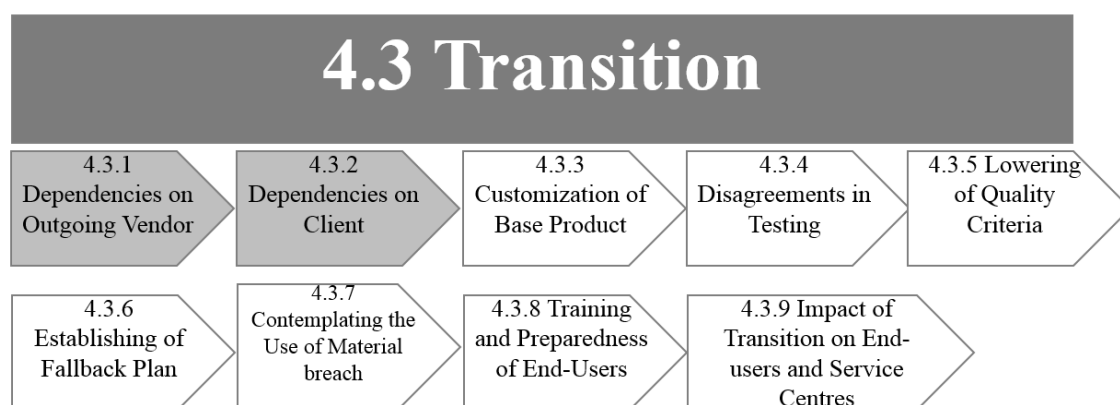


Figure 4.6 Narratives in Transition Phase. Highlighted narrative(s) under discussion

4.3.1 Dependencies on Outgoing Vendor

Successful implementation of transition projects, to a great extent, depends upon cooperation from the outgoing vendor(s)(Olzmann & Wynn, 2012). In this case, the *outgoing vendor - Datacom*, was a leading vendor in the New Zealand market and client expectations from such a high-profile vendor were that it would indeed cooperate: “To maintain its reputation in the marketplace [,] Datacom is very unlikely to engage in behavior that could place the schools’ payroll at risk during any transition” ⁹¹. Contractual terms and reputation in the market placed an obligation on *Datacom* to actively support this transition project.

⁹¹ Revised Stage2 Business Case - Risk Mitigation, Nov 2007

“Equally, as the incumbent prime vendor, it is in Datacom’s own commercial interests to ensure a smooth transition as any adverse publicity relating to a failed or problematic transition would affect Datacom’s reputation as much as that of the ministry and the new vendor”⁹².

Prior to deciding upon the BPO vendor it was assumed that, in any case, *Datacom* and its associated sub-contracting companies would support *and become part of* the new service arrangement. “It is highly likely that a new vendor would seek to subcontract pay clerking arrangements to the existing operators, namely School Support, Multi-Serve, and Datacom. It is unlikely that the current Datacom sub-contractors School Support and Multi Serve would obstruct a change in prime vendor from Datacom to a new vendor”⁹³. However, there was also an understanding that the new system would reduce the number of pay-clerks, which in effect might reduce the profit margins of the third-party contractors. “The technology change would reduce the number of pay clerks required, and this would reduce sub-contractor costs though the impact on revenue and profit is unknown”.⁹⁴

This narrative describes the complexities, tensions and circumstances of this situation.

4.3.1.1 Commercial pressures on outgoing vendor

In an effort to make the outgoing vendor supportive of the transition project it was suggested that *Datacom* indeed become part of the new service model: “their [Datacom] interests could be maintained by keeping Datacom and its subcontractors as the pay clerk service providers throughout implementation and during operation initially, under the management of the new prime vendor”⁹⁵. However, *Datacom* and *Talent2* independently stated they were not interested in working as partners. Commercial pressures that had built up over the project to date had driven decisions and behaviours from both parties which were less than optimal from an ongoing relationship perspective. One notable example was the lack of willingness of *Datacom* to assist in management and transfer of data from the old to the new system. “[T]hey [Datacom] have been less responsive to requests for necessary assistance to understand the data in their current system. There has been a number of delays to urgent requests for assistance”⁹⁶. This adversely affected the *incoming vendor-Talent2*, which expressed concerns that they did not have a clear view about the data in the old system.

⁹² Revised Stage2 Business Case, Nov 2007

⁹³ Revised Stage2 Business Case, Nov 2007

⁹⁴ Revised Stage2 Business Case, Nov 2007

⁹⁵ Revised Stage2 Business Case - Risk Mitigation, Nov 2007

⁹⁶ Quarterly meeting reports on High Risk Projects, Dec 2011

In case the transition-project was delayed, *client-MoE* developed a fallback plan with *Datacom*. In order to carry this out, *MoE* formally negotiated an extension of operation of the current arrangements: “The current contractual arrangements with Datacom support a staged transition to a new vendor and include provisions for extended, operation in case of delay in changeover”⁹⁷. *Datacom* were responsive towards a fallback option (discussed in section 4.3.6). However, for commercial reasons, *Datacom* pushed for a longer-term *and larger-scale* commitment. “Datacom was reluctant to consider supply of payroll services beyond June 2012 unless the Ministry made a long-term commitment to use Datacom and make a transition to its new Datapay software product”⁹⁸. This is explained further in section 4.3.6.

Datacom’s lack of willingness to support Talent2 is also evident from their reluctance to provide resources to help manage data transfer. “Appropriate Datacom resources may not be available as required to the Novopay project team, especially in regard to data migration; this could result in project delay or less than optimally accurate calculations”⁹⁹. *Datacom* was a runner-up in the tender process, and was still in competition to take over the project. It can be argued that, although ethically and morally *Datacom* should have supported Talent2, commercially in the current market scenario it might not have been viable.

4.3.1.2 Requirements of similar human resources by both vendors

During the transition period the incoming and outgoing vendors were working side by side. As the *outgoing vendor-Datacom* continued to operate BAU, the *incoming vendor-Talent2* initiated work on the transition project. There were, thus, requirements for overlapping of human resources. “[B]oth Datacom and Talent2 recognize the risk, there are commercial sensitivities which also complicate their ability to be fully transparent and collaborative in developing mitigations”¹⁰⁰. The *incoming vendor-Talent2*, expected to establish service centres in conjunction with subcontractors working for the *outgoing vendor-Datacom*. “These arrangements mean that Talent2 will be able to potentially engage existing staff”¹⁰¹.

According to an outsourcing agreement between *MoE* and *Talent2*: “Each Party shall do everything reasonably necessary to ensure that the other Party has easy access to key people, information and resources, required by the other Party for the purposes of fulfilling its obligations”¹⁰². This

⁹⁷ Replacement of Schools' Payroll -Report Back, July 2009

⁹⁸ Quarterly meeting reports on High Risk Projects, Dec 2011

⁹⁹ Replacement of Schools' Payroll Report to Cabinet, July 2009

¹⁰⁰ Health Check Review, Independent Quality Assurance Report by IQANZ, July 2010

¹⁰¹ Replacement of Schools' Payroll Report to Cabinet, July 2009

¹⁰² Education Service Payroll Outsourcing Agreement, Aug 2008

contract, however, was not binding upon the third-party *subcontractors*. “Multiserve [subcontractor] was unable to accept the commercial proposition presented to them by Talent2” ¹⁰³.

For *client-MoE*, an ideal situation would have been to pick and choose from the best portions of the outgoing vendor and the incoming vendor. However, there was no such option in the agreement nor was it considered during ROI or RFI. Given competitive and commercial pressures such an option was also not feasible in the eyes of the vendors. “Though this sounds promising both organizations have independently stated that they would not work with each other as business partners” ¹⁰⁴.

Regarding the transfer of human resources from the outgoing to incoming vendor: “Datacom has also contractually agreed to transfer all or part of its services to the Ministry or another supplier as nominated by the ministry, following the expiry or termination of the contracts” ¹⁰⁵. However, when the *incoming vendor-Talent2* proceeded to recruit staff from the *outgoing vendor-Datacom* and subcontractors from the open market, this created tensions for *client-MoE* in terms of risking BAU during this interim period. “If Datacom didn’t discuss with T2 a possible transition plan of potential staff between Datacom and T2, this may increase the risk of BAU Payroll being affected” ¹⁰⁶.

4.3.1.3 Data cleansing and transfer

Transfer of data from the old system to the new system was marked with challenges, which contributed towards delays. The Risk Register notes: “Unacceptable Datacom data quality resulting in conversion issues and ongoing quality reliability” ¹⁰⁷. Data conversion and migration was a key dependency for the latter development and testing activities. “Delays to data cleaning tasks increasing risk to migration testing” ¹⁰⁸. “Any ongoing issues regarding payroll data have potential to affect the schools’ usage of the online payroll system, with resulting impacts on the capacity of pay centres to manage the payroll accurately” ¹⁰⁹. Furthermore, it became evident that there were large gaps between the data stored in the old system and the data

¹⁰³ Novopay Board Meeting Minutes, Sep 2010

¹⁰⁴ Internal MoE Communication, Leanne Gibson (CIO) to Novopay Board (Ministry Personnel Only - Anne Jackson (Dep. Secretary) and Lesley Longstone (Sec. of Education)

¹⁰⁵ Revised Stage2 Business Case, Nov 2007

¹⁰⁶ Replacement of Schools’ Payroll Report to Cabinet, July 2009

¹⁰⁷ Novopay project risk register – Collated, April 2010

¹⁰⁸ Novopay project risk register – Collated, April 2010

¹⁰⁹ Independent Novopay Review Report by Extrinsic, Jan 2010

required by the new system. “Not all data required by Novopay is available in TeacherManager [incumbent system], and data conversion process may lead to errors, omissions and/or inaccuracies” ¹¹⁰.

Client-MoE was contractually responsible to provide data to the *incoming vendor-Talent2*. An excerpt taken from the agreement mentions: “Except to the extent otherwise agreed or resolved, upon the Supplier's written request specifying the particular Ministry Data, the Ministry will provide the Ministry Data necessary to satisfy the Requirements to the Supplier, at the Ministry's cost” ¹¹¹. As the *outgoing vendor-Datacom* had been managing this data since 1995-1996 (more than 11 years at that time), *client-MoE* was essentially reliant upon them to provide this data in a format that was acceptable to the *incoming vendor-Talent2*. However, *Datacom's* support regarding this aspect was inconsistent. The following excerpts are taken from the meeting minutes and weekly reports to highlight this behaviour. “Datacom's response to requests for data, technical information and meetings has been tardy and risks impacting downstream work and completion dates” ¹¹². “Access to resources that can help interpret the TeacherManager [incumbent system of Datacom] payroll data remains an unresolved issue. Further discussions took place with Datacom last week and they have confirmed that they have no resources available to support this work on a dedicated basis” ¹¹³.

In order to better understand these unexpected data-related issues, *client-MoE* carried out a data analysis exercise and found that: “30% to 40% of the data records are inaccurate, data issues can be categorized as: non-contract salary rates, title, dates of birth, incorrect leave balances, inaccurate record keeping to enable schools to pay employees above the minimum rates defined in the collective agreements, spelling errors and duplicate records, ‘date-of-birth’ data is unreliable due to no validation on this field, leave information is inaccurate, including no leave being captured at all for some employees” ¹¹⁴. On realizing this situation, *client-MoE* revised its contract with *Datacom* to transfer data within a suggested timetable and according to a standard format. Eventually *Datacom* delivered this data but showed reluctance in sharing information about the customizations. Moreover, the data had discrepancies and required cleansing, a responsibility that *Datacom* believed did not rest with them. “Annette [Datacom] advised that the data in TM4 reflects the data the schools have provided so it is up to the schools to address with their staff, although the perception of staff may be that it is a Ministry problem” ¹¹⁵.

¹¹⁰ Novopay project risk register – Collated, April, 2010

¹¹¹ Second Variation Agreement

¹¹² Quarterly meeting reports on High Risk Projects, Dec 2011

¹¹³ Novopay Project Status Report Weekly, Jan 2012

¹¹⁴ RFP: Provision of Fully Outsourced Payroll Services for the Schools ' Sector, Dec 2007

¹¹⁵ Novopay Board meeting minutes, Aug 2012

To resolve these data quality issues the *client-MoE* needed to continue to work closely with *Datacom*. They had to contact schools to provide missing information, which created an unanticipated level of additional work. Moreover, this revealed other issues of concern: “The data gathering exercise is identifying instances of poor human resources practices in schools — e.g. individual employment contracts not being linked to collective agreements, non-teaching staff being on fixed term agreements when permanent arrangements would be more appropriate” ¹¹⁶. Data cleansing activities further extended the scope of this part of the project to involve liaising with the New Zealand *School Trustees Association* and *Ministry’s Industrial Relations Unit* (as these organizations provided human resource advice to schools and negotiate collective agreements with sector unions), to resolve underlying data-related issues but also to ensure that the payroll changeover had minimal impact on collective agreement negotiations, and *vice versa*.

4.3.2 Dependencies on Client

The BPO approach chosen in this transition project was considered by *client-MoE* to be less risky than the alternatives, as under such an approach a single vendor would be accountable for end-to-end project completion and service delivery. However, disagreements emerged between *incoming vendor-Talent2* and *client-MoE* regarding the nature of the BPO contract: “Talent2’s position is that the Ministry has purchased an outsourced solution and it is thus only relevant that the required outcome is achieved” ¹¹⁷. Mismatches in expectations such as this can arise due to the nature of output-based contracts which emphasize deliverables rather than the details about how those deliverables are to be produced. Over the course of this case it became clear that a BPO approach does not relinquish clients from their responsibilities as the incoming vendor can be reliant upon the client for support. This narrative describes this dependency in detail.

4.3.2.1 Availability of subject matter experts

An area of tension between *client-MoE* and *incoming vendor-Talent2* centred on the availability of Subject Matter Experts (SMEs) to elaborate *requirements*. Contractually, *client-MoE* was bound to provide such resources: “The Ministry acknowledges that in order for the Supplier to meet its obligations (under clause 3.1: Business Requirements and Business Processes) the Ministry will need to make relevant Ministry personnel available in a reasonably timely fashion to answer

¹¹⁶ Replacement of Schools’ Payroll Report to Cabinet, July 2009

¹¹⁷ Novopay Steering Committee Mins –collated

queries from the Supplier on the Ministry's business requirements" ¹¹⁸. However, *client-MoE* found such provision difficult: "Specialist resources (including SME) has proved difficult to source" ¹¹⁹.

Moreover, the SMEs who were available were hardly SMEs at all, as they were uncertain about the new business processes and were unfamiliar with the overall goal and expectations of the transition project. "SMEs tended, necessarily, to be drawn from the Datacom payroll environment" ¹²⁰. "The SME had often gained all their payroll knowledge at Datacom in the schools payroll. This meant that the SMEs sometimes expected that the new payroll would automate pre-existing manual processes rather than use the full capabilities of a modern payroll system with which they were not familiar" ¹²¹. This impacted upon the development of functional specifications (FDS) and contributed towards negative flow-on effects on project timelines: "Resource issues and the emerging scale of these FDS are contributing to more slippage over planned" ¹²².

4.3.2.2 Inefficient communication, roles and responsibilities

The transition project was structured as such that there was "...a lack of clarity around roles and responsibilities and who owns what. Many people were concerned that the vendor had no plan for transitioning into the change management phase, and setting up the service part of the contract with a "go live" date a year away" ¹²³. This concern was further evident in a statement made by the Chief Information Officer of MoE, Leanne Gibson, who noted that "it would be good to give stakeholders a clear understanding of what is Talent2's responsibility and what is the Ministry's responsibility" ¹²⁴. For their part the *incoming vendor-Talent2* claimed to be adversely affected by inefficient communication. They raised concerns that: "There are too many people involved with tasks being moved from one person to the next which causes delays in delivery" ¹²⁵. Getting consistent MoE resources to improve communication and reduce turnaround times was problematic. This was a further reflection of a mismatch in expectations – in opting to choose a BPO approach, *client-MoE* estimated that they would provide fewer resources and effort than that required or expected by *incoming vendor-Talent2*.

The management of key resources was also of concern. As mentioned in a PwC report: "key resources could be over committed as a result of allocating 100% of key resources time to key

¹¹⁸ Manage Service Delivery Service Schedule between MoE and Talent2, Aug 2008

¹¹⁹ Novopay project risk register – collated, May 2012

¹²⁰ Ministry of Education Response to Inquiry, May 2013

¹²¹ Ministry of Education Response to Inquiry, May 2013

¹²² Novopay Project Status Report Weekly, May 2011

¹²³ Assessment and Improvement of Culture in the Novopay Project, by Change Dynamics Limited, Jun 2011

¹²⁴ Novopay Board meeting minutes, Sep 2012

¹²⁵ Novopay Board meeting minutes, Jan 2009

activities. This is significantly higher than a 75% norm as there is no allowance for contingency in resource estimating”¹²⁶. This contributed to staff turn-over and certain experts deciding not to extend their contracts. “Turn over staff is a project issue. T2 [Talent2] have new BA’s [Business Analysts] starting to replace BA’s [Business Analysts] who have left or imminently leaving. Two MoE long term SME’s [Subject Matter Experts] have notified they are not renewing their project contracts”¹²⁷.

Figure 4.7 illustrates the emerging antecedents and consequences related to the lack of cooperation between the stakeholders, as developed from sections 4.3.1 and 4.3.2.

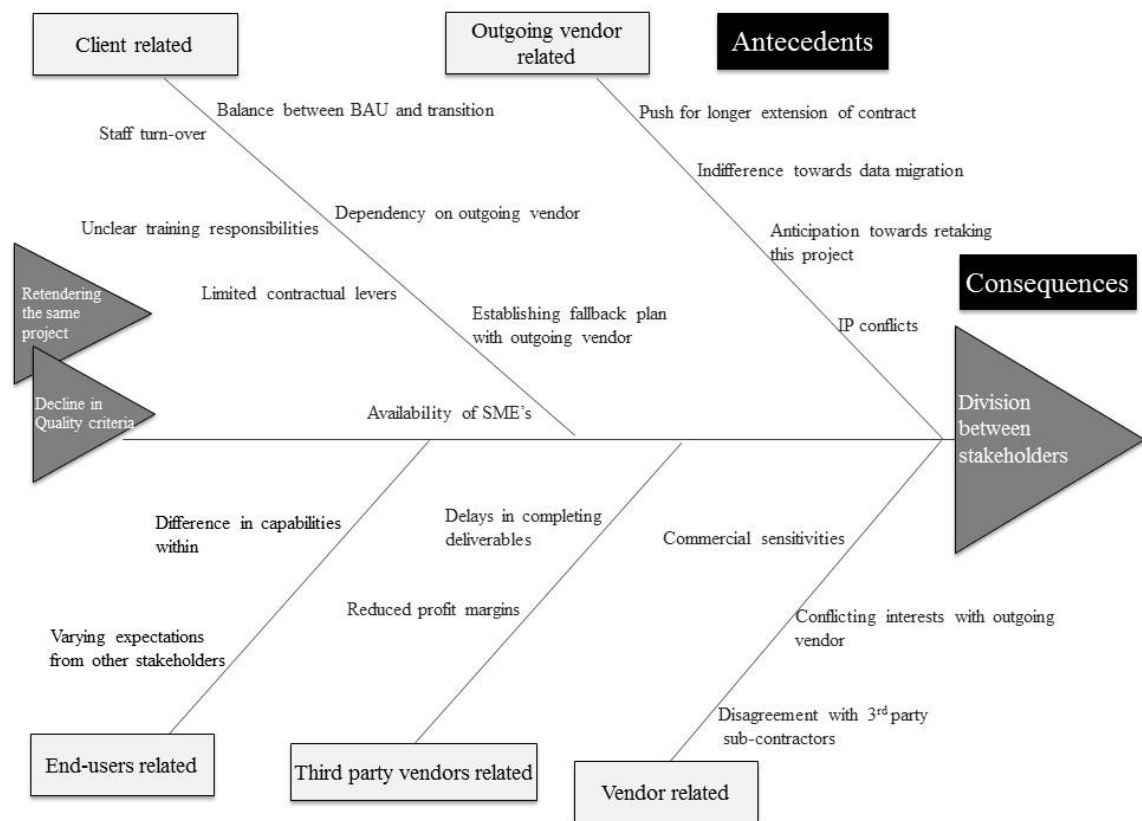
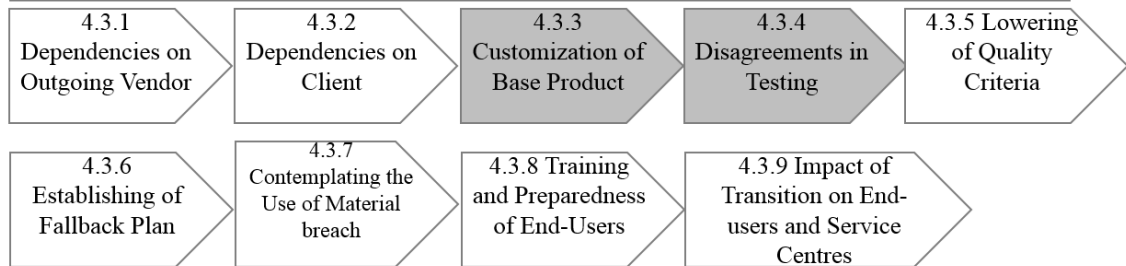


Figure 4.7 Antecedents which impacted on cooperation between stakeholders

¹²⁶ Novopay project risk register – collated, May 2011

¹²⁷ Novopay Project Status Report, May 2011

4.3 Transition



4.3.3 Customizations of Base Product

This narrative describes the underlying reasons for unanticipated customizations and their effects. Figure 4.8 illustrates the emerging antecedents and consequences which contributed towards the extensive customizations made during this project.

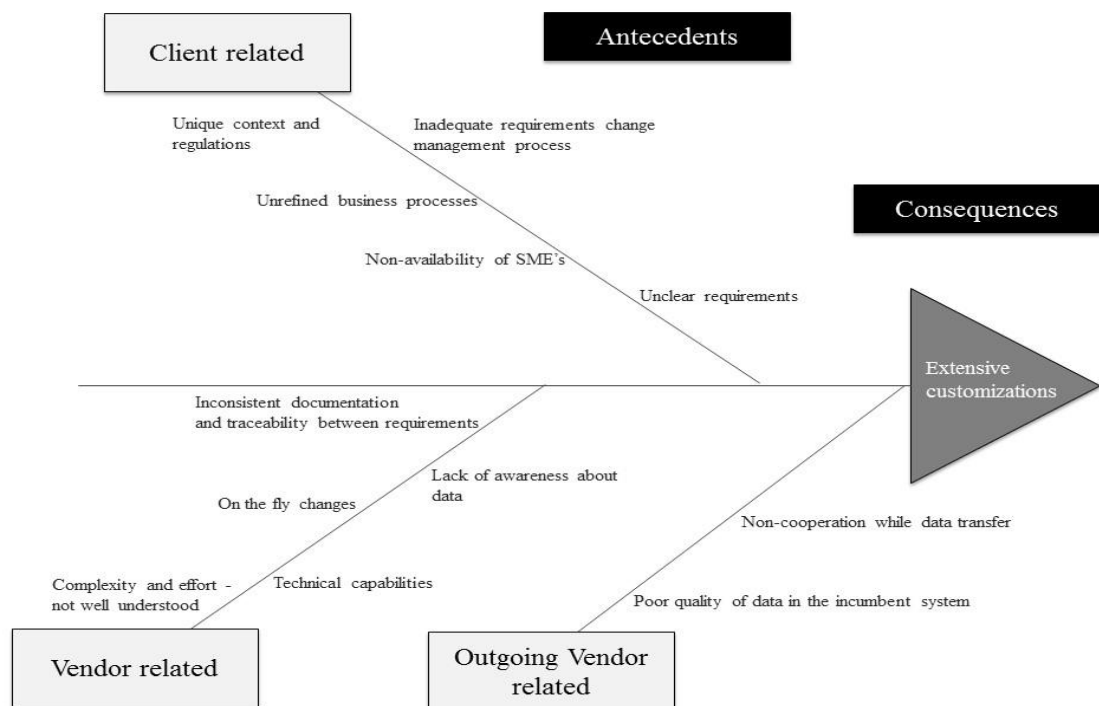


Figure 4.8 Antecedents which impacted on customizations

4.3.3.1 Drawbacks of customizations

The incumbent system had been previously customized to accommodate the complex requirements of *MoE*. “TeacherManager [incumbent system] is used as a frontend to provide some additional functionality for data entry and queries. The systems are variants of Datacom base products,

but have been developed and customised to meet the ministry's needs since 1996"¹²⁸. Yet, even though one of the justifications for embarking on the transition project was the difficulty in maintaining such customizations, the new system in due course was expected to need significant configurations and customizations: "The core system functionality is to be provided from Talent2's ALESCO system, with significant configuration and customisation to support the Ministry's needs"¹²⁹. Furthermore, according to a technical review carried out by Deloitte, the number of customizations required had been more than expected. "The core ALESCO and NOL platforms have been extensively customised to meet the Ministry's requirements. As an indication of this, there are approximately 76 specified customisations, several of which are very complex. A number of them augment or replace standard functionality, and many are inter-related"¹³⁰. These customizations ranged in scope: "The customisations include new or changed screens, business logic, interfaces to other systems and reports. Most of the key customisations interact closely with base product functionality, and in a small number of cases, base product code has needed to be modified"¹³¹. Some of these customizations were in high user impact areas, such as NOL (online-screens), and it was noted subsequently by Deloitte that this could be problematic in the future: "The degree of customisation will affect the effort and cost of on-going changes to the system, which could be defect fixes, improvements or product upgrades. For example, upgrades to the product will require every customisation to be analysed for possible flow on impacts. Testing of changes (including regression testing) will be more complex than if there were fewer customisations"¹³².

Extensive customization carries a risk that periodic improvements and enhancements made in the actual product could not be readily implemented in the customized version. "There is a risk that local improvements are not implemented as change capacity is dominated by maintenance work, and that the system will not be kept up-to-date with the latest product version"¹³³. It can also increase the client's dependence on specific human resources who are aware about the technical aspects of the base product for continuous support. "The amount of customisation also creates a heavy reliance on skilled people who understand the complexities of the system, raising capacity and continuity risk"¹³⁴.

¹²⁸ Novopay Tender Documents, Dec 2012

¹²⁹ Intervention Review of Educational Services Payroll Project, by PwC, Dec 2010

¹³⁰ Novopay Technical Review Report by Deloitte, March 2013

¹³¹ Novopay Technical Review Report by Deloitte, March 2013

¹³² Novopay Technical Review Report by Deloitte, March 2013

¹³³ Novopay Technical Review Report by Deloitte, March 2013

¹³⁴ Novopay Technical Review Report by Deloitte, March 2013

Customizations can also affect timelines. “Custom work milestone was potentially unrealistic as the detailed scope was unknown at that time” ¹³⁵. “Custom work delays affecting schedule milestone. Unanticipated custom work for the changes that have occurred over the past 2 years” ¹³⁶. In this project customizations contributed towards ongoing delays, as noted in the following quotes from a variety of sources: “The board noted that a letter of notification had been received from T2 in regard to the Custom Work milestone being delayed by 2 weeks” ¹³⁷. “He [John Rawlinson, CEO Talent2] registered his disappointment that the Custom Work milestone had been missed but he was still very confident of the timeframes and of Talent2 being capable of completing the software, having it work satisfactorily and still keep to the June 2011 deadline” ¹³⁸. “The agreed milestones for completion of custom work and system testing had been missed by over four weeks, with no clear indication of the remaining time or effort required to complete this phase” ¹³⁹. “There is currently no plan/date for when the custom development work will be completed” ¹⁴⁰.

4.3.3.2 Reasons for customizations

- *Inadequate requirements management process*

While the system’s requirements had been specified these were found to be both insufficient and poorly maintained. Business requirements specifications (BRS), the original system specifications, were developed in 2005 but they were not systematically updated, and therefore could not be used as a base-line for developing more detailed functional specifications: “Functional design specifications are the primary source of custom work information, however they do not provide clear linkage to business requirements and are not complete” ¹⁴¹. The requirements lacked detail, resulting in unanticipated custom work: “Full complexity of requirements not clear from BRS which has resulted in some unexpected custom work and rework of functional specifications and development work. T2 have advised delays to completion of custom work that will affect UAT major milestone” ¹⁴².

The BRS were eventually modified in 2008 but again were not kept up to date: “the BRS documents have not been maintained and have fallen out of use. Traceability between the BRS and Functional Design Specifications (FDS) has not been undertaken and is not now possible” ¹⁴³. In short,

¹³⁵ Educational Services Payroll Project Review by PwC, Nov 2010

¹³⁶ Novopay Project Risk Register – collated, April 2010

¹³⁷ Novopay Board Meeting Minutes, Aug 2010

¹³⁸ Novopay Board Meeting Minutes, Sep 2010

¹³⁹ Educational Services Payroll Project Review by PwC, Nov 2010

¹⁴⁰ Educational Services Payroll Project by PwC, Nov 2010

¹⁴¹ Educational Services Payroll Project by PwC, Nov 2010

¹⁴² Novopay Project Risk Register – Collated, April 2010

¹⁴³ Educational Services Payroll Project by PwC, Nov 2010

the requirements engineering processes employed in the project were not robust and this contributed directly towards the need for additional rework. “Project delivery is impacted on a daily basis due to not having well written or elaborated requirements to develop tests and quality criteria against. The current BRS/FDS process has resulted in additional rework of the payroll system as requirements are subsequently detailed or discovered along the way” ¹⁴⁴. Moreover, during the course of the transition project, *client-MoE* took the opportunity to refine their business processes which “led to some initially identified requirements changing later in the project” ¹⁴⁵.

Another contributing factor to the need for large-scale customizations was a lack of awareness about the data quality in the incumbent system. “Data conditions identified during data conversion have led to a higher degree of ALESCO system configurations than was initially envisaged, with subsequent impact on the amount of testing that will be required” ¹⁴⁶. Moreover, requirements for customization were not clear: “One of PwC key findings was requirements for custom work are not specified enough” ¹⁴⁷. Delays in requirements elaboration added significant cost to the project. “[xxx] believes a contributory factor to this is that we continuously underestimated how long an activity will take and therefore it is inevitable that the project experiences slippage” ¹⁴⁸.

- ***Lack of awareness about vendor’s ability***

According to a *PwC* review carried out in December 2010 “Talent2 has a good basic product but it is now apparent that it did not have the required technical ability in many areas to customise/deploy their Alesco payroll product to meet the needs of the Education Service Payroll” ¹⁴⁹. Recognizing the slippage in timelines due to problems of capacity and capability, Talent2 partnered with two New Zealand based sub-contracting organizations, Asparona and Assurity, in early 2011. “Talent2 indicated that they had sought to partner with local third parties to enhance their expertise and capacity in testing and development”¹⁵⁰. “Talent2 has been working closely with its new local partners, Asparona and Assurity, on a comprehensive re-planning exercise to complete the outstanding custom work and testing” ¹⁵¹.

Partnering with third party companies was expected to provide local technical expertise across the project. “The need to get more people ‘on the ground’ in Wellington and to provide a

¹⁴⁴ Educational Services Payroll Project by PwC, Nov 2010

¹⁴⁵ Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

¹⁴⁶ Novopay Project Review Report by Extrinsic, Jan 2010

¹⁴⁷ Payroll Reference Group Meeting Minutes, Feb 2010

¹⁴⁸ Novopay Steering Committee Meeting Mins –collated, Jan 2011 - Aug 2012

¹⁴⁹ Educational Services Payroll Project Intervention Review by PwC, Dec 2010

¹⁵⁰ Novopay Board meeting minutes, Dec 2010

¹⁵¹ Quarterly meeting reports about High Risk Projects, Q1 2011

different approach”¹⁵². Although “any learning curve is not expected to be a major barrier”¹⁵³ it did impact on the resolution of defects, especially those introduced during customizations by the Talent2 developers. “There were defects on customisation that had been developed prior to the engagement of Asparona, by Talent2 Developers. In many cases the Developers are no longer available”¹⁵⁴. Thus while inclusion of local organizations improved performance some of the timelines were still not met. “Asparona added there are elements in the development that are unknown until they reach the testing stage; these unknown factors are unable to be forecast accurately”¹⁵⁵.

4.3.4 Disagreements in Testing

There were significant disagreements between MoE and Talent2 with regard to ‘testing’ due to a lack of agreed strategies and methods for reaching agreement about recording its status. “Teams working at the detailed level have perspectives on testing status that are not related to an agreed set of reporting standards and quality criteria”¹⁵⁶. Due to concerns over the quality assurance activities, *client-MoE* pushed to involve themselves more in the project. However, as the project followed a BPO approach, having an output based contract, MoE had limited levers through which to direct the vendor. This narrative describes these issues, and the decisions that were taken to improve the testing process.

4.3.4.1 Lack of agreed strategies and responsibilities

Due to differences in terminologies and acceptance criteria, the *client-MoE* had concerns regarding the adequacy of testing performed by the *incoming vendor-Talent2*. It was confirmed by the findings of a PwC 2010 report that: “[T]he current test approach does not follow the documented test strategy”¹⁵⁷ and “responsibilities are not clearly understood across the project”¹⁵⁸. This report also mentioned that: “There is confusion over which party is responsible for particular phases of testing”¹⁵⁹. “There is no day-to-day schedule for testing activities; testing tasks including test execution progress are not being tracked against a schedule”¹⁶⁰. One of the consequences was that *client-MoE* became more involved in the testing process than had been originally anticipated. “[T]hey are driving testing, reviewing Talent2 test scripts and have

¹⁵² Novopay Board Meeting Minutes, Nov 2010

¹⁵³ Novopay Board Meeting Minutes, Nov 2010

¹⁵⁴ Test Summary Report SIT by Assurity, Jan 2013

¹⁵⁵ Novopay Board meeting minutes, Jan 2012

¹⁵⁶ Novopay Project Review Report by Extrinsic, Jan 2010

¹⁵⁷ Educational Services Payroll Project Report by PwC, Nov 2010

¹⁵⁸ Educational Services Payroll Project Report by PwC, Nov 2010

¹⁵⁹ Educational Services Payroll Project Report by PwC, Nov 2010

¹⁶⁰ Educational Services Payroll Project Report by PwC, Nov 2010

committed more resources than Talent2”¹⁶¹. “[T]esting responsibilities and accountabilities have become blurred, resulting in Ministry involvement with custom testing”¹⁶². However, in terms of the procurement contract, *client-MoE* were constrained in the extent to which they could directly control this process: “the Ministry does not have the direct capability to modify the system”¹⁶³.

4.3.4.2 Insufficient time frames and delays

The Novopay risk register noted the insufficient timeframes allocated for testing: “Testing phases allow insufficient time for test execution and defect resolution, and to meet acceptance criteria within planned time frames”¹⁶⁴. In order to improve both testing quality and time frames Talent2 partnered with *Assurity*, a New Zealand based organization with specialist testing capabilities, to provide certain testing services. “System Integration Testing (SIT) will be outsourced to Assurity, a New Zealand based company that provides testing services”¹⁶⁵. In spite of these additional resources, SIT was not completed on time. “T2 [Talent2] has failed to achieve the 'System Integration Testing Complete' milestone by 21 Dec 2011”¹⁶⁶. MoE Deputy Secretary, Anne Jackson, expressed her displeasure in this regard in a letter to *Talent2*: “I’m very disappointed that T2 has failed to meet this milestone”¹⁶⁷. *Client-MoE* further expressed their disappointment through an official ‘notice’ to Talent2: “The Ministry has written to Talent2 to express its disappointment at the failure to fully meet the SIT milestone and to give notice of the potential consequences of the failure whilst reserving its contractual position”¹⁶⁸. However, *Talent2* sought to allay any further concerns: “Talent2 have given assurances about how the delay will be addressed and given renewed commitments to the successful conclusion of the project”¹⁶⁹.

Yet after another four months SIT had not been completed. Talent2 made some progress but ran out of time to fix all the defects and meet the required quality assurance criteria by the agreed time. The feedback given to the Secretary and Under Secretary of Education was: “In practical terms, it is highly unlikely (but still possible) that T2 could deliver the SIT milestone and exit both cycles of End2End testing and complete all other items required for

¹⁶¹ Educational Services Payroll Project Report by PwC, Nov 2010

¹⁶² Educational Services Payroll Project Report by PwC, Nov 2010

¹⁶³ Novopay Project Report, Nov 2012

¹⁶⁴ Novopay Project Risk Register – Collated

¹⁶⁵ Intervention Review by PwC, Dec 2010

¹⁶⁶ Executive correspondence - Letter from MoE to Talent2, Dec 2011 (By Anne Jackson)

¹⁶⁷ Executive correspondence - Letter from MoE to Talent2, Dec 2011 (By Anne Jackson)

¹⁶⁸ Quarterly meeting reports on High Risk Projects, Q4 2011

¹⁶⁹ Quarterly meeting reports on High Risk Projects, Q4 2011

Confidence Point Two by the 30 May”¹⁷⁰. SIT completion was a pre-requisite for the later activities. Subsequent to this, and primarily in order to save time, some testing activities were carried out in parallel and some of the defects were carried forward.

4.3.4.3 Inadequate testing process

In order to catch up with timelines, some testing-related activities were carried out in parallel with data conversion, system configuration and system customization. It was potentially more time-efficient in the short term “this introduces the potential for late identification of defects, with accompanying rework, during UAT”¹⁷¹. The key downside was that test results were thus based upon a subset of data: “The current LT [Life cycle Testing - Internal term for UAT] testing is based upon a limited set of derived data that may not test the boundaries between acceptable and unacceptable data values”¹⁷². This issue is further discussed in detail in section 4.3.5.1.

In order to have confidence in the testing, *client-MoE* began reviewing some of the completed test scripts which were previously passed by *Talent2*. The results were anything but reassuring: “This review has revealed that the scripts reviewed are not auditable as insufficient detail is included to demonstrate that the desired results have been returned”¹⁷³. It was found that test scripts lacked basic criteria: “Good test practice recommends that at a minimum the expected results of a test should be recorded as the test script is developed and the actual results noted if there is a difference from the expected [results] when the test is executed”¹⁷⁴. The above led to loss of confidence by *client-MoE* upon the quality of testing carried out by *Talent2*. It was similarly found that the defect management system being used by *Talent2* was not robust and so the status of deliverables was not visible to all parties. “The Dashboard Reports to the Project Board identify progress across the various work-streams. This does not provide visibility of the status of the acceptance of deliverables, the overall level of defects, and the rate of defect identification and resolution. This has all contributed to a “them and us” approach that has impeded agreement on quality criteria, a mutual understanding of the overall testing process, and what tests are required at each step of the process”¹⁷⁵.

¹⁷⁰ Internal MoE Communication Memo, From Leanne Gibson (CIO) to Anne Jackson (Dep. Secretary) and Lesley Longstone (Secretary), April 2012

¹⁷¹ Novopay Project Review Report by Extrinsic, Feb 2010

¹⁷² Novopay Project Review Report by Extrinsic, Feb 2010

¹⁷³ Independent Quality Assurance Report, Stage 5 Health Check Report by IQANZ, Nov 2009

¹⁷⁴ Independent Quality Assurance Report, Stage 5 Health Check Report by IQANZ, Nov 2009

¹⁷⁵ Novopay Project Review Report by Extrinsic, Jan 2010

Inadequate testing processes, disagreements between MoE and *Talent2*, shortening of testing cycles and using parallel work streams to make up for schedule slippage simply added further pressure on the efficiency of testing, “reducing the ability [of testers] to identify and assess error conditions, or to compromise on less than ideal outcomes, reduce the scope of testing, hence leaving certain conditions untested.” This in turn led to “personalisation of issues, hence reducing the ability of the team to follow a professional approach” ¹⁷⁶.

The release management process did not have defined roles and responsibilities, and test plans and test summary reports were not circulated to *client-MoE* in a timely manner. “[T]herefore the Ministry is not aware of the planned testing and the results of any testing. The expected documents are developed and released to the Ministry and other stakeholders only when requested or with short timeframes for the reviewer to turn around” ¹⁷⁷. *Talent2* did not typically provide release notes for future releases, for *client-MoE* approval, which “...caused issues when defects have been closed or deployed into production and these have not been communicated to the Ministry. This affected the timeliness of external communications and created uncertainty on what defects were expected to be closed” ¹⁷⁸. Moreover, there was a lack of understanding and visibility about solutions that were developed to manage defects. “The Ministry has not had sufficient access to Talent2 business consultants to understand the solutions that are being developed. Previous solutions developed have not taken into account all of the dependent components such as third party files, tax etc.” ¹⁷⁹.

4.3.4.4 Carried forward defects

Near the go-live stage a considerable number of defects remained unresolved: “there were a total of 233 defects which remain outstanding with no Severity 1, 14 x Severity 2, 131 x Severity 3, 62 x Severity 4 and 26 x Severity 5 (Severity 1 being critical)” ¹⁸⁰. Talent2’s perspective at this stage is evident from a statement that “Defect numbers are acceptable for this stage of the project” ¹⁸¹. Independent advice to assess the “health” of the project was sought from external experts who were representatives of PwC Australia, NZTA, Ministry of Primary Industries who unanimously advised that the project should continue to move forward: “The number of defects discovered is not unusual for a project of this kind at this stage. They are not of a nature that

¹⁷⁶ Novopay Project Review Report by Extrinsic, Jan 2010

¹⁷⁷ Initiative B5 - Assess Technology Improvement Opportunities by PwC, 2013

¹⁷⁸ Initiative B5 - Assess Technology Improvement Opportunities by PwC, 2013

¹⁷⁹ Initiative B5 - Assess Technology Improvement Opportunities by PwC, 2013

¹⁸⁰ Internal Project Newsletter, Novotimes Issue, Aug 2012

¹⁸¹ Letter from John Rawlinson Global CEO Talent2 to MoE, April 2012

would prevent the project from going forward, but require careful management”¹⁸². Therefore, *client-MoE* set a minimum criterion for the resolution of certain defects and only then would decide about moving the project to a next stage. “Of the total number of defects currently outstanding [that are associated with End-to-End] there are only 34 which Ministry believes 'must be done' before End-to-End processing”¹⁸³. *Talent2* disagreed with this assessment and “reiterate[d] that project is ready to progress to the Formal End-to-End”¹⁸⁴. *Talent2* further suggested that activities related to those defects were either not required initially or were affecting a small population (and so did not warrant immediate resolution): “[A]ssociated only with end of term/start of term and therefore are not required until Nov 2012 at the earliest”¹⁸⁵. “[D]efects that affect a relatively small portion of the population such as compassionate break for less than one year”¹⁸⁶.

It was subsequently agreed by the Novopay Board that, after careful assessment, each defect could in principle be carried forward. “It was suggested to do an impact assessment for every defect that is proposed to be carried, and its workarounds”¹⁸⁷. Concerns were raised that this might affect other activities: “accepting defects at Go Live will have flow-on implications for communications on Change Management (e.g. training materials). There may also be an accumulated impact on the Pay Centre”¹⁸⁸. Thus, the project was expected to go live with known defects and temporary workarounds, and with assurances that these would be addressed in future releases: “There is likely to be about 200 unresolved defects, at go live date. At a high level these defects relate to payment calculations relating to End of Year (EOY) and Start of Year (SOY) processing cycles, user interfaces, reports (school facing and Pay Centre), security and other areas”¹⁸⁹.

Thus it appears that plans for carrying over these defects and their resolution were agreed between *MoE* and *Talent2*: “Defect management plan for defects carried over at go-live has been documented and agreed between T2 and the Ministry”¹⁹⁰. What transpired, however, was that new defects surfaced and *Talent2* could not cope with the additional demands for resolution: “Talent2 has been unable to fix both the new defects and the known defects. Workarounds have been left in place instead of being replaced with permanent solutions, which has meant continuing

¹⁸² Payroll Reference Group Minutes Combined, May 2012

¹⁸³ Letter from John Rawlinson Global CEO Talent2 to MoE, April 2012

¹⁸⁴ Letter from John Rawlinson Global CEO Talent2 to MoE, April 2012

¹⁸⁵ Letter from John Rawlinson Global CEO Talent2 to MoE, April 2012

¹⁸⁶ Letter from John Rawlinson Global CEO Talent2 to MoE, April 2012

¹⁸⁷ Novopay Board Meeting Minutes, April 2012

¹⁸⁸ Novopay Board Meeting Minutes, April 2012

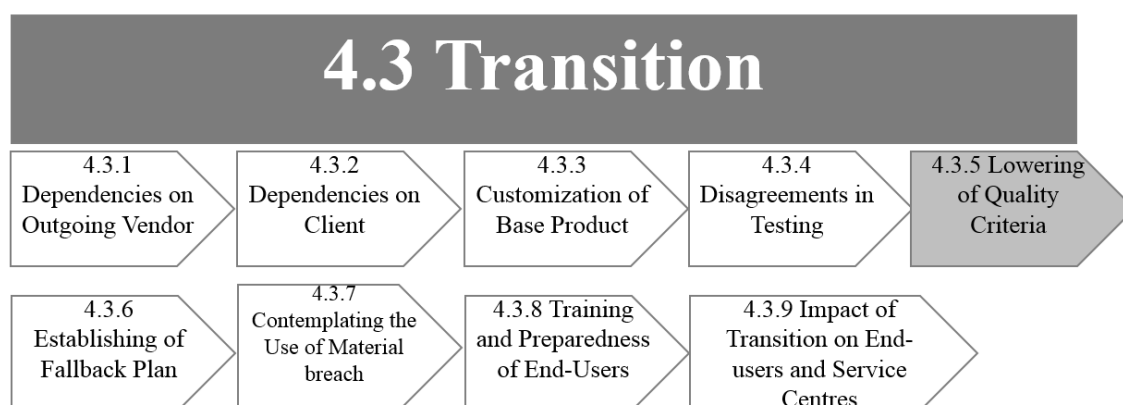
¹⁸⁹ Draft for Steering Committee Review, Manage Outstanding Project Defects, Aug 2012

¹⁹⁰ Final Go-Live Readiness Checklist, Aug 2012

extra work for staff in Talent2 and the Ministry”¹⁹¹. Consequently this led to “frequent slippage in the agreed timelines”¹⁹².

Even six months after go-live the new system was not stable: “There are 417 open system defects as at 26 April 2013 (as identified from the HP Quality Centre extract) of which 24 are Severity 2 defects. The Deloitte report notes, as one of the stability measures, that there should be less than 10 severity 2 defects. The impact of these defects affects all aspects of the Novopay service, from errors the schools see when attempting to process their pay instruction, what staff see on their pay slips, to how the Service Centre processes tickets”¹⁹³.

With regard to the technical and economic viability of this project it was generally accepted that the “platform was economically and technically viable if the Ministry and Talent2 put sustained effort into addressing and remedying the known defects”¹⁹⁴. Expectations of this system on delivery were that it should have a “known, manageable number of well-defined system defects. No ‘fatal’ defects and minimal ‘very serious’ defects which are closed rapidly”¹⁹⁵. Contrary to this, it was found the system had a “backlog of 500 open defects, including 44 ‘very serious’ defects, some of which have been open for some time”¹⁹⁶



4.3.5 Lowering of Quality Criteria

As noted above, in order to catch-up with what were already compressed timelines *Talent2* proposed to overlap different testing phases. External opinion on this strategy noted the following: “The proposal to claw back some of this slippage by overlapping the end of system testing with the commencement of lifecycle testing is feasible, however it does increase the risk

¹⁹¹ Novopay Briefing to the Incoming Minister, Jan 2013

¹⁹² Novopay Briefing to the Incoming Minister, Jan 2013

¹⁹³ Identifying Opportunities to Improve the Novopay Service by PwC, May 2013

¹⁹⁴ Ministerial Inquiry into Novopay, Response from MoE, May 2013

¹⁹⁵ Novopay Technical Review by Deloitte, Mar 2013

¹⁹⁶ Novopay Technical Review by Deloitte, Mar 2013

profile”¹⁹⁷. These risks included a consequent increase in time for the management of defects: “[T]his may increase the time required to identify defect root cause and therefore potentially extend the time needed to complete testing”¹⁹⁸, “additional regression testing”¹⁹⁹ and the potential for further time pressures and a (further) reduction in quality: “The intensity of the work required will be increased, with a potential for resource contention particularly with Talent2 developers who may be required to concurrently address defects found in both system and lifecycle testing”²⁰⁰. This narrative describes the quality assurance activities that were either combined, replaced or reduced to catch up some time and their effects on the overall efficacy of these activities.

Figure 4.9 and Figure 4.10 are developed from sections 4.3.4 and 4.3.5, illustrating the emerging antecedents and consequences that contributed towards lower quality, and that enforced changes in the roll-out strategy.

4.3.5.1 Combining system testing and UAT

If system testing is carried out on certain features in isolation or in sub-groups rather than against the full custom changes then it may provide an incomplete indication of the quality of the system under test: “[I]t is a less accurate indicator of the integration of the custom code with the core system”²⁰¹. In addition, testing of isolated areas in parallel with UAT: “...prevents the project from establishing the baseline of application stability that fully completing system testing would provide”²⁰². Both the Novopay Board and *Talent2* acknowledged the situation: “The Board recognises that commencing system testing before custom work is completed carries a risk of generating regression testing and questioned how this is to be managed. Talent2 responded that regression testing contingency was built into the plan and they propose to walk the Ministry project team through their planning assumptions”²⁰³. However, these contingency plans were already stressed and so this did not prove to be an effective strategy: “T2 continue to construct highly stressed plans with significant overlap of releases. Effect is that a minor delay result in disproportionate downstream delay”²⁰⁴.

¹⁹⁷ Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

¹⁹⁸ Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

¹⁹⁹ Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

²⁰⁰ Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

²⁰¹ Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

²⁰² Independent Quality Assurance Summary Report, Stage 4 Interim Review by IQANZ, Aug 2009

²⁰³ Novopay Board Meeting Minutes, Dec 2010

²⁰⁴ Quarterly Meeting Reports on High Risk Projects, Q1 2011

Furthermore, the lifecycle testing (UAT) that was to occur in parallel was itself behind schedule: “Preparation for Lifecycle testing (UAT) is approximately 3 months behind schedule, with the development of business scenario test scripts delayed due to the unavailability of SMEs to write the scripts” ²⁰⁵. As a consequence, all the test scripts were not ready, as planned, at the start of UAT. Due to this reason, “[t]he hard dependency of completion of all UAT scripts which was originally in the project schedule has consequently been removed. The ‘just in time’ preparation approach means that it is unlikely the team will be able to retrieve any of the lost time” ²⁰⁶ - meaning that essentially the strategy had failed.

4.3.5.2 Combining process testing and service centre readiness

Just a month prior to go-live a proposal was put forward by *Talent2* to combine *business process testing* and *service centre readiness*. Business Process Testing was a “Ministry led test that focused on the validation and verification of the documented business processes that have been used as the basis of the overall design of the system, process and data flow for Novopay” ²⁰⁷. Service Centre Readiness was “...a Talent2 led test that validates and reviews the processes inside the service centre” ²⁰⁸. Taking an integrated approach as proposed was expected to produce gains in efficiency for the combined teams: “there is the ability to create a combined testing approach that would achieve the original objectives of both testing phases, while at the same time increase the ability for the total team to identify and address process improvement areas” ²⁰⁹. It was scheduled to take eight days and be completed three weeks before go-live, “the testing would start Wednesday 1 August and be completed by Wednesday the 8 August” ²¹⁰. Combining different validation activities near the go-live to make up for lost time can be detrimental to the overall quality of the system.

4.3.5.3 Choosing single-phase rollout

The initial strategy for this transition project was to rollout in two phases, initially to schools in the South Island (in May 2010) and then followed up three months later to schools in the North Island. ²¹¹ As the initial rollout date approached major concerns and risks were raised regarding this plan, one of them being related to the consequence that

²⁰⁵ Independent Quality Assurance Report, Stage 5 Health Check by IQANZ, Nov 2009

²⁰⁶ Independent Quality Assurance Report, Stage 5 Health Check by IQANZ, Nov 2009

²⁰⁷ Memo: Proposal to Change Business Process and Service Centre Readiness Testing, July 2012

²⁰⁸ Memo: Proposal to Change Business Process and Service Centre Readiness Testing, July 2012

²⁰⁹ Memo: Proposal to Change Business Process and Service Centre Readiness Testing, July 2012

²¹⁰ Memo: Proposal to Change Business Process and Service Centre Readiness Testing, July 2012

²¹¹ Replacement of Schools' Payroll - Cabinet Report Back, July 2009

two vendors would be managing the system (in effect, two systems) for three months. “Prior to the North Island cutover, the North Island payroll data will be converted from the Datacom system and integrated with the South Island data in the Novopay system. Talent2 will then operate the North and South Island payrolls using the Novopay system and the Datacom system will be decommissioned”.²¹². It was expected that the North Island data in the three-month interim period may introduce further system or configuration changes and afterwards integration of the two data sets may potentially introduce further errors, “the data conversion for the North Island data may introduce further system or configuration changes. These changes will not have been applied to the ‘live’ South Island data, so any integration of the two data sets has the potential to introduce further errors”²¹³. This would mean “For example, data cleansing would have been completed before transition and further data cleansing may be required at the end of the three month period given that the North Island payroll would have been managed using the same system that caused the original data cleansing issues”²¹⁴. Therefore, a staggered roll came to be considered complex and risky.

Another concern related to the management of particular school staff who switch schools from time to time, based on resource demands: “Staff work at multiple schools and receive a single payslip”²¹⁵. A pilot phase that accommodated such staff may have been difficult to achieve: “It was going to be a very complex undertaking to manage the moving of staff between payrolls while still providing a single payslip to staff”²¹⁶. This issue is discussed further in section 4.3.5.4.

On the basis of these considerations a change to the overall implementation approach was adopted. “Rather than a staggered rollout to South Island and then North Island pay centres, the project will now complete a single rollout, prefaced with a limited pilot at the end of parallel running. Although still a high risk project, this change provides a lower complexity implementation, with an associated lower complexity of implementation testing required”²¹⁷. This position is in stark contrast to that held previously, wherein the staggered roll-out and pilot phase were considered as critical risk mitigation strategies, as suggested by the excerpts taken from Cabinet Meeting Minutes of 2005 and business case document: “Mitigation strategies include: a. An eight month staggered implementation that implements the payroll in five distinct areas,

²¹² Novopay Project Review Report by Extrinsic, Jan 2010

²¹³ Novopay Project Review Report by Extrinsic, Jan 2010

²¹⁴ Stage 2 Health Check Report by IQANZ Independent Quality Assurance Review, May 2009

²¹⁵ Novopay Project Chronology Dec 2012

²¹⁶ Novopay Project Chronology Dec 2012

²¹⁷ Health Check Review Report by IQANZ an Independent Review, July 2010

avoiding a high risk big bang implementation”²¹⁸. “The new payroll system would be rolled out progressively to pay centres, not to all pay centres at once”²¹⁹. These activities were instead cancelled and replaced by the rollout of a single beta environment used in training end-users (payroll admins).

4.3.5.4 Eliminating pilot-testing

To promote the use of Novopay and to simultaneously validate its functions the original plan included a pilot testing phase. An independent assessment carried out by IQANZ concluded that the number of schools to be involved was considered insignificant and so would not provide accurate results: “(T)he [pilot testing] project intends to involve approximately 30 schools. This is a small percentage of the 2000-odd schools who will be impacted by the project and is therefore of limited value in proving the technology in the real world”²²⁰.

As noted above it was belatedly realized (or at least acknowledged) that staff could work at multiple schools but should receive a single payslip, and if a pilot occurred, then selected schools would have to manage the moving of staff between the *pilot* and other operational payroll: “Very complex to manage moving staff between payrolls and still providing single payslip”²²¹. Therefore, it was also decided that use of the beta environment could substitute the pilot testing phase. This change was subsequently approved by the Project Board: “The objectives set out in the test strategy for Pilot are met by the use of the Novopay Beta Environment for training: Payroll will be processed in the Beta environment on a fortnightly basis, The functionality of the Beta environment will be consistent with the expectations of the functionality of pilot testing”²²². The beta environment was considered equivalent to the pilot phase. The former was expected to: “Diminish users concerns arising through lack of familiarity and User confidence will be boosted by access to, and use of a Novopay Beta Environment”²²³. However, the beta environment was highly constrained: “The Novopay Beta Environment may have limited functionality and may not be a representation of the full Novopay solution”²²⁴. As such its utility as a vehicle for testing was similarly limited.

²¹⁸ Cabinet Meeting Minutes, CABMin_05_20_2, June 2005

²¹⁹ Revised Stage2 Business Case, Nov 2007

²²⁰ Health Check Review Report by IQANZ an Independent Review, July 2010

²²¹ Internal Novopay Briefing to Lesley Longstone, Nov 2012

²²² Memo: Pilot Test Phase, Jan 2012

²²³ Memo: Pilot Test Phase, Jan 2012

²²⁴ Memo: Pilot Test Phase, Jan 2012

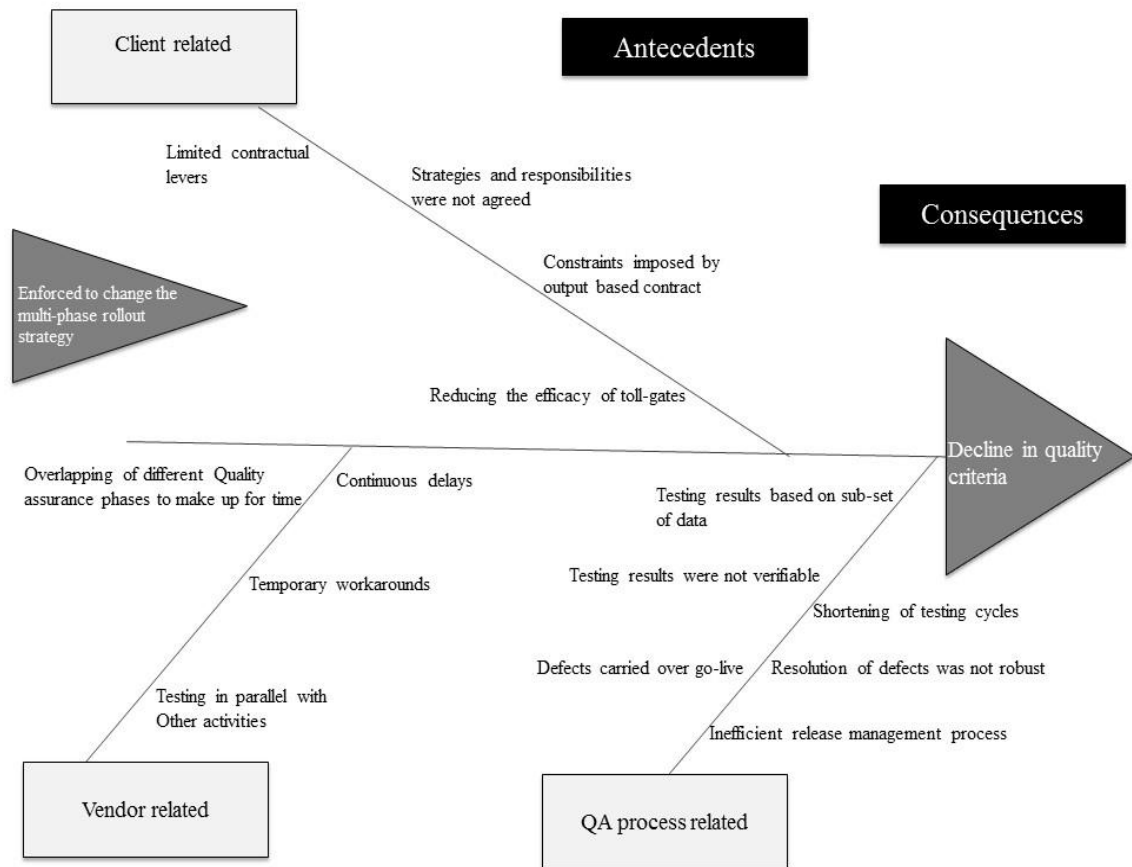


Figure 4.9 Antecedents which impacted on quality

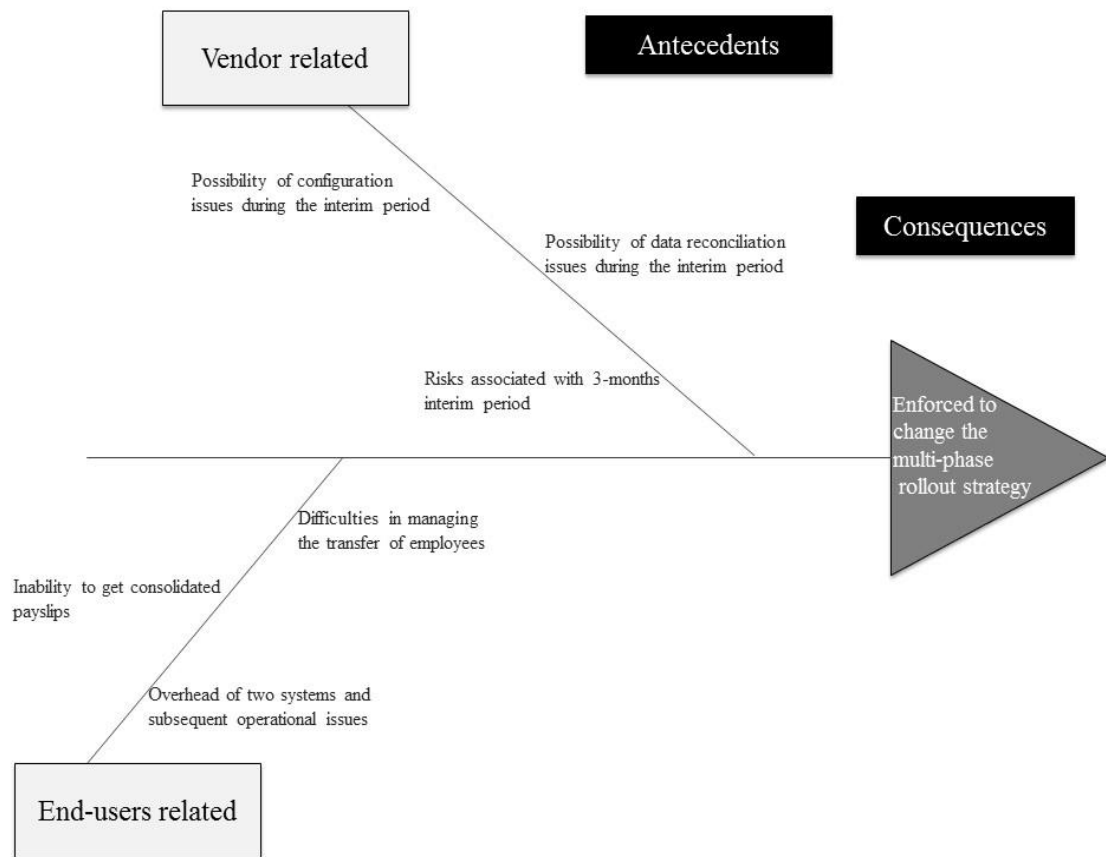
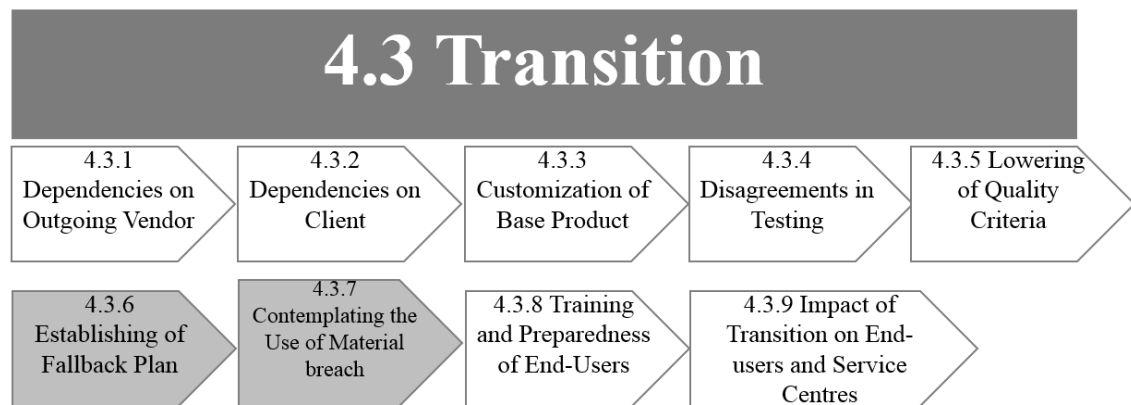


Figure 4.10 Antecedents which impacted on roll-out strategy



4.3.6 Establishing of Fallback Plan

During the course of this transition project, continuous delays led to growing concerns about the *incoming vendor-Talent2's* ability to deliver. This endangered continuity of the project and the overall contract. "It became clear in late 2009 that the Novopay project was in danger of failing. The consequences of this would be severe in terms of reputation, threats to the payment

of school personnel salaries and allowances, and future litigation with the supplier, Talent2”²²⁵. To understand the current situation substantial status reviews were carried out which resulted in major interventions, including contract variations and changes in project plan.

Client-MoE and *incoming vendor-Talent2* committed to work collaboratively but previous problems created a necessity for MoE to make an informed choice about whether to continue with this project, if problems persisted. Therefore, *client-MoE* was compelled to establish a fallback plan in case the transition project was terminated. “While the project will be monitored carefully, the Ministry also needs to make on-going judgements about whether to continue or close the project if certain conditions are met. This judgement involves an unusual high degree of uncertainty — about future progress of the project, the viability and nature of an alternative approach, and the consequences of any decision”²²⁶.

This narrative describes the circumstances that led towards the creation of a fallback plan, including the advantages of choosing the outgoing vendor and its possible implications.

4.3.6.1 Choosing Datacom for Fallback plan

The *outgoing vendor-Datacom* had been the only viable competitor and alternative to the *incoming vendor-Talent2*. Delays in the transition project forced *client-MoE* to extend their existing contract with *Datacom*, so that operational coverage continued to be available: “The ministry is negotiating an extension to this contract based on a two-year extension with an option to extend for a further year under the same conditions. This will enable the ministry to provide surety that the payroll will continue to operate until migration to a new system has occurred”²²⁷.

Simultaneously, to ensure continuity of services for a longer period in case the Novopay project could not proceed further, *client-MoE* developed a fallback plan with *Datacom*. “Because Novopay problems have continued, the Ministry has requested that Datacom makes a new proposal in respect of re-commencing the provision of the education service payroll”²²⁸. This required a direct arrangement with a sole vendor, through uncontested procurement, without any tender process. It was allowable for a limited time and with certain conditions. “In the event of a project failure, however, Cabinet may require that a new Datacom contract only be let for a

²²⁵ Novopay Fallback Plan, by Maven, Jun 2010

²²⁶ Novopay Fallback Plan, by Maven an Independent Company, Jun 2010

²²⁷ Revised Stage2 Business Case, Nov 2007

²²⁸ Datacom Proposal for Resuming Payroll Services, March 2013

limited duration, perhaps two or three years, and that an open procurement process must be catered for within the medium term to select a long term solution” ²²⁹ .

An internal MoE memo ²³⁰ discussed the advantages of choosing *Datacom* as a fallback partner. Table 4.6 lists relevant excerpts from that memo.

Schools Payroll Business Continuity Option
“As the current provider, Datacom has a greater understanding of the complexities of the current schools’ payroll environment than a new supplier”
“The Ministry funded Datacom to develop the requirements and high level design for the Payroll Business Continuity Option and thereby helped ensure that Datacom understands what it needs to do to enhance its existing service”
“The Ministry identified the key requirements and issues that the Novopay project was struggling with and made these available to Datacom. Datacom was then able to incorporate this information into its proposal”
“Datacom is implementing incrementally. Because Datacom is the current provider, it can implement a new payroll solution step by step, in smaller lower risk increments”
“Datacom will have ongoing cash flow from service delivery to support any problems it has with its transition projects. Talent2 has struggled with a fixed price contract that has limited its income when its transition work has been delayed”

Table 4.6 Advantages of choosing Datacom for business continuity

There was a likelihood that, in such a situation, the outgoing vendors would prefer a longer-term contract which might not be suitable to the clients: “If this were so, it would create a tension with Datacom who would of course seek maximise contract length” ²³¹ .

4.3.6.2 Cost Associated with Fallback Plan

The cost of developing a fallback proposal, to be met by *Datacom*, was additional expenditure for MoE. The cost of a tender is typically borne by the vendor but commercial conditions and restrictions can compel a client organization to make such investments. As indicated by an excerpt taken from an internal MoE report “Datacom has little incentive to produce a binding proposal as there is not guarantee that the Ministry will invoke this

²²⁹ Novopay Fallback Plan, by Maven, June 2010

²³⁰ Memo: Contract for a Schools Payroll Business Continuity Option, May 2012

²³¹ Novopay Fallback Plan, by Maven, June 2010

proposal. The Ministry will therefore be funding Datacom to develop this business continuity option, hence a need for a plan to support this procurement and expenditure”²³².

During this time *client-MoE* remained in a difficult situation as there were no comfortable alternatives. “MoE’s position for negotiating a new contract with Datacom was undeniably weak”²³³. It was acknowledged that *Datacom* had been operating the payroll system and managing services for more than a decade and so they understood the overall business requirements well. This created an obvious restriction on MoE that Datacom might be the only vendor able to respond quickly in providing a sustainable payroll service at manageable risk within the required timeframes.

4.3.6.3 Drop-dead date about Fallback Plan

A conditional contract was developed with the *outgoing vendor-Datacom* to provide business continuity services for five years. It was suggested that *client-MoE* should reassess its requirements and return to the market to follow a full tender process. At the later stage, the Novopay Board considered two broad options: “Terminate the Novopay project now and activate the business continuity service OR Keep both options open”²³⁴. The latter option included continuing with the transition project, while having decision points as potential off-ramps, and ensuring that the *business continuity* service with *outgoing vendor-Datacom* continued to be viable as a fallback option. The Board decided to take option two i.e. *keep both options open*.

This decision required establishing a drop-dead date, by which *Datacom* would be notified whether their contingency would be taken up or not. “The drop dead date of 1 July was based on the latest date that Datacom would need to be notified to invoke the contingency to continue operation of the payroll and start the remedial changes required to enable continued operation into 2013 and beyond”²³⁵. It was later decided that Novopay should be continued with and the fallback option should not be taken up. “The Ministry had sufficient confidence in the Novopay service through the confidence point process and ongoing monitoring that it did not need to invoke the Datacom contingency”²³⁶.

²³² Payroll Business Continuity Report, Aug 2011

²³³ Novopay Fallback Plan, by Maven, June 2010

²³⁴ Education Report: Further Update on School’s Payroll Project, Feb 2012

²³⁵ Memo: Novopay Chronology Dec 2012

²³⁶ Memo: Novopay Chronology Dec 2012

4.3.7 Contemplating the Use of Material Breach

During the course of the project, *Talent2* defaulted on various milestones. There came a point in early 2012 when *client-MoE* gave serious consideration to issuing a formal notice of breach. “*Talent2* is in clear material breach by its continuing failure to meet the SIT milestone within the agreed timeframes”²³⁷. This narrative describes the discourse related to the material breach notice and the underlying reasons why it was not sent.

Figure 4.11 illustrates the emerging antecedents and consequences developed from sections 4.3.6 and 4.3.7 that reflect why the client was not able to use a material breach notice in this project.

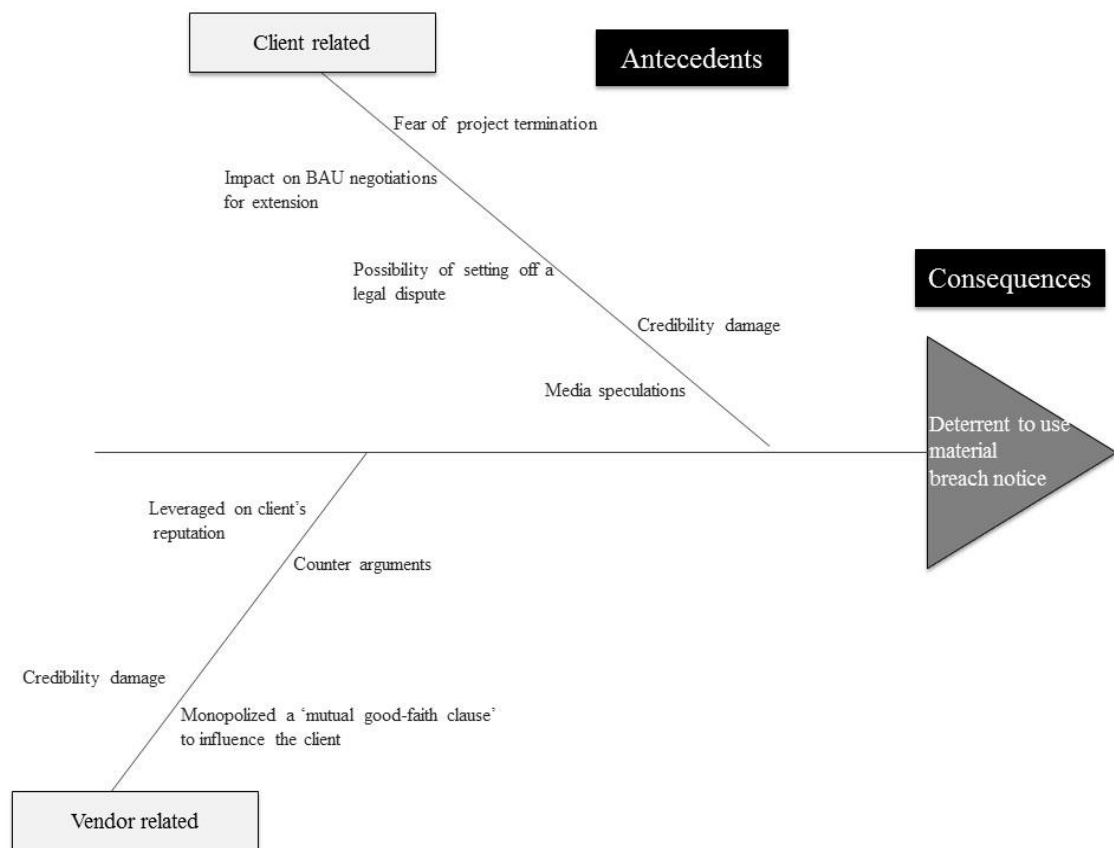


Figure 4.11 Antecedents which impacted on material breach notice

4.3.7.1 Threat of a material breach and Fallback negotiations

MoE Deputy Secretary, Anne Jackson, wrote a letter to *Talent2* to express her concerns. The following is an excerpt from it: “I want to formally advise you that the Ministry believes that

²³⁷ Education Report: Novopay Project Report, April 2012

Talent2 continues to be in default on a number of contractual milestones²³⁸. I advise you that the Ministry intends to issue a material breach notice under clause 18.1 (a), unless by Wednesday 18 April 2012 T2's payroll solution is ready for the formal End-to-End Testing contemplated in the Agreement”²³⁹. In reply, the Global CEO of *Talent2* John Rawlinson refuted this argument: “T2 does not consider it is in material breach of the agreement and doesn't believe that the Ministry can issue a valid breach notice under the agreement and as agreed at the time of setting the dates referred to acknowledges that these can be varied by the parties”²⁴⁰. He further argued that MoE’s intention to send such a notice was motivated by the availability of a contingency option with the *outgoing vendor-Datacom* and if such notice was sent, then it would derail the ongoing project and undo considerable effort and work. “T2 is very concerned that the drivers behind the Ministry issuing a breach notice would be the protection by the Ministry of what is considers to be a contingency with Datacom and accordingly, there would be a disconnect between a contractual position that the Ministry is being advised to take for 'strategic' reasons and the operational and technical reality of a project that is delivering and will be successful”²⁴¹. In reply to above, MoE Deputy Secretary, Anne Jackson expressed her discontent: “I'm very concerned to see in your letter a suggestion that the Ministry's intention to issue a breach notice was improperly motivated by the availability of a contingency option with Datacom. The Ministry rejects this suggestion outright as entirely without any factual foundation”²⁴².

A notice of breach could be invoked whenever a contractual milestone was not completed. However, it was considered tactically inadvisable by *client-MoE* to send a notice of breach to *Talent2* while negotiations were still going on with *Datacom* for *business continuity*. “The Ministry would be in a stronger position to negotiate with Datacom if Novopay is seen to be continuing, than if Novopay has been breached or terminated”²⁴³.

In case a material breach was issued, *Talent2* would be given 15 business days to rectify the issue. “The contract for the business continuity service could not be signed until these 15 business days had passed without the milestone being completed”²⁴⁴. Therefore, contrary to the above argument made by John Rawlinson, the MoE were forced to acknowledge that: “This [material breach] could compromise our negotiations with Datacom, the current provider and the party

²³⁸ Executive correspondence - Anne Jackson (Letter from MOE to Talent2), April 2012

²³⁹ Executive correspondence - Anne Jackson (Letter from MOE to Talent2), April 2012

²⁴⁰ Executive correspondence - John Rawlinson - Global CEO T2 (Letter from T2 to MOE), Apr 2012

²⁴¹ Executive correspondence - John Rawlinson - Global CEO T2 (Letter from T2 to MOE), Apr 2012

²⁴² Executive correspondence - Anne Jackson (Letter from MoE to Talent2), Apr 2012

²⁴³ Education Report: Advice on Novopay Project, Feb 2012

²⁴⁴ Education Report: Advice On Novopay Project, Feb 2012

with whom we are negotiating for provision of a business continuity plan”²⁴⁵. This was one the reasons for postponing the decision about sending a material breach notice.

4.3.7.2 Possibility of legal disputes

If a material breach notice was sent to *Talent2* there was also a possibility that it might initiate a legal dispute, causing adverse publicity to MoE and Talent2. This possibility was taken seriously by MoE. *Talent2* had expressed their intention to invoke a *mutual good faith obligation* clause, in case a material breach notice was sent. In doing so they laid the foundation for an allegation that *client-MoE* itself was in breach of its good faith obligations of the contract. “This is a clear signal that Talent2 will (as we have previously discussed) adopt the position that any purported termination by the Ministry would amount to a repudiation of the contract within the meaning of clause 18.2(c) of the Agreement. If correct, that would then entitle Talent2 to itself terminate immediately (if the Ministry did not withdraw its repudiation within 15 business days of written notice) and pursue the Ministry for damages”²⁴⁶.

4.3.7.3 Media Interest

Sending a material breach notice would almost certainly have resulted in increased media interest and speculation. Being unable to withstand the possibility of a legal dispute and in the face of potential media speculation, *client-MoE* deferred the decision to issue a material breach till the end of April 2012. “The Ministry agreed not to issue a notice of material breach, as it was entitled to do on 18 April, as long as the two parties were able to agree on the criteria for what would constitute completion of the SIT milestone by 27 April”²⁴⁷. It was discussed internally that: “Issuing a material breach will likely end the project, therefore a breach should not be issued unless all reasonable chances of continuing the project have been tried and failed”²⁴⁸.

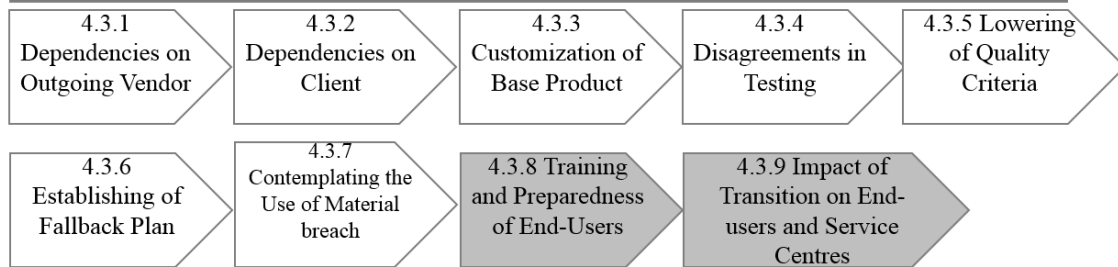
²⁴⁵ T2 warning of material breach: communications plan, Apr 2012

²⁴⁶ Internal MoE [Communication] Leanne Gibson (CIO) to Novopay Board Ministry Personnel Only (Anne Jackson and Lesley Longstone) [Recommendations associated with the outcome of the Warning Letter], Apr 2012

²⁴⁷ Education Report: Novopay - towards Confidence Point Two, Apr 2012

²⁴⁸ Education Report: Novopay - towards Confidence Point Two, Apr 2012

4.3 Transition



4.3.8 Training and Preparedness of End-users

It was the responsibility of the *incoming vendor-Talent2* to train end-users. They were considered the ‘experts’ on the use of their systems and associated business processes. “Before Go-Live, Talent2 was responsible for training and documentation. After Go-Live, Talent2 remains responsible for providing ongoing training and documentation”²⁴⁹.

However, due to the large scale and complexity of this project, multiple stakeholders were required to work collaboratively to ensure adequate end-user preparedness. “New competencies, new technologies, new processes, new behaviours, excessive call load - any one of these factors could give rise to failure²⁵⁰. The ESP team, the Ministry Communications and Training Specialist, Talent2 leads - all need to work together, own, and prepare for this area of Novopay change. It is not solely a Talent2 delivery responsibility”²⁵¹.

This narrative describes the approach which was taken in training end-users along with the limitations and consequences of the chosen approach.

4.3.8.1 Training approach

The selected training approach was focused on the broad needs of the key end-users, being the payroll administrators of schools. They were expected to complete online training through a *learning management system*. This approach was reliant upon end-users proactively completing training modules, but it carried an inherent risk of non-engagement. “There is no indication in the training plan (or the Communications Plan) of how the end

²⁴⁹ Internal Novopay Briefing to Lesly Longstone, Nov 2012

²⁵⁰ Change Impact Assessment, Dec 2011

²⁵¹ Change Impact Assessment, Dec 2011

users will be encouraged to complete the training. Nor is there indication of how low technology use schools will be ‘coached’ through the training”²⁵².

This approach was considered too narrow when compared with varying capabilities of end-users. As indicated by an independent Quality Assurance assessment carried out at that time, using different strategies to engage end-users would have been beneficial: “active communication activities such as roadshows or focus groups where actual end users (i.e. school administrators) are present should be considered for their ability to engage end users”²⁵³. Similar concerns were raised by a group of end-users who were invited to provide initial feedback on ‘training’: “Their feedback was very positive in regard to the training material, but they were concerned that they would require more in-depth training to feel confident about the system. The[y] advised that Training Module 0 is not enough and more face-to-face training would be desirable”²⁵⁴.

Concerns regarding the limited breadth and depth of training was discussed and reported in the Steering Committee Minutes: “schools [may also] find training insufficient for their needs and request more face-to-face training or swamp our support channels”²⁵⁵. It was also noted that schools could struggle due to inadequate infrastructure: “Some schools in remote areas may struggle with the training”²⁵⁶. An IQANZ report pointed out these and other limitations and recommended that a broader training approach be considered: “we noted Talent2’s reliance on online training for end users and considered this approach too narrow to accommodate users who were less technologically savvy or confident”²⁵⁷. Regardless of the various concerns, some of which had been raised independently, these issues were not considered during training. MoE’s point of view was that end-users should take more responsibility for training themselves: “People at schools are notorious for demanding to be trained. The project team needs to believe in what they’re doing and get people to own up to their own responsibilities”²⁵⁸.

Access to online training was granted two months prior to the system going live. During this time end-users interacted with the new service desk. “The training covered common scenarios users would experience. The NovopayBeta system was available to practise on. Users who were having difficulties could contact the Novopay service desk”²⁵⁹. The second stage of training included practising on the beta system: “users who have completed the first module of training are

²⁵² Independent Quality Assurance Report by IQANZ. Stage 5, Health Check, Nov 2009

²⁵³ Independent Quality Assurance Report by IQANZ. Stage 5, Health Check, Nov 2009

²⁵⁴ Schools Payroll Reference Group, Combined Meeting Minutes, May 2012

²⁵⁵ Novopay Steering Committee Mins Collated, Jan 2011

²⁵⁶ Schools Payroll Reference Group, Combined Meeting Minutes, July 2011

²⁵⁷ Independent Quality Assurance Report by IQANZ, Rebaselined Health Check Review, July 2010

²⁵⁸ Schools Payroll Reference Group, Combined Meeting Minutes, May 2012

²⁵⁹ Background Memo about Novopay Chronology, Dec 2012

given access to Novopay Beta — a replica of Novopay — so they can practice tasks in a simulated environment”²⁶⁰. However, uptake was low due to the slow completion rate of the initial training modules. “Despite there being a large number of people with access, very few are using Novopay Beta, which could become an issue if users have not practised sufficiently in time for go-live”²⁶¹.

Table 4.7 lists a selection of excerpts taken from the comments and feedback given by end-users about the training approach. These are drawn from two main sources.^{262 263}

Lack of Satisfaction about the overall mode of training
“We are not payroll people [,] yet are expected to be and should therefore be having more in-depth training”
“Payroll knowledge does not happen overnight nor with sporadic online training when you have to try and fit it in around your already full time job”
“I have requested hands on training rather than on line so our difficulties can be dealt with first hand”
“I am also concerned that the only 'training' before the modules was just an overview of what we could expect - hands on training [before now] would have been preferable”
“I didn't get anything out of the Webinars”
“It would have been far better to have been able to have seminars where we could actually speak with a person”

Table 4.7 End-users’ feedback: Mode of training

4.3.8.2 Reluctance of end-users to take online training

Encouraging end-users to take the online training proved to be cumbersome. According to a post go-live internal briefing: “Biggest challenge was getting schools to do the online training. Ministry cannot just direct this. In retrospect we would have done it differently — maybe combination of face to face and online”²⁶⁴. In order to encourage end-users, the Novopay project team carried out outbound calling to schools which had not yet completed online training. The following excerpts are taken from a range of reports which mentioned this issue, and any actions taken: “There are about 2,500 users that have not yet completed Module 0. The team are calling those users directly to motivate them to do the training, or to see whether there are any issues.

²⁶⁰ Quarterly meeting report of High Risk Projects, Q2 2012

²⁶¹ Novopay Project Report, July 2012

²⁶² Novopay Change Readiness and Engagement Survey #2, Aug 2012

²⁶³ Payroll Reference Group Meeting Minutes Combined, Sep 2012

²⁶⁴ Internal Briefing to Lesly Longstone, Nov 2012

There are targeted communications underway to get Principals more engaged and to get them to complete the Quickstart Module. The target is to have at least one person per school that has completed the training”²⁶⁵.

Targeted outbound calling reduced the number of untrained users, however, the uptake of further necessary training was still low. “Ministry regional officers have been visiting these schools where possible. Our aim is to have at least one payroll administrator per school complete the initial training module and some practice tasks in NovopayBeta prior to go-live”²⁶⁶. As the schools’ principals were responsible for approving payments, the outbound calling campaign also targeted them. “By far the majority of those who have not yet completed their training are principals. It is important for principals to complete training as a school’s pay has to be finally authorised by the principal”²⁶⁷. From tomorrow, there will be targeted calls to principals to find out how they plan to manage training at their schools, A lot of principals have indicated that they will do the training, but only shortly before Go-Live.”²⁶⁸.

4.3.8.3 Using Novopay online specialists

In order to cope with the above training challenges, an IQANZ report suggested at that time to create a more constructive community of end-users: “change community where end users can participate in the change environment rather than have the change ‘done to them’”²⁶⁹. The idea was to develop a nation-wide pool of Novopay Online Specialists (NOS) from a range of schools. “These Online Specialists will be provided with face-to-face training and will then go back to their schools/networks as local support”²⁷⁰. These agents or champions (NOS) were expected to encourage and ‘sell’ the new system to end-users within their community. “They (end-users) will feel their voice is heard and their concerns understood and this in turn creates a sense of involvement and ownership where they will be more likely to use the new functionality once implemented”²⁷¹.

As the NOS role was a voluntary one the end-user community had reservations about taking on the additional responsibility, with “some of them reserving their final decision on whether they are comfortable to become real Online Specialists who support others until after they have had the training”²⁷². “There is generally a willingness to commit, but a large proportion is still

²⁶⁵ Novopay Steering Committee meeting Minutes – Combined

²⁶⁶ Novopay Project Report, Aug 2012

²⁶⁷ Novopay Project Report, July 2012

²⁶⁸ Novopay Steering Committee meeting Minutes –Combined

²⁶⁹ Independent Quality Assurance Report by IQANZ. Stage 5, Health Check, Nov 2009

²⁷⁰ Schools Payroll Reference Group, Combined Meeting Minutes, April 2012

²⁷¹ Independent Quality Assurance Report by IQANZ. Stage 5, Health Check, Nov 2009

²⁷² Schools Payroll Reference Group, Combined Meeting Minutes, April 2012

undecided”²⁷³. Some potential NOS were concerned about end-user perceptions of their responsibilities relative to the service desk and the workload that might arise: “they should not be seen as a substitute for the Service Desk”²⁷⁴.

To find their respective NOS end-users had to login to a website, using a specific username. Due to privacy issues, the contact details of NOS were posted only in specific sections of a School’s website, some of which proved difficult to locate. End users “needed to log in this section of the website so the only reason why a school could not contact their NOS may have been because they forget their website username and password”²⁷⁵.

4.3.8.4 Using beta system in training

The beta system was available approximately six weeks prior to go-live, but its use was marred with *access* issues, causing much distress and a poor reputation. “Over half of all the open requests are about access to Novopay Beta and the online training modules and about password issues”²⁷⁶. Moreover, the beta system had limited features in comparison with the actual system, and as its use had replaced both *pilot-testing* and *staggered implementation*, this did not prepare end-users well enough. “[M]any users had issues logging in to the system for the first time that delayed the uptake of practice in the environment. In addition there were some areas of functionality that were not ready and therefore not delivered in the Beta Environment (some reports, payslip re—email, email addresses) which meant users did not have the opportunity to ‘test’ this functionality before go-live”²⁷⁷.

One possible reason for the access were the use of different email addresses by end-users. “There were also some cases where the e-mail address used by the school’s IT system didn’t match the address with which the user had registered, and who were therefore also unable to access the system”²⁷⁸. “[A]n acceptable solution has not been devised to offer these users a single user ID log-in to book training that can be retained for future log-in to BETA and Novopay Online”²⁷⁹. *Access* issues for online training and beta system added to end-user frustration and their loss of confidence. Table 4.8 lists a selection of excerpts taken from the comments and feedback given by end-users about this issue²⁸⁰.

²⁷³ Schools Payroll Reference Group, Combined Meeting Minutes, April 2012

²⁷⁴ Schools Payroll Reference Group, Combined Meeting Minutes, April 2012

²⁷⁵ Post Go-Live: Email Training Overview, Nov 2012

²⁷⁶ Newsletters for Schools, Aug 2012

²⁷⁷ Appendix B: Initiative B2 - Improve User Experience by PwC, May 2013

²⁷⁸ Payroll Reference Group Meeting Minutes, May 2012

²⁷⁹ Weekly Report on Novopay Project Status, May/June 2012

²⁸⁰ Novopay Change Readiness and Engagement Survey #2, Aug 2012

Access issues while training
“Can't access NovopayBeta to practice - so don't feel confident about using the system as yet. Awaiting passwords etc. so hopefully that will happen soon”
“Passwords dropping off from one session to another. My Principal and I have wasted a lot of hours trying to sort out technical issues and waiting for responses”
“I have experienced huge problems gaining access with passwords. Although that is resolved, I was unable to enter the training modules yesterday! Extremely frustrating! I found the starter module extremely slow and at times irrelevant”
“I have found it very difficult to get started on the training due to password issues and very unclear instructions, e.g. it doesn't say you need sound when using the training”
“Cannot get into Beta to practice anything”
“I have found it frustrating and difficult to log into the training modules. Payroll is only part of my position and I have had little time to get around these issues and consequently am not feeling very confident in any aspect of Novopay”
“I have had major issues with passwords etc as I work at two schools. I have been completely unable to access NovopayBeta at either school”
“My training has been held up by your inability to send me the password to go online to continue. Frequent requests have failed to get this password sent to me”
“Unsure whether I am ready for Novopay or not. Have experienced endless problems gaining access to the site”

Table 4.8 End-users' feedback: Access issues

In general, the beta system, which set the tone for how the actual system and service would operate, was not considered user-friendly. End-users found the beta system complex and slow to react. Table 4.9 lists a selection of excerpts taken from the comments and feedback given by end-users about this issue ²⁸¹.

Generic feedback about the beta system
“I have been very frustrated trying to use NovopayBeta. While I am going back to practice with some of the modules I am finding the Beta too frustrating.”
“Every time I enter I strike problems with either what details have been entered or the result of them. i.e. sick leave of one day - showing they have no sick leave when in fact they do! [I]’m a long way

²⁸¹ Novopay Change Readiness and Engagement Survey #2, Aug 2012

from feeling confident with this programme”
“I am having no success with NovopayBeta. Even the simplest tasks result in the page not being able to be displayed so have managed absolutely nothing so far”
“I DO NOT think Novopay is ready to start on the 20th August. The Beta site has errors, does not show allowances for staff - has fields to fill in that are new and we do not understand what they mean - you cannot run a report to check what you have entered into the system before posting and validating the info”
“I feel that as a user the beta site is unreliable - as every time I enter data into the system - it shows up errors. I am not confident that this new system will work correctly and pay the staff accordingly”
“I have been trying to recreate SUE2506 on NovopayBeta as suggested by you but cannot get even simple things like extra hours and allowances to work as Novopay either refuses to recognise staff members who work at the school or says they are not entitled to these allowances”
“I’m finding this very frustrating as these are basic pay allowances that are paid out every pay to the staff at this school. Trying the scenarios you suggest doesn’t work in NovopayBeta so how is it going to work when you go online for real. This has been a very unsatisfactory rollout for something so important”
“After the training I was very optimistic but after trying to work with NovapayBeta I feel sick. I am responsible to make sure people are paid accurately yet I have no way of ensuring this”
“The system just keeps coming up with error after error. If this is an indication of how un-user friendly this system is then heaven help us all”
“The site is not intuitive and leaves a great sense of anxiety for me and my experienced office staff”
“Don’t know how to download a daily transaction report. Not sure about what we need to do on a daily basis...would like a plan for the week of daily/ weekly tasks”
“Still struggling here. Not sure about uploading timesheets - what gets uploaded and what gets entered online. Also, don’t know how to process part of day e.g. 2 hours etc.”
“I am finding Novopay [Beta] very complicated and do not understand much about entering information despite practising for many hours. Very concerned that I will not be able to do payroll correctly when it rolls out”

Table 4.9 End-users’ feedback: Functionalities in training system

4.3.8.5 Effect of Inadequate Training

Most of the targeted end-users eventually completed some training before the service went live, but it did not adequately prepare them. “Schools feel the initial training modules used

to train them on Novopay were not thorough enough and that additional training is required”²⁸². There was a feeling that: “the modules were too simplistic, did not bear any reality as to how it would really work or have detailed enough examples that they really needed to do their payroll”²⁸³.

The resulting effect, after go-live, was that end-users found it difficult to complete their online transactions: “lack of adequate training was stated [in a post go-live Survey] as the primary barrier for completing [more] transactions using Novopay online system”²⁸⁴. This caused end-users to overly rely on the service desk: “The users’ inability to complete transactions online adds to the number of manual transactions to be processed by the Novopay service”²⁸⁵. If end-users are stuck they resort to the shortest and quickest means of resolution, “[T]hey generally do this by directly calling the Service Centre with their specific question when they need an answer”²⁸⁶. Over-reliance on service centres resulted in overloading of requests.

While training, end-users also faced challenges in getting their issues resolved through the new service desk. In the previous service model end-users had dedicated pay clerks. However, in the new service model a formal service desk was set up. It worked in such a way that end-users interacted with a different person each time they contacted the service desk “instead of having their own pay clerk (with Variable expertise and availability) schools would have direct access to experts in a help desk”²⁸⁷. This type of interaction was dissatisfying for the end-users. Table 4.10 lists excerpts of end-users’ comments regarding this experience²⁸⁸.

Service centre issues
“I know you are having issues with volumes of enquiries, but after waiting 5 days for a reply regarding the mock run accuracy (variance between transaction and SUE report), the only reply has asked me a question which is clearly answered in my initial enquiry”
“Are they just trying to clear out queries to make the numbers look good or can we get answers on the accuracy of your output. Very disappointing and gives no confidence in the accuracy of Novopay”
“I could not get through to the support line at one stage this week which was frustrating”

²⁸² Identifying Opportunities to Improve the Novopay Service (Part2), by PwC, May 2013

²⁸³ Appendix B: Initiative B2 - Improve User Experience, by PwC, May 2013

²⁸⁴ Appendix B: Initiative B2 - Improve User Experience, by PwC, May 2013

²⁸⁵ Appendix B: Initiative B2 - Improve User Experience, by PwC, May 2013

²⁸⁶ Appendix A: Initiative B1 - Schools Engagement, by PwC, May 2013

²⁸⁷ Ministry Response to Inquiry Commission, May 2013

²⁸⁸ Novopay Change Readiness and Engagement Survey #2, Aug 2012

“If I email, I am not getting the answers that I am looking for. The ones I get are the ones from the guides, which I have already checked and they do not fully answer the question.”
“It is still very confusing and the questions I ask take days to answer”
“Have tried for two days and have tried phoning for two days. As yet have had no response to my plea for help. I AM COMPLETELY STUCK AND WILL NOT BE ABLE TO DO ANY PAYROLL AT THIS RATE”
“I have been extremely disappointed and upset getting passwords, waiting for calls to be answered, talking to a person, then finally doing a totally irrelevant quickstart practice scenarios”
“I have been frustrated by the amount of time taken to reply to queries by email and also can often not get through to anyone by phone.”

Table 4.10 End-users’ feedback: Service centre issues

4.3.8.6 Suggested improvements to training

A targeted approach for communication and training programs would have likely been more effective. As pointed out in a PwC report: “Some schools want classroom based training while others indicate comprehensive online training modules would be sufficient²⁸⁹ More savvy schools tend to be more able or willing to self-serve”²⁹⁰. “Larger more savvy schools are open to online chat or using FAQs or website material. Smaller schools see themselves as time poor and really just want to ring someone, get the answer and get the job done”²⁹¹. In general, the training needs and capacity of larger schools were different from smaller schools. “They [larger schools] would also like more advanced training, and are likely to be happy with training modules and webinars as a training medium rather than classroom based. [T]hey are more likely to go to the website for communications and are happy to ‘pull’ the information when they want it rather than feel spammed with too many communications”²⁹². To elaborate further, larger schools were more capable *and* willing to make the effort, “some of the larger schools are more capable and willing to self-serve and find the answer they need themselves”²⁹³.

This was backed up by a post go-live data analysis exercise, which indicated high variability of manual form usage as compared to online transactions. “For example, some schools seem to be able to complete a high percentage of the activities online with minimal validation

²⁸⁹ Identifying Opportunities to Improve the Novopay Service (Part2), by PwC, May 2013

²⁹⁰ Appendix A: Initiative B1 - Schools Engagement, by PwC, May 2013

²⁹¹ Appendix A: Initiative B1 - Schools Engagement, by PwC, May 2013

²⁹² Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

²⁹³ Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

errors, while others do not”²⁹⁴. In another post go-live review, a segmentation approach was suggested to re-assess end-user needs and re-establish training programs. “For example, while some schools will be comfortable with online training methods, others will require face to face interaction. This may entail additional training collateral that will need to be developed and new training delivery mechanisms and resources”²⁹⁵.

Figure 4.12 illustrates the emerging antecedents and consequences developed from sections 4.3.8 and 4.3.9 related to unpreparedness of end users.

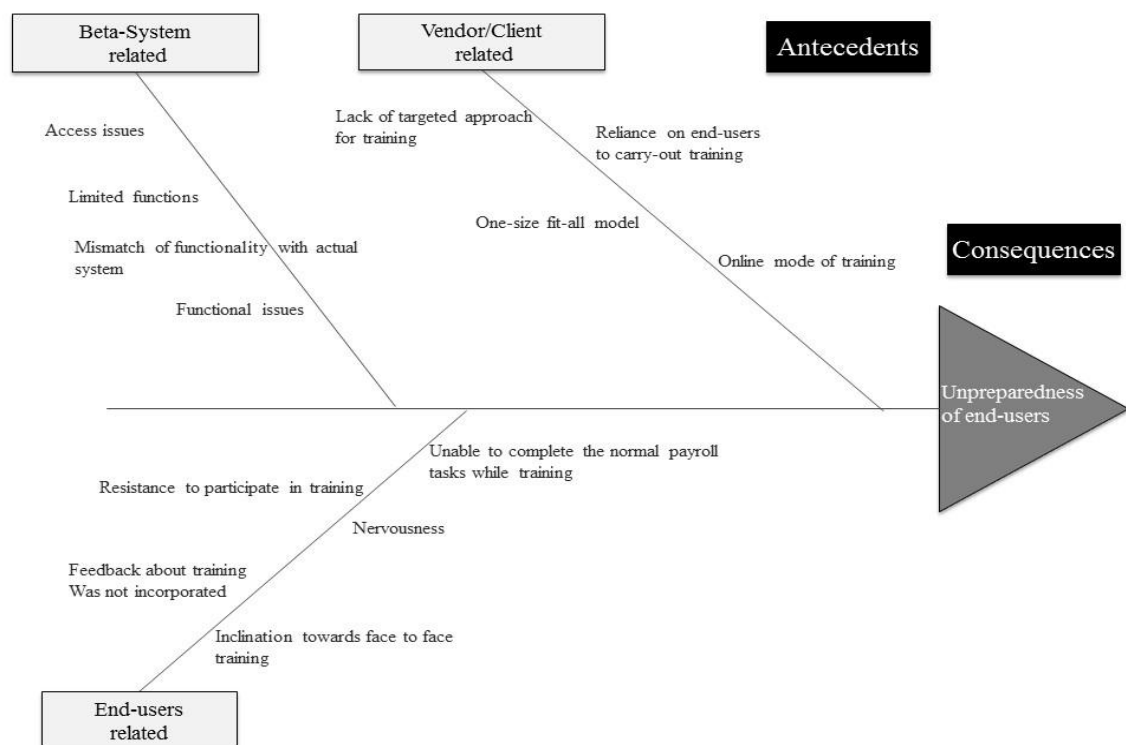


Figure 4.12 Antecedents which impacted on end-users’ preparedness

4.3.9 Impact of Transition on End-users and Service Centres

This narrative describes the new service-model which demanded transformation of work from end-users. An impact assessment carried out in 2011 highlighted this aspect: “staff will be obliged to use a new system and a new set of payroll services within the Schools, a new Service Desk, a new Pay Centre and the way of dealing with ESP will be different”²⁹⁶. “Notably, a new system means new business practises, new screens, new rigour and new tasks. A new provider will mean new business processes and new escalations processes to follow. On top of all of this, School Payroll

²⁹⁴ Post Go-Live PID Remediation Programme, Feb 2013

²⁹⁵ Post Go-Live PID Remediation Programme, Feb 2013

²⁹⁶ Change Impact Assessment, Dec 2011

Administrators will need to forge new relationships with Service Desk, Pay Centre, and the ESP team”²⁹⁷. “It is not only the organisational impact (operational processes, resourcing) but also the culture (mind-set, work practises, strategic policies drives coming through the Ministry) and the technologies that will drive targeted training-and communications”²⁹⁸.

Figure 4.13 illustrates the emerging antecedents and consequences of the impact of this transition upon the service centres.

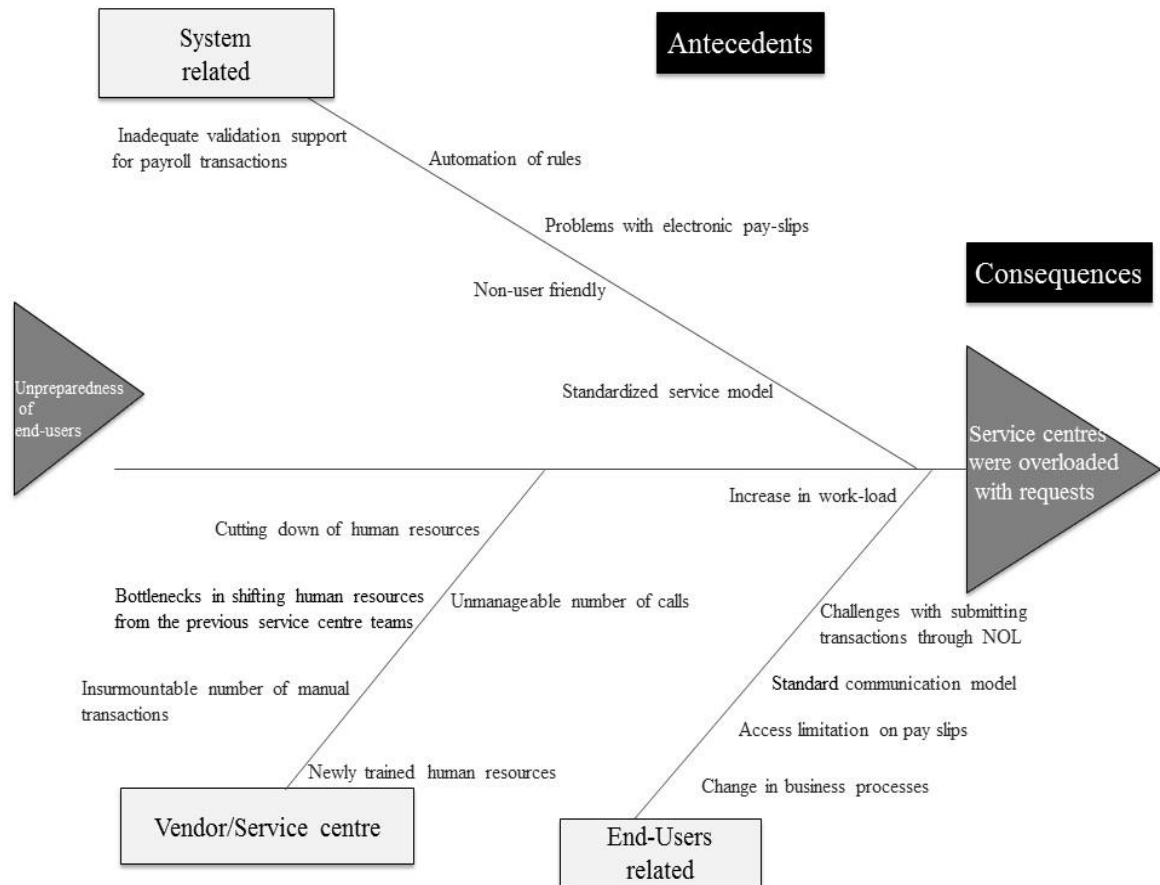


Figure 4.13 Antecedents which overloaded service centres

4.3.9.1 Changes in data insertion

The new system used electronic time-sheets to submit payroll transactions whereas previously, this process was manual, labour intensive and relied on manual calculations, causing a lack of adherence to standardized practices: “there is no online facility that enables schools to directly access or input data”²⁹⁹. “This reliance on manual processes inevitably created a

²⁹⁷ Change Impact Assessment, Dec 2011

²⁹⁸ Change Impact Assessment, Dec 2011

²⁹⁹ Revised Stage2 Business Case, Nov 2007

situation where schools were able to have payroll instructions that did not comply with policy processed by the pay clerks”³⁰⁰. In comparison, the new system was more automated. “Novopay is far more automated than the previous service. The Datacom system had served the Ministry well. However, it relied on many manual calculations undertaken by pay clerks”³⁰¹.

Therefore one of the fundamental changes for end-users was the need to submit electronic timesheets directly into the system. In the previous model end-users indirectly submitted their transactions through service centres. In comparison to the new model, end-users were encouraged to submit transactions using Novopay Online (NOL). “School Administrators at the moment compile the timesheets and then fax/ secure email / post through timesheets (only for new hires, relievers or where hours are changed) to Pay Centre staff to enter into the Datacom system. This is effectively two-fold data entry, so the Novopay will see the School Payroll Administrators enter the data into the system directly which will obviate sending the details through to the Pay Centre to enter for processing”³⁰².

From the MoE’s point of view, this change empowered end-users. However, managing their own data increased end-users’ workloads and increased their responsibility. “In the initial stages, the workload of the School Payroll Administrator will be higher with this new work practice. Staff will be empowered to take responsibility/control for entry of timesheets, booking leave and payments, managing funding and some reporting”³⁰³.

It should be noted that, initially, NOL was planned to be rolled out in the second phase of the project but following a variation in the agreement, it was included as part of the single-phase project. Although end-users could still use manual sheets for submitting their transactions, the strategy of *client-MoE* was to encourage end-users to use NOL as much as possible: “Encourage/steer School Payroll Administrators toward Novopay as the first and only course of action for things payroll. School Payroll Administrators are to submit timesheets via Novopay On Line (NOL)”³⁰⁴. NOL is discussed further in section 4.4.1.

4.3.9.2 Changes in authorisation, screens and navigation

In order to secure data, an additional authorization layer for authentication of *access* and *permission* was developed: “There will be new enforced security around Novopay that School Payroll Administrators (and principals, trustees, commissioners and limited statutory managers) must

³⁰⁰ Internal Communication: Leanne Gibson to Lesley Longstone, Aug 2012

³⁰¹ Memo: Novopay Chronology Dec 2012

³⁰² Change Impact Assessment, Dec 2011

³⁰³ Change Impact Assessment, Dec 2011

³⁰⁴ Change Impact Assessment, Dec 2011

abide by”³⁰⁵. Moreover, the system’s layout and screens were different which proved to be an additional learning curve: “School Payroll Administrators will have to use and understand new Screens. School Payroll Administrators will have to use new Forms”³⁰⁶. Newly developed navigation screens required end-users to expend extra effort to shift between various pages and screens to fulfil a task: “moving between screens, maintaining focus on a particular employee and viewing the necessary data entry fields in the correct and logical order were found to be irritations that can lead to incorrect data being entered”³⁰⁷.

4.3.9.3 Error and warning messages

End-users found error messages to be non-intuitive with limited information, which contributed to their frustration. End-users expected *error messages* to be more structured in order to enable them to understand the root-causes. “The current error messages that are presented to users when a system popup appears are difficult to interpret. The errors are often technical in nature and do not explain in plain English to a user what the error relates to, e.g. the field that is wrong, or what the user should do next to correct the issue”³⁰⁸.

4.3.9.4 Changes in service delivery model

The previous service model was operated through processing centres managed by *Datacom* and internal *MoE* staff. End-users were not required to directly interact with the system. “[I]nstead schools forward payroll details to one of four processing centres by telephone, fax or email and the data entry is done by Datacom PayServe or other Datacom sub-contracted organisations”³⁰⁹. Data analysis and report generation were also carried out by *Datacom* as they had full control over these operations. “Reports and data analysis are provided to the schools and the Ministry from the system”³¹⁰.

One of the main differences between the old and new service model was the delivery of services to end-users. “Datacom helped schools make things work. Now that knowledge needs to be built up in schools”³¹¹. Previously, “Pay-clerks are allocated schools to deal with. Communication is by phone, fax, and e-mail”³¹². A highly personalized and one to one relationship was

³⁰⁵ Change Impact Assessment, Dec 2011

³⁰⁶ Change Impact Assessment, Dec 2011

³⁰⁷ Initiative B7 - Data Accuracy Improvements, by PwC, 2013

³⁰⁸ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁰⁹ Datacom Payroll Application Sustainability Review by Equinox, Aug 2004

³¹⁰ Datacom Payroll Application Sustainability Review by Equinox, Aug 2004

³¹¹ Payroll Reference Group Meeting Minutes Combined, Sep 2012

³¹² Revised Stage2 Business Case, Nov 2007

established previously: “where the school administrator called a specific person and that person and his or her team did the work for that school. Datacom had no real call centre structure— so there was no record keeping of how many calls, what were they for etc” ³¹³. The new service model was “designed to be next in queue which means that an administrator could talk to a different person every time” ³¹⁴.

In the old model, *Datacom* followed a network-based relationship with schools and “although Datacom was set up only for the School Administrators to call — it appears that (through custom and practice) employees could also call” ³¹⁵. In short, *Datacom* provided a more personalized or individualised service. “Datacom provided advice, guidance, interpretation and in some cases HR advice to the school administrators” ³¹⁶. “They had a dedicated pay clerk who understood their school and situation and was their go to person for any questions they had. Even if they could not answer their question instantly, they would go away to check, and call them back to let them know” ³¹⁷. However, in the new service delivery model “only authorised school administrators can call. To increase security and controls the process was designed so only authorised school administrators could call” ³¹⁸. This resulted in frustration particularly for schools’ staff members (relievers) working at multiple schools who did not ‘belong’ to any specific school.

End-users – payroll administrators had been satisfied with the previous service-model, and so after the completion of the transition project they expected a similar level of care, responsiveness and expertise from the new service model: “Schools are used to being told the right answer, and expect the staff at the Service Centre to be knowledgeable and able to answer their questions. They get very frustrated when they are provided with incorrect or inconsistent information which leads to rework for them later on” ³¹⁹. Similarly, end-users preferred having a dedicated contact resource in the service desk. “Most schools wanted the dedicated pay clerk that existed in the Datacom model reinstated, providing them with this level of care” ³²⁰. Contrary to their expectations, as the new service delivery model was centralized there was no dedicated pay clerk. Each time an end-user contacted the service-centre he or she may interact with a new staff member of the service desk. The personalized aspect of the previous service delivery model was not maintained in the new service model.

³¹³ Discussion Document by Talent2, Jan 2013

³¹⁴ Discussion Document by Talent2, Jan 2013

³¹⁵ Discussion Document by Talent2, Jan 2013

³¹⁶ Discussion Document by Talent2, Jan 2013

³¹⁷ Identifying Opportunities to Improve the Novopay Service, Report by PwC, May 2013

³¹⁸ Discussion Document by Talent2, Jan 2013

³¹⁹ Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

³²⁰ Appendix A: Initiative B1 - Schools Engagement, by PwC, May 2013

4.3.9.5 Changes in payslips

An impact assessment exercise noted the importance of payslips for end-users and the level of details that end-users expected: “The School Employees acceptance of the new solution is dependent to a large degree on the veracity of the Agreement payment amounts detailed in the payslip and the discrepancy between old / new pay. The new payslip must have adequate transaction granularity to account specifically for each facet of paid work for each role that the Employee works, and current agreed rate for that role” ³²¹. Members of the Payroll Reference Group (PRG) also requested manual payslips of the final pay executed through the *Datacom* system and a payslip from the first pay run executed through Novopay. “The stated purpose was for employees to compare the two and see if there were any discrepancies” ³²². However, the new operational policy was to send only electronic payslips via email. “We are not currently planning to provide paper payslips to every employee as requested”³²³. MoE encouraged end-users to provide email addresses to make this process easier and more efficient. “We have asked the PPTA [Post Primary Teachers' Association] to encourage their members to provide their email addresses. If they do so, they will receive a payslip for the final Datacom pay and the first Novopay pay” ³²⁴. It was considered that using email addresses to send electronic payslips benefited school employees, payroll administrators and MoE, by making it easier to sort out problems and communicate changes. However the process of sending electronic payslips was itself marred with issues.

After go-live, the electronic payslips were delayed and when they were eventually received, staff members were unable to open them due to password issues. “Payslips were delayed, which caused people to worry that they weren't being paid. When they were paid, they couldn't check whether they had been paid correctly as they hadn't received their payslips yet. Also, a password was attached to payslip emails, which came as a surprise to them” ³²⁵. There were also instances when blank or encrypted payslips were generated and sent to end-users.

A lack of awareness about encryption by Internet Service Providers and Talent2's inability to inform end-users about updating their browser caused *corruption* of payslip files. “Talent2 reports that there have been a handful of blank payslips in each pay period. This occurs as part of a process whereby an Internet Service Provider (ISP) encrypts the file containing the payslip. Sometimes when the ISP reverses the encryption it corrupts the file and the payslip is blank. The other

³²¹ Change Impact Assessment, Dec 2011

³²² Education Report: Novopay Project Report, July 2012

³²³ Education Report: Novopay Project Report, July 2012

³²⁴ Education Report: Novopay Project Report, July 2012

³²⁵ Schools Payroll Ref Group Meeting Minutes Combined, Aug 2012

cause appears to be local browsers not being up to date with the latest version of an application such as Java”³²⁶.

Members of the Payroll Reference Group (PRG) requested that end-users should be given access to payslips of their schools’ staff. The justification was to help resolve pay related issues in a timely manner. However, *client-MoE* declined to provide such access due to the privacy of those employees who worked at multiple schools. “The reason for the policy is to protect the privacy of employees working at multiple schools. These employees receive payslips that show the details of their pay from multiple schools. They may not want one school to see the details of the pay they receive from other schools”³²⁷.

4.3.9.6 Changes in reconciliation reports

In order to reconcile their submitted transactions and to ensure that payments were processed accurately, end-users used staff usage and expenditure (SUE) and transaction reports. Being able to accurately and efficiently reconcile payroll transactions is an important determinant of end-user confidence. However, “Users generally found it frustrating that there was no functionality to view their submitted transactions once posted, until either a transaction report or the draft SUE report is produced”³²⁸. There was general discontent among end-users with regards to SUE reports. “The current format of SUE reports was noted as frustrating and not effective for completing these reconciliation activities”³²⁹. Issues in the SUE report were also categorized as one of the reasons for continuous calls to the service-desk. “When schools identify pay discrepancies in the draft SUE report, they call, send emails, send in a Novo31 form or even re-send their previously submitted forms. This increases the demand on the Service Centre and further impacts their ability to get through the initial demand”³³⁰. In comparison with the previous system, “they can’t view timesheets once they have been submitted and under the old system they had the spreadsheet”³³¹.

4.3.9.7 Increase in effort and workload

It was expected that the workload of end-users’ would be increased initially. This was partly because of the explanation and investigation about minor payment differences. “There may be more work initially for payroll administrators at schools through having to explain to staff

³²⁶ Education Report: Novopay Project Report, Oct 2012

³²⁷ Min_Adv99 Jun-12 MoE Education Report: Novopay Project Report, June 2012

³²⁸ Initiative B4 - Assess School Payroll Process Improvement Opportunities, by PwC, 2013

³²⁹ Initiative B4 - Assess School Payroll Process Improvement Opportunities, by PwC 2013

³³⁰ Initiative B6 - Service Centre Review, by PwC 2013

³³¹ Novopay Board meeting minutes, Oct 2012

differences in payslips due to rounding calculations. Payslips will look different and administrators may need to explain them to some employees over the initial four to six weeks from go-live”³³². However, the general expectation was that the number of payroll-related issues would not be greater in comparison to those incurred using the previous system. “The volume of underpayments and overpayments is not expected to be any greater than it currently is under Datacom”³³³.

Contrary to this, when the system went live, end-users found NOL difficult to use. In consequence, they reverted back to the manual process of submitting scanned copies of their payroll instructions, increasing the workload of the service desk and other teams. “Schools have found the online system difficult to use and many have reverted to using manual forms to convey their payroll instructions. This increases the load on the service centre”³³⁴. Usability issues are leading many schools to use forms rather than the online system resulting in schools not receiving the benefits of lowered processing time and increased accuracy”³³⁵. The additional downside effect was that service desk was unable to process these manual requests in a timely manner. “The failure of the service and pay centres to cope with the volume of calls and transactions meant that this low level of business change was not achieved”³³⁶.

The new system also required end-users to have more understanding and awareness about the collective agreements. “Users have always needed to know this information but they could ‘get away’ with not knowing it all, as they were often advised of the collective agreement rules by their payroll clerk”³³⁷. Many of them felt they were not aware of what the new system and service would entail for them. “Many feel they are not getting a good level of service from the Novopay Service Centre (especially compared to what they used to have) and they have a higher level of expectation of the level of care and support they are entitled to receive in their job”³³⁸.

4.3.9.8 Changes in communication mode with end-users

Different segments of end-users had different preferences for their mode of communication: “Some schools are happy to go to the website to proactively read the alerts, while others want to be reminded there is an alert they need to read. Some schools want all the relevant information to be sent in an email so they don’t need to go to the website”³³⁹. This was dependent

³³² Education Report: Addressing Payroll Payment System Differences, June 2012

³³³ Education Report: Addressing Payroll Payment System Differences, June 2012

³³⁴ High Risk Projects - Quarterly meeting reports, Q3 2012

³³⁵ High Risk Projects - Quarterly meeting reports, Q3 2012

³³⁶ MoE Ministry Response To Inquiry, May 2013

³³⁷ Initiative to Improve User Experience, Report by PwC, May 2013

³³⁸ Initiative to Improve User Experience, Report by PwC, May 2013

³³⁹ Initiative B1 - Schools Engagement: Communications, by PwC, May 2013

upon internal capabilities and interests. Usually end-users from larger schools were more inclined to make effort in locating the information they required: “some of the larger schools are more capable and willing to self-serve and find the answer they need themselves, as long as it is easy to find and they don’t have to spend too long looking. [T]hey are more likely to go to the website for communications and are happy to ‘pull’ the information when they want it rather than feel spammed with too many communications” ³⁴⁰. Other end-users could not utilize the online medium of communication effectively. “Schools do not utilize the Novopay website because they are not able to find the information they need easily” ³⁴¹.

In spite of having varying preferences for communication, most updates were advised through the website – a not entirely desirable approach. “Schools consider themselves extremely time poor - especially small schools where the payroll administrator is also the office manager and has a number of other jobs to do. They do not like to have to go separately to the website to find the alert or other information they need” ³⁴².

A post go-live data analysis exercise of 12 pay periods provided useful information about end-users’ behaviour. Such data analysis efforts, if carried out during transition, might be helpful in building a diagnostic approach to improve communication: “Analysis of this data will be used to inform targeted communications at segments of schools. Another early Programme initiative will be using these analytics to formalise the segments of schools and the type of communications that will go to them” ³⁴³.

4.3.9.9 Automation of rules

The new system had more automation and codification of rules. “[M]ost of the rules are coded into the software — therefore the maths [calculations] is not visible to the school administrator—and in some cases this has created debate” ³⁴⁴ whereas, the previous system required “more manual calculations / interpretation of agreements with full visibility of the maths [calculations] used to do a specific entitlement, deductions, payments etc.” ³⁴⁵. Therefore, the *Datacom* service required more human resources for support: “The current system requires little more than computer engineering support as it has few inbuilt rules and little automation” ³⁴⁶.

³⁴⁰ Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

³⁴¹ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁴² Initiative B1 - Schools Engagement: Communications, by PwC, May 2013

³⁴³ Post Go-Live PID Remediation Programme, Feb 2013

³⁴⁴ Discussion Document by Talent2, Jan 2013

³⁴⁵ Discussion Document by Talent2, Jan 2013

³⁴⁶ Stage 2 Business Case, May 2005

Automation of business rules was expected to increase adherence to standard practices. “The modern systems [were expected to] provide extensive rule setting and automation capability. However, those rules have to be configured in the system to provide the payroll outcomes” ³⁴⁷. “[T]o get more consistency and standardisation between schools on things like collective agreement interpretations, how things are done, rules and policies” ³⁴⁸. In order to provide automation, “those rules have to be configured in the system to provide the payroll outcomes required from employment agreements and legislation” ³⁴⁹. The benefits of following this approach were: “consistent application of policy, timely changes to rates resulting in less rework, fewer pay clerks, simple to implement reports and confidence that changes can be successfully implemented” ³⁵⁰. On the other hand, the downside of automated rules was the reduction in flexibility which required behavioural changes in end-users.



4.4 Operation Phase

The Operation phase is the start of the sourcing cycle (Butler et al., 2011). In the context of this study, this phase occupied a time-period when the *incoming vendor-Talent2* took over operations from the *outgoing vendor-Datacom* and the incumbent system was replaced by the new system. With this change, a new service model also became operational. This phase describes the relevant narratives, as listed in Figure 4.14.

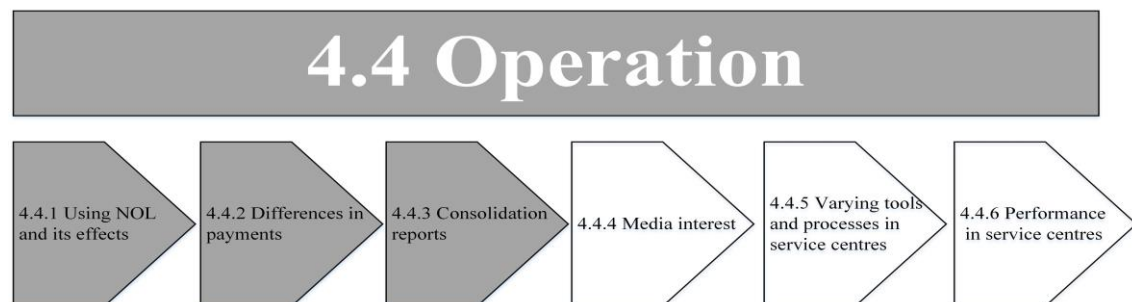


Figure 4.14 Narratives in Operation Phase. Highlighted narrative(s) under discussion

4.4.1 Using NOL and its Effects

Novopay Online (NOL) involved new functionality implemented in a new system. It provided an online interface for end-users to enter and update their schools’ employee

³⁴⁷ Stage 2 Business Case, May 2005

³⁴⁸ Discussion Document by Talent2, Jan 2013

³⁴⁹ Stage 2 Business Case, May 2005

³⁵⁰ Stage 2 Business Case, May 2005

data and process their payroll information. Using NOL required end-users to follow a new process for submitting payroll transactions. This narrative describes the reasons and justifications for choosing NOL and the effects of this change on end-users.

One of the main justifications for using NOL was to “deliver a significant on-line e-business capability to the BOT payroll representatives, including developing an automatic interface with the payroll system” ³⁵¹. NOL was expected to reduce the number of human resources in the service centres due to a corresponding increase in the use of technology: “The forecasted outcome of the future Education Service Payroll state is that the total cost of the future Education Service Payroll state will reduce and the vendor’s revenue margins will increase” ³⁵².

It was estimated that initially “approximately 20% of Education Service Payroll forms will still need to be processed manually” ³⁵³. However, with effect from the second variation agreement, aggressive endeavours were pursued to influence groups for promoting the uptake of NOL. The following are excerpts taken from the second variation agreement, 2011³⁵⁴:

- “Using its best endeavours to promote Online Uptake through its influence over the Boards of Trustees”
- “Using its best endeavours to apply its knowledge of the education sector, and the communications channels available to the Ministry, to mitigate the impediments to Online Uptake in the education sector”
- “Working with the School Trustee Association (NZSTA) to identify any impediments to Online Uptake which may arise from matters within the control or influence of the NZSTA”
- “Working with the NZSTA, use its best endeavours to facilitate (Where possible) the removal of these impediments”
- “Using its best endeavours to promote Online Uptake through communications channels and networks available to the Ministry across the education sector”

So the scope of project was extended even though the previous time frames and deadlines were not met.

³⁵¹ RFP: Provision of Fully Outsourced Payroll Services for the Schools’ Sector, Dec 2007

³⁵² RFP Supporting Document, High Level Business Processes for the Education Service Payroll, Dec 2007

³⁵³ RFP Supporting Document, High Level Business Processes for the Education Service Payroll, Dec 2007

³⁵⁴ Second Variation Agreement, 2011

4.4.1.1 Expectations from NOL

Through NOL, end-users became more responsible for their own data. “Recommendation is to maximize web self-service uptake by schools as this makes schools responsible for their own data”³⁵⁵. However, this change was considered over-simplistic: “With Novopay, the process and tasks will not change. Payroll administrators will still enter the same data – end dates and start dates. However, they will be able to enter the dates directly, online”³⁵⁶. Representatives of the education sector expressed strong sentiments against imposing NOL on end-users, as it took more time and effort to carry normal operations. “[A]t the Payroll Reference Group (PRG) there was a strong reaction to the electronic forms as it was not what the group had expected. The feedback was that it would take the administrators longer to complete the forms in electronic form than manually”³⁵⁷. *MoE* and *Talent2* disagreed: “Novopay will help schools provide a better payroll service because it will give school administrators direct access to the underlying payroll information and provide the ability to make changes online. Also, a number of input errors will be prevented at the school level through validation routines in the Novopay software”³⁵⁸.

4.4.1.2 Lack of NOL usage

Lack of interest and continuous use of manual forms by end-users was recognised as a risk that could arise due to the imposing of NOL. MoE was aware that end-users may not take additional responsibility and would thereby increasingly pass their issues to the service centres. “[R]isk #13 refers to an option for School Administrators to submit their payroll information either in hard copy or online (web self-service) and the subsequent risk to Talent2 and the Ministry re the level of transaction that may be made manually instead of electronically”³⁵⁹. To mitigate this, “Talent2 has data entry people ready to manually key in data although do not want to promote this manual option”³⁶⁰. In hindsight, their estimations were found not to be accurate.

After go-live, when end-users experienced issues with NOL as anticipated, they shifted towards using manual forms. “According to Ministry and Talent2 staff, user adoption of Novopay online is lower than expected”³⁶¹. It placed an extra pressure upon the service desk to

³⁵⁵ Novopay Steering Committee Mins – Collated

³⁵⁶ Novopay Project Report, Oct 2012

³⁵⁷ Novopay Steering Committee Mins – Collated

³⁵⁸ Education Report: Addressing Payroll Payment System Difference, June 2012

³⁵⁹ Novopay Board meeting minutes, June 2010

³⁶⁰ Novopay Board meeting minutes, Aug 2012

³⁶¹ Novopay Technical Review, by Deloitte, March 2013

process manual forms within a specific time. “The usability issues are leading many schools to use forms rather than the online system. This means schools are not getting the benefits of reduced processing time and increased accuracy that Novopay offers. It also puts pressure on Talent2 to process the higher than anticipated volume of forms” ³⁶². Due to a lack of confidence in NOL “users are avoiding the system and keeping their own manual records, due to their low level of confidence in the data entry process” ³⁶³. As a consequence, it adversely affected the quality of data and performance of the service desk. “This ultimately increases data input errors and delays as well as the demand on the Pay Centre to process high volumes of payroll inputs” ³⁶⁴.

NOL created significant challenges for certain end-users. “For many of these administrators moving to an online system has been quite a change in terms of the effort and knowledge required to do their job” ³⁶⁵. In comparison to the previous service model, responsibilities of end-users were simpler. “Many of these administrators conducted a lot of their payroll activities offline by simply filling in forms and faxing them to Datacom” ³⁶⁶. NOL required end-users to be self-supportive, but not all end-users were prepared for this change. “Administrators [end-users] now need to know what codes to use for the different timesheets and allowances, how to interpret validation and error messages and to ensure to select the correct job for that teacher” ³⁶⁷.

4.4.2 Differences in Payments

Salary calculations and accurate payments are the two main outputs of any payroll system. They are the most critical aspects of the quality of such systems. This narrative describes the kinds of payment issues faced when the Novopay system became operational. It was expected from Novopay that there would not be any unusual issues but there could be a few differences in payments. This could be due to: “Known differences that will show on payslips at the transition from Datacom to Novopay” ³⁶⁸ or due to rounding: “there will be a number of minor differences that will result from Novopay’s rounding calculations” ³⁶⁹. However, it was expected that this would affect only a small percentage of the staff population: “40% of staff will be paid the same and the vast majority of the remaining staff will see differences on their payslips of three cents or less” ³⁷⁰.

³⁶² Novopay Project Report, Sep 2012

³⁶³ Novopay Technical Review, by Deloitte, March 2013

³⁶⁴ Novopay Technical Review, by Deloitte, March 2013

³⁶⁵ Initiative to Improve User Experience Report, by PwC, May 2013

³⁶⁶ Initiative to Improve User Experience Report, by PwC, May 2013

³⁶⁷ Initiative to Improve User Experience Report, by PwC, May 2013

³⁶⁸ Education Report: Addressing Payroll Payment System Differences, June 2012

³⁶⁹ Education Report: Addressing Payroll Payment System Differences, June 2012

³⁷⁰ Education Report: Addressing Payroll Payment System Differences, June 2012

These expectations were not entirely achieved, as various tax-related calculation issues were identified: “a number of issues relating to calculation of tax for individuals within certain scenarios have been identified. Further to these calculation issues, a number of issues relating to the transfer of files to and from IRD for the purpose of tax filing have also been identified”³⁷¹. These were critical issues, as they were related to the calculation of salaries. “This is a key area to resolve in order to increase the accuracy of the payroll and therefore increase user confidence with the Novopay service”³⁷². Another issue found was in relation to a *defect* in the formula which calculated holiday pay “...which resulted in 124 staff receiving two days more holiday pay than they were supposed to”³⁷³.

4.4.3 Consolidation Reports

Consolidation reports are produced as an output from the payroll system, and they are important as they are used in the validation of payroll instructions. Thus, displaying incorrect information in consolidation reports can cause confusion and frustration among end-users. This narrative describes the issues faced by end-users regarding these reports and their effects.

In the initial payment cycles from the Novopay system some payroll instructions that were submitted late did not appear in the consolidation reports at all, but were processed: “Situations may arise where, sometimes even though an instruction is sent after the cutoff, the pay centre enters in the instruction in Novopay and it is processed anyway. This can result in a situation where schools do not see clear rules by which their instruction(s) will (or will not) be processed”³⁷⁴. Another issue arose due to human error regarding the extent of the pay cycle. It resulted in a set of transactions not included in the staff and expenditure (SUE) Reports, but which were processed and paid. “This has generated a lot of calls to the Service Desk”³⁷⁵. In another instance, due to technical issues, there was a delay in receiving payroll instructions: “number of Payroll Administrators who had sent their forms before the 3pm cut-off received a message that they had submitted the forms too late and that they wouldn’t be processed”³⁷⁶. As a result, the service-desk was overwhelmed by phone calls and emails from end-users and they “received a flood of pay adjustment requests”³⁷⁷.

³⁷¹ Post Go-Live PID Remediation Programme, Feb 2013

³⁷² Post Go-Live PID Remediation Programme A11 Technology release 2 of the initial Novopay Stabilisation Plan, Feb 2013

³⁷³ Novopay Board meeting minutes, Oct 2012

³⁷⁴ Post Go-Live PID Remediation Programme, Feb 2013

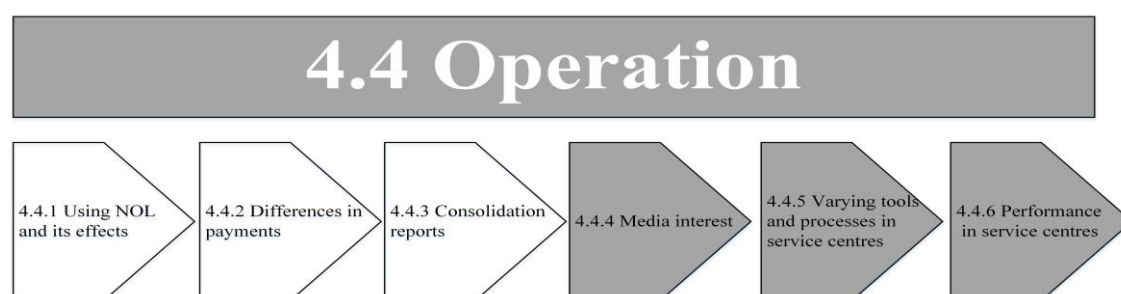
³⁷⁵ Novopay Board meeting minutes, Oct 2012

³⁷⁶ Novopay Board meeting minutes, Sep 2012

³⁷⁷ High Risk Projects - Quarterly meeting reports, Q3 2012

To compensate for the lack of functionality provided in order to validate the submitted transactions end-users used manual work-arounds: “the typical final stages of a given pay run involves schools cross checking their physical records with the draft and final SUE reports” ³⁷⁸. End-users desired to view and print records through the online interface, however, as there was no inbuilt functionality, they adopted extremely time-consuming measures. “For example, some schools copy and paste the validated records from the bulk timesheet screen in to word documents, print and file for record keeping. Other schools took print screens of the bulk timesheets screen, printed the records and filed these printouts for record keeping” ³⁷⁹. End-users were dependent upon maintenance of records for their submitted transactions to compare with the processed transactions and “track/trace and monitor activities end to end and have reliable evidence to enable the school to complete their responsibilities accurately” ³⁸⁰. The manual and time-consuming workarounds increased end-user workload and added frustration: “Schools need and want a record of their posted transactions so they can reconcile with their SUE report and they are currently undertaking highly manual mechanisms to get this. Nearly all schools either take a print screen of the records to be submitted or copy and paste on to a document and then print the records to file. This is a frustrating and time consuming process for schools” ³⁸¹. “Some Administrators are currently printing every transaction on paper in order to have a paper trail – enough to fill one folder per staff member – which they then need to reconcile with their Transaction or SUE Reports” ³⁸²

It was later realized that having an initial data entry validation point might have improved the assessment of data entry and the resulting quality of data: “This will involve assessing the robustness of the data validations involved and any additional controls required to better ensure data quality and integrity” ³⁸³.



³⁷⁸ Appendix D: Initiative B4 - Assess School Payroll Process Improvement Opportunities by PwC, 2013

³⁷⁹ Appendix D: Initiative B4 - Assess School Payroll Process Improvement Opportunities by PwC, 2013

³⁸⁰ Appendix A: Initiative B1 - Schools Engagement, by PwC, May 2013

³⁸¹ Appendix A: Initiative B1 - Schools Engagement, by PwC, May 2013

³⁸² Novopay Board meeting minutes, Oct 2012

³⁸³ Post Go-Live PID Remediation Programme, Feb 2013

4.4.4 Media Interest

When the extent of the issues being faced became clear end-users began escalating their dissatisfaction through various channels, including sector organisations, the media, and Ministers. “This escalation is reducing the ability of the Ministry and T2 to resolve the root problems and causing increasing reputational pressure on Ministry and ministers”³⁸⁴. It was partly due to the loss in confidence in the ability of the *incoming vendor-Talent2* to resolve issues that end-users began directing their complaints towards other stakeholders: “Duncan Boennic advised that there is no active policy in place to refer complainants to the Ministry. However, he was concerned that the Ministry seems to be receiving more complaints than Talent2”³⁸⁵. These issues generated significant media attention which was heightened by the fact that a number of individuals had not been paid, were under-paid or over paid. “These publically identified issues have significantly impacted on public perceptions and confidence in the Novopay service”³⁸⁶. This placed an extra pressure on *incoming vendor-Talent2* and *client-MoE* to resolve issues and mitigate the effects of the negative media coverage.

4.4.5 Varying tools and processes in service centres

A new service model became operational with the completion of the transition project. This narrative describes the varying tools and processes used in service centres and their effects.

4.4.5.1 Lack of tools in service centres

Service centres did not have any defined processes and tools to monitor, measure and improve their service quality. As a consequence, customer satisfaction and data quality was not consistent across centres. It was found that, although, “documented set of processes have been developed based on ITIL however, these processes are not followed as documented. In addition, appropriate roles are also not in place or clearly defined”³⁸⁷. Access to employees’ historical data was also not available to service centres. They had to request this information or gather it from multiple sources, causing further delays in processing: “The Service Centre does not have a single view of an employee’s service history. Employees’

³⁸⁴ High Risk Projects - Quarterly meeting reports, Q3 2012

³⁸⁵ Novopay Board meeting minutes, Oct 2012

³⁸⁶ Post Go-Live PID Remediation Programme, Feb 2013

³⁸⁷ Identifying Opportunities to Improve the Novopay Service, by PwC, May 2013

information has to be obtained from several databases. Requests need to be made for this information which delays processes such as terminations, leave”³⁸⁸.

To ensure the accuracy of payroll “[A]n effective reporting tool is essential to ensuring the Pay Centre is able to monitor pay runs that are not meeting regulations and provisions set out in employees’ Collective Agreements”³⁸⁹. It was even documented in the requirements validation to have access to the reporting tool – *Discoverer*. This tool executed SQL queries across the payroll database and retrieved relevant data: “The documented processes for ensuring accuracy of payroll through validation reports and associated steps requires Oracle Discoverer.”³⁹⁰. “*Timesheet and Leave Code Validation Report*’ refers to the Discoverer tool set as the basis for producing the required validation reports”³⁹¹. However, the service centres were constrained by the unavailability of such a validation tool(s). “The Service Centre does not have access to Oracle Discoverer and is therefore unable to deliver the expected validation processes”³⁹².

Another contributing factor which increased the processing time and effort in the service centres was *access* limitations. Different members or teams within the Service Centre had varying levels of access: “This has increased the number of hand offs before the resolution of a payroll instruction. This increases the time required to process the instruction, meaning that instructions are sometimes not processed before the payroll cutoff”³⁹³.

4.4.5.2 Difference in standards in service centres

The Novopay Service Desk Application (NSDA) was a web-based application designed to support communication between end-users and service centres. This application was being used at the Christchurch service centre only. This had negative consequences for the Wellington Centre and also affected visibility for *client-MoE*: “The Wellington Service Centre teams are currently managing their workflow outside of the NSDA application by running a report and manually allocating work to staff. This has an impact on their ability to track, prioritise and report on work volumes. It also drives up processing time and adds additional workarounds and handoffs”³⁹⁴. “The Wellington Service Centre uses additional spreadsheets (such as those to complete and track the overpayments process and work allocation to staff)”³⁹⁵. This also made it difficult for the Centre to report on the volumes of work handled by the team members, affecting the overall

³⁸⁸ Identifying Opportunities to Improve the Novopay Service, by PwC, May 2013

³⁸⁹ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹⁰ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹¹ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹² Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹³ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹⁴ Initiative B6 - Service Centre Review, by PwC, 2013

³⁹⁵ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

visibility for *client-MoE* on end-users' requests. "The Service Centre is currently required to send data requests across to the Ministry however, these are not tracked through NSDA meaning that follow ups or tracking of responses is manually done" ³⁹⁶.

Another downside of not using NSDA was that requests were not logged automatically. "While some tickets are manually logged, others are managed through email inboxes which adds difficulty to tracking and prioritisation" ³⁹⁷. Moreover, with regard to prioritisation of tasks, the Wellington Centre did not have standardized guidelines. "Staff in the Wellington Pay Centre working on spreadsheets did not have any guidelines on how they should prioritise their work" ³⁹⁸. The effect on end-users was that they found it difficult to track and follow up on the status of their requests "due to the numerous service request numbers and ambiguous emails received from the Service Centre" ³⁹⁹.

Consistent use of tools across service centres would have increased the efficiency of work flow and division of tasks. "Providing one system for managing work across Wellington and Christchurch Service Centres would enable easier team management, better work prioritisation and allow for more accurate management reporting of the demand and therefore the staff required" ⁴⁰⁰. It would have helped in managing and keeping track of the tickets. "Tickets are given new numbers when they move workspaces. This means that the original ticket is closed, an automated email sent to the school notifying them of the closure and a new ticket is opened with another automated email sent to the school informing them of the new ticket number" ⁴⁰¹.

As the end-users sent multiple requests using different forms in a single transaction, they were not able to track them collectively. "Forms are split into separate tickets and sent to different teams in some cases" ⁴⁰². These issues led to an increase in the number of calls to the service-desk. "Ensuring that schools are able to easily track and understand the progress of their tickets would result in fewer calls to the Service Centre and would allow schools to explain discrepancies in their reports more easily" ⁴⁰³.

4.4.6 Performance in service centres

It was expected that the newly built service centres would take an initial time to settle. Therefore, as expected in the beginning, the performance of the service centres was low.

³⁹⁶ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹⁷ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

³⁹⁸ Initiative B6 - Service Centre Review, by PwC, 2013

³⁹⁹ Initiative B1 - Schools Engagement Service Delivery, by PwC, May 2013

⁴⁰⁰ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

⁴⁰¹ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

⁴⁰² Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

⁴⁰³ Initiative B5 - Assess Technology Improvement Opportunities, by PwC, 2013

Improvement in performance was expected, however. “The Novopay service desk has been performing poorly. Schools have experienced long wait times with many schools abandoning attempts to get through”⁴⁰⁴. This narrative describes the main reasons for this lack in performance.

One of the reasons for their inefficient performance was inaccurate estimates of the human resources required in the service centres. “Initial staffing levels, particularly in the Christchurch service centre, were clearly not sufficient to handle the call rates or to adequately reduce the growing backlog of time sheets and other pay transactions sent to them for keying”⁴⁰⁵. These estimates were based on an assumption that since end-users would be given more control, they would be able to own up to their responsibilities. However, this strategy lacked an adequate fallback plan, in case end-users continued to rely on service centres.

End-users were frustrated because they faced continuous delays when contacting service-centres and having to repeat explanations about similar issues. “Users generally felt they had to wait a long time to get through to the Service Desk. When they got through, they felt that service agents were not able to help them without either having to put them on hold (to seek advice from a supervisor) or transferring them to another agent”⁴⁰⁶. Because of this unsatisfactory experience “many users have stopped contacting the Service Centre with their issues and instead chose to resolve them internally within the schools. This in some situations could be detrimental to the accuracy of their payroll processing”⁴⁰⁷.

Chief Information Officer, MoE – Leanne Gibson visited a few schools after go-live and found that, although there were training and competency issues, the negative situation was further aggravated due to the lack of responsiveness and helpfulness of the service centre/desk. “Administrators try to use the system, they encounter an issue and call or email the Service Centre; when they don’t receive a helpful response and the payroll deadline approaches, they escalate their problems to all channels that are available to them, which includes ESP, Deputy Secretaries, Lesley Longstone and the Minister”⁴⁰⁸. On the other hand, Mary Sue Rogers, payroll expert at *Talent2*, pointed out that even after the resolution of certain errors, a negative impression still lingered: “While many of these errors have been remedied, there is still the impression of continuing errors, which taints the experience”⁴⁰⁹. She also pointed out that the service centres received a considerably larger number of manual transactions than had been expected and for which they were simply not prepared. “Service Centre has received

⁴⁰⁴ High Risk Projects - Quarterly meeting reports, Q3 2012

⁴⁰⁵ High Risk Projects - Quarterly meeting reports, Q3 2012

⁴⁰⁶ Initiative B4 - Assess School Payroll Process Improvement Opportunities, by PwC, 2013

⁴⁰⁷ Appendix D: Initiative B4 - Assess School Payroll Process Improvement Opportunities, by PwC, 2013

⁴⁰⁸ Novopay Board meeting minutes, Oct 2012

⁴⁰⁹ Novopay Board meeting minutes, Sep 2012

154,000 payroll instructions [manual] over the past 14 days, which is significantly more than had been expected”⁴¹⁰. She also mentioned, “it would be helpful if the Ministry could issue some instructions to users with examples of best and worst practise. It was noted that some schools seem to struggle more than others – one school sent almost 1000 enquiries”⁴¹¹.

When asked about the main reason for Novopay issues she responded that some of the reasons were:⁴¹²

- “[S]ome transactions missed the cut-off”
- “Pay Centre staff training issues (the Retro time sheets are being processed by the team in Christchurch, which is still relatively new and inexperienced)”
- “[C]onfusion regarding the units for the mileage allowance”

Lastly, she claimed that most of the errors were operational in nature rather than system-related. “Other than the errors in the SUE Reports and the Banking/Staffing Reports, there was no systematic system failure”⁴¹³.

4.4.6.1 Backsourcing of operational services

After approximately two years of outsourced operation, end-users continued to face issues and continued to complain about poor levels of service, *client-MoE* decided to set up an internal crown entity, Education Payroll Limited (EPL). It was established to take over operational responsibilities from Talent2, and therefore, Transition3 was initiated. “EPL is a Crown company established to provide payroll services to New Zealand’s schools. We were incorporated in August 2014 to take over the operation of the schools payroll service from Talent2 in October 2014. Ownership is held equally between two Shareholding Ministers, the Minister Responsible for Novopay and the Minister of Finance. EPL is governed by a Crown appointed Board of Directors⁴¹⁴”. The reaction from end-users was positive, in spite of the fact that this required another transition programme to ensure the new set up had the capability to operate and the services were successfully transferred.

⁴¹⁰ Novopay Board meeting minutes Update from Talent2, Sep 2012

⁴¹¹ Novopay Board meeting minutes, Sep 2012

⁴¹² Novopay Board meeting minutes, Sep 2012

⁴¹³ Novopay Board meeting minutes, Sep 2012

⁴¹⁴ Education Payroll Limited, Statement of Intent, 2015

4.5 Concluding Remarks

This chapter has described the key narratives drawn from the Novopay case study, providing a rich and detailed portrayal of the events that happened in this transition project. This section provides a high-level summary of this chapter.

A transition process could be initiated due to limitations in a legacy system. Simultaneously, clients could be looking for newer features to support new or growing demands for decision-making. Vendors can also be shifting clients to newer versions of their software systems. Therefore, the contributing factors that may initiate transition can be diverse, and sometimes beyond the control of a single stakeholder.

Sourcing strategies can also be volatile. With the passage of time and advances in ICT, new vendors with newer technologies might propose better solutions. Clients may want to switch vendors in order to bring a fresh pair of eyes or more competitive systems. They could also be looking to establish internal centres and insource the previously outsourced activities in order to have more control. On the one hand, outsourcing can be positive for clients, but it may also result in loss of control and vendor lock in. On the other hand, insourcing transfers control internally, but it requires inbuilt capabilities. In the public sector, building internal technical capabilities may not align with strategic goals and so outsourcing may seem to provide a better option.

By choosing outsourcing, clients may consider they have transferred all the risks and responsibilities to an external vendor. However, outsourcing demands different forms of skills and knowledge to purchase services and manage an external vendor. Therefore, regardless of which sourcing strategy is used, it requires internal client capabilities.

A transition project usually involves data transfer from the old to a new system. Preparation for transition requires making agreements with the outgoing vendor to provide support in this regard. This is to ensure that data is available in a format which is easily transferable. Incoming and outgoing vendors may push this responsibility upon each other, which may become a source of conflict between them.

Public sector clients typically have a preference for contract-based relationships but in practice they may not be able to use contractual obligations for sending material breach notices. Vendors are aware of this limitation and may use it to their advantage.

The next chapter 5 presents the main dilemmas which are built upon and in continuation of the narratives presented in chapter 4. Appendix A6 displays the link between narratives and dilemmas in a tabular format.

Chapter 5. Dilemmas

5.1 Brief Introduction to the Chapter

Pettigrew (1990) suggested that explanations about change are inherently multifaceted, therefore, simple and singular grand theories may not reveal deep seated contradictory realities. He further pointed out that history might not be sufficiently understood as just events and chronology, there could be deeper pathways and underlying structures to consider. Poole & Van de Ven (1989) proposed the relevant concept of using paradoxes to build management and organizational theories. They suggested that contemporary theory building methods attempt to build theories which are internally consistent, but that are of limited scope. If a multi-faceted reality is attempted to be captured through finite statements, then the resulting theory might be incomplete. Therefore, insights offered by tensions, oppositions and contradictions provide an alternative strategy for theory building (Poole & Van de Ven, 1989). McKernan (1991) further extended this notion by pointing out that “institutions have conflicts of interests, that members are split and divided, and all of this is beset by dilemmas”. He was sceptical about applying a researcher’s interpretation directly based on critical social theory. Therefore, he used the theory of contradiction to guide a process of data analysis. One such technique within this process is dilemma analysis, a technique that can be used to explore the complex and contradictory ways through which change emerges.

Dilemmas as defined by Cuban (1992) are conflict-filled situations which require individuals and groups to make choices and decisions between competing values which cannot be fully satisfied. These decisions involve competing values with good enough compromises but not neat solutions (Cuban, 1992). Langley et al. (1995), while describing the properties of decision making, suggest that conceptualizing dilemmas provides a powerful tool to elaborate on the differing and conflicting point of views which may otherwise be discounted. A similar approach is used to analyse the data in this research.

In this research, the fundamental underpinning bases for inferring dilemmas were conflict-filled situations faced by different stakeholders when making decisions. As per the definition above, these decisions had multiple choices and often competing values. In order to have them tied with data only those dilemmas that have underlying choices

and alternatives as represented in the data are reported in this chapter. This reduced the number of dilemmas from our earlier pilot study (Clear et al., 2013) where ‘sentences’ and ‘statements’ were taken as the unit of analysis and a more speculative approach was chosen for devising the alternatives and choices in dilemmas in a sub-set of the same data set. The current approach, which uses decision points as evident in the data, is less speculative, with a consequent reduction in researcher bias.

As the researcher had limited control over the data collection, therefore, direct control over the reporting of dilemmas was not possible. To compensate for the infeasibility of directly collecting dilemmas the researcher searched for decision points, identifiable choices and contradicting viewpoints within the data. On the other hand, as the nature of data was longitudinal, it was also possible to associate alternatives or courses of actions with their later consequences.

The phenomenon of interest of this study, transition, involves the interaction of several different stakeholders: the client, the outgoing vendor, the incoming vendor, third party vendors and end-users. Due to their differing roles and responsibilities, they have different aims and priorities, and sometimes conflicting viewpoints. In order to create a suitably rich account of this phenomenon the researcher chose to conceptualize the data as dilemmas.

The following table 5.1 lists the set of dilemmas, discussed in the following sections of this chapter. Appendix A6 lists the dilemmas and their corresponding linking narratives from the previous chapter 4.

Section	Preamble	Dilemma
5.2	Shifting to a new version of a system	Support customized version OR shift all clients to a new version
5.3	Management of Intellectual Property Rights	Retain IP OR disclose to new vendors
5.4	Core and Non-Core Activities	Classify activities as core or non-core
5.5	Acquiring a new system	Rely on customizations or refine business processes
5.6	Managing Incoming and Outgoing Vendors	Balancing the support for BAU and transition in parallel

5.7	End of an Outsourcing Contract	Continue outsourcing OR switch to insourcing
5.8	Procurement Strategies	Set up an open tender or closed tender
5.9	Contingency Planning	Create contingency as a Fallback plan
5.10	Relationship with Vendor	Establish contract-based or network-based relationship
5.11	Sending a Material Breach Notice	Notify through material breach or informal notice
5.12	Toll-gates for Advancing a Project	Bound by strict toll-gates decree or permit relaxed toll-gates
5.13	Service Delivery Model	Incline towards customized OR standardized service model
5.14	Roll-out Strategies	Big bang OR gradual roll-out
5.15	Training of end-users	Provide standard online training OR customize with a hands-on approach
5.16	Consideration about re-transition	Continue with the same vendor or revert back to the old

Table 5.1 List of Dilemmas

Each subsequent section (e.g. Sections 5.2, 5.3, 5.4) includes a preamble of relevant dilemmas which are then discussed in the latter sub-sections (e.g. Sections 5.2.1, 5.3.1, 5.4.1). Each preamble contains context information and sets the scene for the dilemmas to follow. The dilemmas (listed in the latter sub-sections) begin by mentioning the stakeholder(s) involved in the dilemma and then discuss the advantages and disadvantages of the proposed course of actions.

5.2 Shifting to a new version of a system

Developing a new version of a COTS-based system and then rolling it out to clients provides an opportunity for continuous generation of revenue, incorporation of new features and fixing of known defects. “Datacom is currently migrating its clients to JETPAY and expects to have completed this before June 2011”⁴¹⁵. Wherever possible vendors typically create straightforward procedures to shift their clients. However, these procedures may not work for those versions of the system that have unique customizations, carried out for specific clients. “Presumably Datacom will design any replacement application in such a way so as to ensure a straight forward as possible migration for its other payroll customers from DataPay to the new

⁴¹⁵ Internal Memo: Recommendations for Next Steps, May 2007

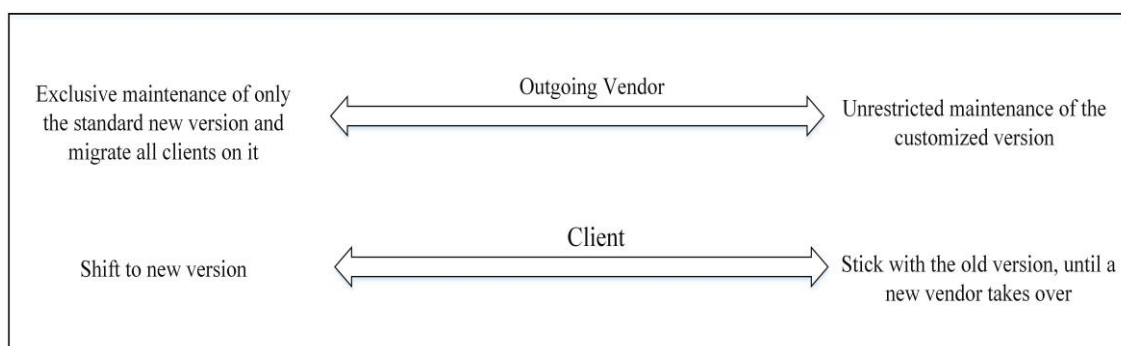
system. However any replacement system will not have the Ministry of Education specific logic that exists in the current system (unless the Ministry is willing to pay for its inclusion)”⁴¹⁶.

This may compromise the vendor’s ability to move forward, and there is a risk that vendors may not be able to sustain customized versions for a longer period without further client investment. “In a worse-case scenario, all of Datacom's other Datapay customers may be migrated to a new (and presumably more efficient) payroll application, and the Teachers Payroll may be the only customer on the existing Datapay. In which case Datacom would probably require the Ministry of Education to cover all the costs of maintaining and operating Datapay”⁴¹⁷.

Clients, on the other hand, and especially those in the public sector, may not be permitted to directly shift to new versions unless a competitive process complying with procurement guidelines and rules is followed. Therefore, a direct shift could be subject to probity issues. This was true in the Novopay case where MoE was required to carry out a tender process to assess the newer version, in comparison with other options, before making this decision.

5.2.1 Dilemma – Support customized version OR shift all clients to a new version

This dilemma can emerge for vendor organizations when they are deciding about whether to keep supporting a customized (old) version for a specific client or freeze development and shift all their clients to the new version. The former requires more resources with no assurance of a return on investment. On the other hand, the latter may not align with a client’s policies and there may be a risk of losing that client. From the client’s perspective a dilemma can emerge in deciding whether to shift to a new version offered by the vendor without carrying out a competitive process or to insist on using the older version when this may incur significant cost. This dilemma is portrayed in Figure 5.1 showing competing options.



⁴¹⁶ Datacom Payroll Application Sustainability Review, by Equinox, Aug 2004

⁴¹⁷ Datacom Payroll Application Sustainability Review, by Equinox Aug 2004

5.3 Management of Intellectual Property Rights

During the transition of a software system it is likely that data from the old system along with historical changes would need to be migrated to the new system. In the Novopay case, the importance of this activity can be realized in the dependencies of other project-related activities on it. “Data conversion influences the configuration of the payroll system, the system interfaces, payroll processes, pay centre training and end-user training”⁴¹⁸. In this particular case, data migration required the transformation and cleansing of the data before loading into the new system. Data migration of this scale can be a huge undertaking and preferably dealt with as a separate project. Data migration may also require the cooperation of the outgoing vendor. In this case, it was the responsibility of the *client-MoE* to provide *data* to the *incoming vendor-Talent2*. Likewise, in order to carry this out, they were reliant upon the *outgoing vendor-Datacom*. “[T]he Ministry will provide the Ministry Data necessary to satisfy the Requirements to the Supplier, at the Ministry's cost”⁴¹⁹. Thus, the responsibilities for data migration were shared across the client, outgoing vendor and incoming vendor. Moreover, while resolution of data-related issues was assigned to the incoming vendor - “Talent2 remains responsible for managing the resolution of any data issues that may occur”⁴²⁰ - they were reliant upon the outgoing vendor to provide the necessary support. “Talent2 rely on the incumbent to provide information about the data for translation”⁴²¹ Talent2 need to utilise Datacom, Subject Matter Experts, and the ESP Unit expertise to resolve data conversion problems”⁴²²

Thus cooperation between the outgoing and incoming vendors and their inter-sharing of information would have improved the incoming vendor’s ability in resolving data-related issues. Due to commercial restrictions and an ongoing competitive environment, however, the outgoing vendor was not open to sharing knowledge about their proprietary data structures, processes and designs. These legitimate commercial concerns over the sharing of metadata on the incumbent system and not divulging details with a competitor over a software package in the same domain therefore created a significant tension.

⁴¹⁸ Project Novopay Review Report, by Extrinsic, Jan 2010

⁴¹⁹ Second Variation Agreement, 2011

⁴²⁰ Independent Quality Assurance Review, Stage 2 Health Check, by IQANZ, May 2009

⁴²¹ Novopay Board meeting minutes, April 2009

⁴²² Project Novopay Review Report, by Extrinsic, Jan 2010

5.3.1 Dilemma – Retain IP OR disclose to new vendors

This dilemma affects both *outgoing* and *incoming vendors*, but it relates mainly to the former. It may emerge for an outgoing vendor in deciding whether to share information about customizations and data stored in their system to the new incoming vendor. This dilemma is portrayed in Figure 5.2. Such information would benefit an incoming vendor in interpreting data and related activities. Holding onto the data gives the outgoing vendor an opportunity to create and exploit difficulties, particularly if the outgoing vendor feels that they may have an opportunity to re-take the project or other related commercial opportunities in the future.

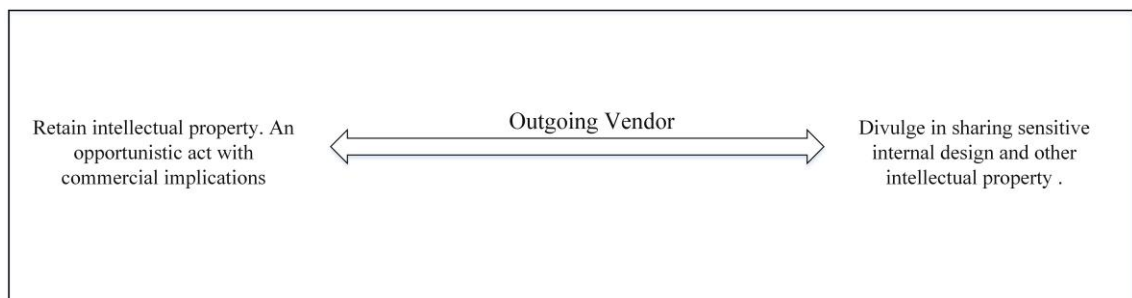


Figure 5.2 Retain IP OR disclose to new vendors

5.4 Core and Non-Core Activities

Outsourcing in the public sector usually involves what are considered to be non-core activities (Cox, Roberts, & Walton, 2012). Government agencies thus may rely heavily on private vendors to support their IT systems. The following excerpts are taken from the revised business case document of this Novopay project to corroborate this. “The operation of systems and processes required by a large payroll is not the core expertise of the ministry” ⁴²³. “The ministry’s expertise lies in its core education policy and ongoing operational management capability” ⁴²⁴. “[R]ather than on managing substantial IT systems development and implementation, or on managing large scale transaction processing services” ⁴²⁵.

However, in certain public sector projects that affect a large population and handle a large amount of data, stipulated with legal liabilities, the services function may actually be more important and core than anticipated. For instance, in this case, MoE had legal obligations to pay education sector employees. They were not unaccountable from any responsibility, even if outsourcing payroll operations to an

⁴²³ Revised Stage2 Business Case, Nov 2007

⁴²⁴ Revised Stage2 Business Case, Nov 2007

⁴²⁵ Revised Stage2 Business Case, Nov 2007

external vendor. Therefore, disentangling legal responsibilities, complex business processes, and determining to what extent these aspects can be delegated to other parties may not be a straightforward task.

5.4.1 Dilemma – Classify activities as core or non-core

This dilemma relates to *client* organizations. Traditionally, ‘non-core’ activities are considered ideal candidates for outsourcing (Cox et al., 2012). However, it can be argued whether a clear distinction can be made between core and non-core activities (Cox et al., 2012), especially over time. Considering the high impact of failure of public sector projects and the eventuality that failure could disrupt a whole sector, stakeholders involved in such projects should be cautious when considering this binary classification. In the case of Novopay, the payroll system was largely case-specific and the client was legally responsible for accurate payments to education sector staff. “A satisfactory payroll service contributes indirectly to education outcomes in that any breakdown in the service would significantly distract teachers and the ministry”⁴²⁶.

Given that a binary classification may not be appropriate a dilemma may emerge for client organizations when classifying an IT function such as the development, operation and management of a payroll system as core or non-core. This dilemma is portrayed in Figure 5.3.

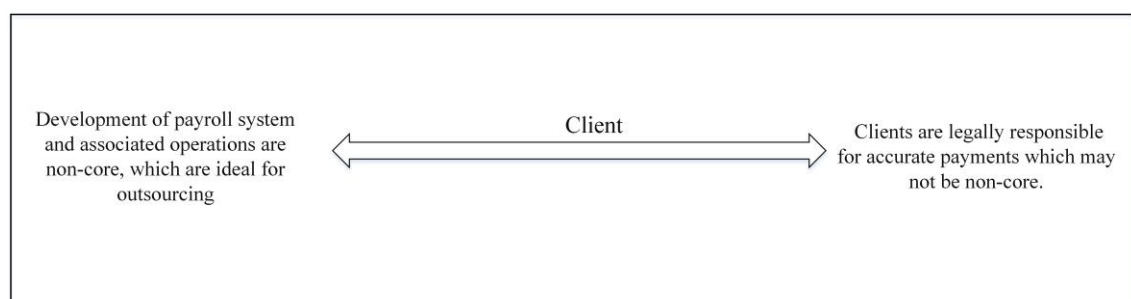


Figure 5.3 Classify activities as core or non-core

5.5 Acquiring a new system

To acquire a new enterprise system, clients have two main options: purchase a COTS-based system or carry out a bespoke project. COTS-based systems leverage standard applications which have pre-built functionalities (Morisio et al., 2000), though these are often modified to meet the client’s specific requirements (Beulen,

⁴²⁶ Revised Stage2 Business Case, Nov 2007

2011). Such systems are often preferred over bespoke developments because of their (perceived or actual) higher reliability and lower maintenance costs. As these applications may be in use at other organizations they are generally considered to be more reliable, and maintenance costs are also shared across clients. However, even COTS-based systems may become *bespoke-like* due to customizations made over a period of time. The two abovementioned advantages of being more reliable and cost-effective could then be offset. A situation of this nature was prevailing in the Novopay project. “The Ministry version has been modified to such a degree that it has diverged from the ‘PeopleManager’ product [Incumbent COTS product]. It now has all the characteristics of a bespoke development”⁴²⁷. The next four subsections describe how the perceived advantages of COTS can be offset.

5.5.1 Obsolescence and Maintenance

Due to rapid advancements in ICT legacy systems may become obsolete after a period of time. “It is becoming more and more difficult to find skilled resource available”⁴²⁸. In due course, vendors may start to transfer their customers to a new system. “[I]t can therefore be assumed that Datacom [outgoing vendor] will be planning to replace it in the medium term with a system based on current technologies”⁴²⁹. Presumably, at that stage, vendors ought to design such a replacement application which ensures straightforward migration. However, unless the sole client is willing to pay for the inclusion of customizations, the new system may not be readily available for them. “[A]ny replacement system will not have the Ministry of Education specific logic that exists in the current system”⁴³⁰.

5.5.2 Quality

Similarly, the advantages of having a reliable and validated COTS-based system may not hold indefinitely. When a vendor starts shifting clients to a new version, making further changes in the old version could be less reliable, as these changes may not be carried out with the same level of rigor. This will likely occur unless a client negotiates including extra functionality as part of the product roadmap, which an influential customer might achieve. “The “add-ons” developed to enhance the basic functionality of the system are not integrated into the base application and have not been written using programming tools robust

⁴²⁷ Stage 2 Business Case, May 2005

⁴²⁸ Stage 2 Business Case, May 2005

⁴²⁹ Datacom Payroll Application Sustainability Review, by Equinox, Aug 2004

⁴³⁰ Datacom Payroll Application Sustainability Review, by Equinox, Aug 2004

enough for a major commercial payroll application”⁴³¹. In most cases, these customizations are unique and applicable only to specific organizations. Therefore, it may not even be feasible to implement them in the base product. However, an adverse effect of these on-the-fly changes could manifest later in difficulties in quality and maintenance. “It is likely that a significant amount of work will be required to update the custom work following future core upgrades”⁴³².

5.5.3 Effort

While customizations are necessary to manage unique business requirements, they increase ongoing effort for fixing defects and enhancements. “For example, upgrades to the product will require every customisation to be analysed for possible flow- on impacts. Testing of changes (including regression testing) will be more complex than if there were fewer customisations”⁴³³. Moreover, when it comes to customisation it is difficult to evaluate a new vendor’s capabilities, and they in turn may find it challenging to estimate timelines given a lack of relevant knowledge. “To date, testing of custom work has generated a large number of defects. The Talent2 custom development process (client side) is less mature than for their internal product development work”⁴³⁴.

5.5.4 Third party vendors

Customizations could be further outsourced to specialised third party contracting companies. The benefits of this strategy are the sharing of risks and access to human resources with specialized skill-sets. “Development of the core customisation work will be outsourced to Asparona, a New Zealand based company that specialises in development of Oracle solutions”⁴³⁵. The inclusion of new resources may help to leverage technical skills but it may also generate initial downtime to manage the learning curve. Furthermore, while in principle such an approach is feasible, human resources from third party companies may not have sufficient understanding about the core base product to begin with. “The amount of customisation also creates a heavy reliance on skilled people who understand the complexities of the system”⁴³⁶.

⁴³¹ Stage 2 Business Case, May 2005

⁴³² Educational Services Payroll Project Review, by PwC, Nov 2010

⁴³³ Novopay Technical Review - Final Report, by Deloitte, March 2013

⁴³⁴ Educational Services Payroll Project Review, by PwC, Nov 2010

⁴³⁵ Educational Services Payroll Project - Intervention Review, by PwC, Dec 2010

⁴³⁶ Novopay Technical Review - Final Report, by Deloitte, March 2013

5.5.5 Dilemma – Rely on customizations or refine business processes

The above discussion may be represented in a dilemma that may emerge for clients whilst acquiring a new system - whether to refine their business processes before initiating a transition project or to rely upon ongoing customizations to manage the complex business requirements and processes. Refining business processes may help reduce the number of customizations; however, the extent to which this can be achieved may be limited, for a range of reasons (e.g., due to legislative requirements). This dilemma is portrayed in Figure 5.4.

According to a report compiled by an Independent Commission against Corruption of New South Wales, customizations in COTS products can be driven by the unwillingness of end-users to adjust their internal business activities to match the inbuilt capabilities of a COTS product ⁴³⁷. This results in a ‘customization trap’ in which a project turns out to be significantly different in terms of the cost, complexity, timeframes, deliverables and risks that were originally planned and approved. This situation provides an opportunity for vendors or contractors to obtain longer-term engagement ⁴³⁸.

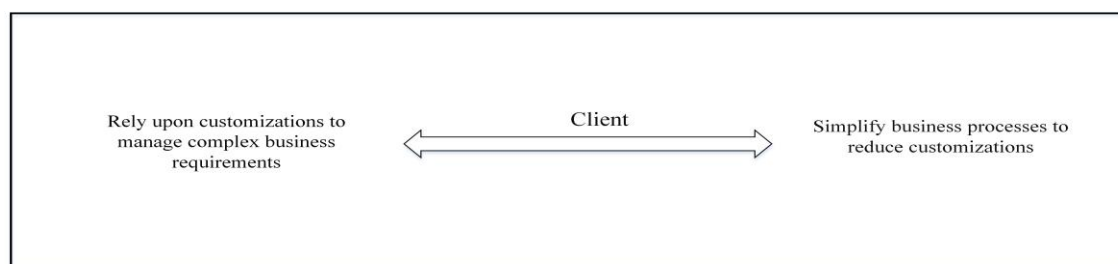


Figure 5.4 Rely on customizations or refine business processes

5.6 Managing Incoming and Outgoing Vendors

By its very nature a transition-related project entails the shifting of roles and responsibilities from an outgoing to an incoming vendor. This process includes an interim-period, which necessitates close cooperation between and often reliance upon both the outgoing and incoming vendors. Therefore, the boundary between their roles and responsibilities should be clearly defined from the outset. A conflicting situation could arise in the interim period when an incumbent system is operating business as

⁴³⁷ Independent Commission against Corruption. New South Wales, 2013

⁴³⁸ Independent Commission against Corruption. New South Wales, 2013

usual (BAU) and the new vendor initiates work on implementing the new system. During this time, both vendors may compete for similar resources. It may be assumed that human resources from the old vendor would be readily available and transferable to the incoming vendor. However, cultural differences, terms and conditions, and location may have an impact on the viability of such an arrangement.

One possible approach considered in the Novopay project is to partner the old vendor with the new vendor for managing service delivery. “[I]nterests could be maintained by keeping Datacom and its subcontractors as the pay clerk service providers throughout implementation and during operation initially, under the management of the new prime vendor”⁴³⁹. It requires establishing a co-opetition, a business trend in which firms cooperate and compete, simultaneously (Loebecke, Van Fenema, & Powell, 1999). However, this is reliant upon the discretion of the new-vendor and commercial terms and conditions that are acceptable to all parties.

A lack of awareness and resolution of such issues may threaten the ongoing BAU as well as the transition project. “While both Datacom and Talent2 recognise the risk, there are commercial sensitivities which also complicate their ability to be fully transparent and collaborative”⁴⁴⁰. There is likely to be large overlap in resource requirement between the existing Datacom pay centres and the new Talent2 service centres which risks both sides suffering as a result”⁴⁴¹. Above all, in such an uncertain situation as a transition, human resources may feel threatened about their job security and decide to move on to other companies. In the case project, the *outgoing vendor-Datacom* was facing a similar situation. “Datacom have signalled they are struggling with this - service disruption and project delays possible. Pay centre staff for BAU leave the pay centres”⁴⁴². Datacom is having difficulty keeping core staff because of impending termination”⁴⁴³.

5.6.1 Dilemma – Balancing the support for BAU and transition in parallel

This dilemma relates to *client* organizations. They may face a situation in which they must decide how to support BAU and the transition project in parallel. On the one hand, clients have to ensure that minimal disruption takes place to the business as usual. This requires supporting the outgoing vendor. “The ministry will also need to maintain a higher level of staffing for business as usual to manage the required service levels with

⁴³⁹ Revised Stage2 Business Case Risk Mitigation, Nov 2007

⁴⁴⁰ Independent Quality Assurance Report Rebaseline Health Check Review, by IQANZ, July 2010

⁴⁴¹ Independent Quality Assurance Report Rebaseline Health Check Review, by IQANZ, July 2010

⁴⁴² Novopay project risk register – collated, April 2010

⁴⁴³ Education Report: Advice On Novopay Project, Feb 2012

Datacom”⁴⁴⁴. On the other hand, they also need to ascertain that the new vendor acquires necessary capabilities. This dilemma is portrayed in Figure 5.5.

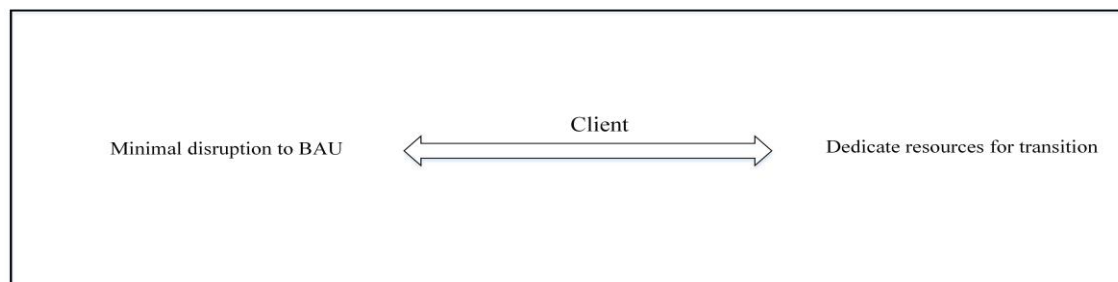


Figure 5.5 Balancing the support for BAU and transition in parallel

5.7 End of an Outsourcing Contract

Following the end of outsourcing contracts, clients are faced with a decision about whether to continue outsourcing to the same vendor, re-outsource to another vendor or insource the previously outsourced services. In the following subsections, these sourcing strategies are described further and in regards to the specific case of Novopay.

5.7.1 Insourcing

Insourcing means that a client typically retains knowledge and resources. However, *transitioning* from outsourcing to insourcing requires the client to build or reinstate certain capabilities internally in order to manage the previously outsourced services. In the Novopay project, the *client-MoE* initially decided to insource certain activities near the completion of their outsourcing contract. Their approach involved selective or partial insourcing, in which the client worked as an integrator of services outsourced to various vendors. “Replacement schools’ payroll system would be owned and operated by the Ministry of Education” ⁴⁴⁵. “This would have involved the ministry purchasing a new payroll system and operating as a 'systems integrator for all the various components of the solution” ⁴⁴⁶.

Building internal capabilities requires upfront investment and resources. Most importantly, it shifts the responsibility and management of risks to within the client organisation. It also requires a more hands-on role of the client with more resources and costs associated with it. “This would establish a payroll operations and management

⁴⁴⁴ Memo: Recommendations for Next Steps, May 2007

⁴⁴⁵ Novopay Tender Documents-collated

⁴⁴⁶ Cabinet Meeting Minutes, Cabinet CABMin_08_29_2, July 2008

capability enabling the ministry to manage the complex integration required. This would be significantly more than the staff required for the other options (39 ministry staff as opposed to 16”⁴⁴⁷.

Cordella & Willcocks (2012) emphasized the importance of having internal control of IT to influence the outcomes generated by IT adoption in the public sector. This strategy may backfire whilst transitioning to insourcing if the necessary arrangements are not made internally. As in Novopay, MoE initially chose to manage this project internally, but they soon realized their lack of required in-house capabilities and decided to change this to a complete outsourcing approach.

5.7.2 Outsourcing

Outsourcing enables client organizations to share costs and risks. In doing so it can provide competitive advantage as clients focus on their core capabilities. Although there are said to be a range of benefits of outsourcing, and some of these have been demonstrated empirically, it can come at the expense of a client organization losing control of their internal resources and processes. In the Novopay project, the *client-MoE* initially opted for *insourcing* (so as to regain control) but afterwards realized that such an approach might be suboptimal and infeasible. Therefore, they subsequently switched to a Business Process Outsourcing (BPO) approach. “[T]he ministry has now determined that a full Business Process Outsourcing (BPO) approach would provide a lower risk approach, a higher quality outcome, and deliver improved value for money”⁴⁴⁸.

In this approach, a single prime vendor is accountable for development *and* operational management. A BPO approach transfers accountability and responsibility for the delivery of services to the vendor. The advantage of having a complete outsourcing approach of this nature is: “Such a contractual arrangement would enable the new vendor to manage and be held accountable by the ministry for the effective transition from the current systems to the new payroll system and for its efficient operation thereafter”⁴⁴⁹.

5.7.3 Dilemma – Continue outsourcing OR switch to insourcing

This dilemma relates to client organizations. At the end of an outsourcing contract or perhaps during the course of a contract, a client may face a dilemma when deciding about their sourcing strategy. The available options are to continue with the same vendor, switch to another vendor, or insource wholly or partly the previously

⁴⁴⁷ Revised Stage2 Business Case, Nov 2007

⁴⁴⁸ Cabinet Meeting Minutes, CABMin_07_30_3B, Aug 2007

⁴⁴⁹ Revised Stage2 Business Case Introduction, Nov 2007

outsourced activities. Insourcing provides more client control but at the same time requires certain inbuilt capabilities, which may not be considered as core expertise. Outsourcing transfers responsibility to external companies, however, the client organizations lose control and are therefore reliant upon the external companies. This may lead towards vendor lock-in. This dilemma is portrayed in Figure 5.6.

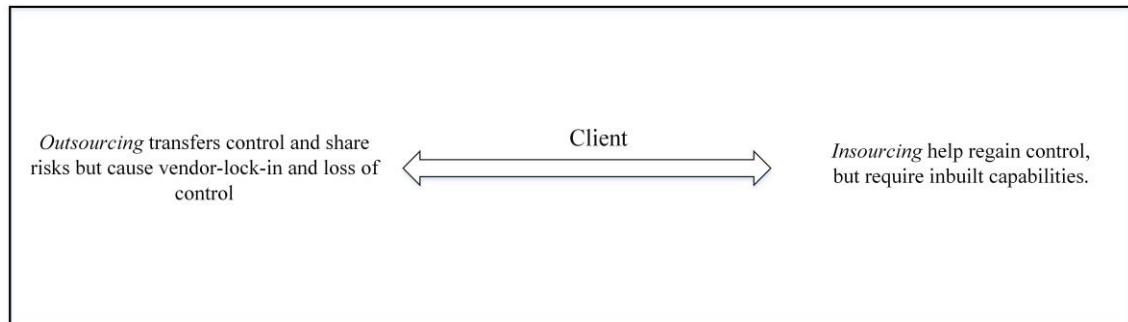


Figure 5.6 Continue outsourcing OR switch to backsourcing

5.8 Procurement Strategies

Procurement strategies can generally be divided into three types: direct procurement, open tender and closed tender (Shu Hui, Othman, Hj Omar, Abdul Rahman, & Husna Haron, 2011). In a closed tender, only specific vendors are invited to bid for a contract, whereas, in an open tender any vendor can bid. Direct procurement is an extreme case of a closed tender where negotiations are carried out with a particular vendor.

In the Novopay case, initially, in Transition1 a vendor was chosen by following an open tender process. Afterwards, the business case was changed and Transition2 was initiated. When choosing a vendor in Transition2, the *client-MoE* was thus faced with a decision whether to follow a closed-tender process between known vendors or carry out a full open tender process again.

These two options are further discussed in the subsequent sections.

5.8.1 Closed Tender

A closed tender typically takes less time for vendor selection. The vendor(s) might already be known and direct negotiations are carried out with a single or more vendors. This could be beneficial in scenarios where the client is already aware of and has previously worked with the competing vendors. Moreover, if a current system is becoming obsolete then clients may be tempted to choose a *closed tender* due to

shortage of time. “The urgency in this case is driven by the time required to implement a working payroll service against the time available under before the obsolescence of the current payroll technology”⁴⁵⁰.

However, there could be challenges and issues associated with this direct approach – especially in the public sector. Implications for carrying out a closed tender include third-party challenges: “there is a possibility of third party challenge and potential delay to implementation”⁴⁵¹. It may also breach public procurement guidelines and therefore would not get approval from governance bodies. “This creates significant risk that Cabinet will not support the ministry’s preferred solution against their own procurement guidelines”⁴⁵².

5.8.2 Open Tender

An alternative to a closed tender is carrying out an open tender process. In the Novopay project an open tender approach was chosen for Transition2 as well. One of the downsides of using this approach subsequently for the same project was that it would likely “negatively impact the Ministry’s reputation as it will be perceived that almost three years have been spent with no decision”⁴⁵³. “The market is aware that the ministry has not been able to come to decision for two years and so will be potentially sceptical regarding their own chances of finalising a contract”⁴⁵⁴. Two subsequent full tender processes may result in a lack of interest by potential vendors, reducing options for clients: “some major vendors may not bid as they do not see enough return from the major effort”⁴⁵⁵. Vendors may add a risk premium as they see the ministry as a risky organisation to do business with”⁴⁵⁶.

5.8.3 Dilemma – Set up an open tender or closed tender

This dilemma relates to the client organization, when they need to decide whether to choose an open tender or select a vendor from an already known list of vendors. In theory, an open tender has a better chance of finding the most suitable vendor. This comes at the cost of taking more time and effort. In a time-constrained situation, clients could be tempted to carry out direct procurement or undertake a closed-tender process. These latter processes could be challenged by third parties or be deemed not in accordance with probity requirements. This dilemma is portrayed in Figure 5.7.

⁴⁵⁰ Payroll Business Continuity Option - Procurement Plan, Aug 2011

⁴⁵¹ Memo: Recommendations for Next Steps, May 2007

⁴⁵² Memo: Recommendations for Next Steps, May 2007

⁴⁵³ Memo: Recommendations for Next Steps, May 2007

⁴⁵⁴ Memo: Recommendations for Next Steps, May 2007

⁴⁵⁵ Memo: Recommendations for Next Steps, May 2007

⁴⁵⁶ Memo: Recommendations for Next Steps, May 2007

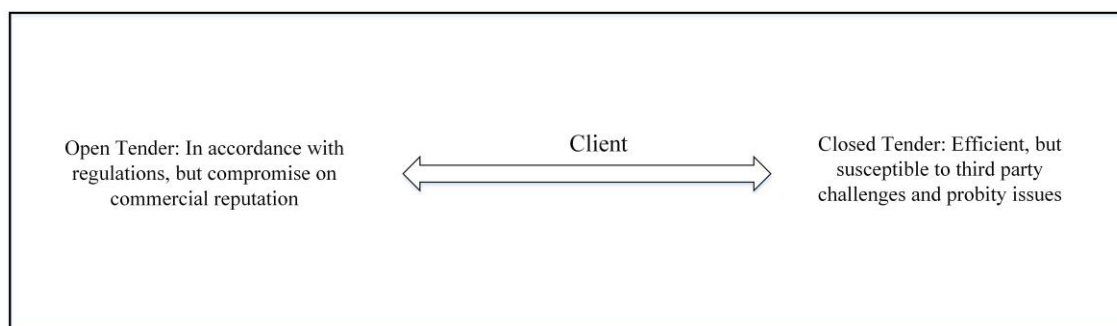


Figure 5.7 Set up an open tender or closed tender

5.9 Contingency Planning

In order to ensure continuity of operations, during a transition period a client organization may create a contingency option as a fallback plan. This is in case an incoming new-vendor fails to implement the transition system, or quality assurance criteria are not achieved. Fallback plans require client organizations to negotiate continuity of services with other vendors with a possibility that it may not materialize. In the Novopay project, the *outgoing vendor-Datacom* was considered as an appropriate choice for fallback. As a possible consequence of this strategy, the client was required to decide at a certain stage whether to take up the alternate strategy (the outgoing vendor) or continue supporting the transition-project (new-vendor), or support both, and if the decision was to support both, then for how long. One of the drawbacks of keeping both options in Novopay was that: “The Ministry may spend more money on Talent2 for not return if a later decision is taken to terminate Novopay”⁴⁵⁷. Whereas, the benefit was that this would: “Keep the Novopay option open while planning is further refined”⁴⁵⁸.

Development of fallback plans can ensure the continuity of operations, but at the same time it may create relationship issues, as “knowledge of the payroll continuity option will impact contract negotiations with Talent2 or be seen to be not acting in good faith”⁴⁵⁹. The outgoing vendor could be encouraged to disrupt the transition-project, “developing of the contingency plan provides Datacom with an incentive to cause Novopay to fail”⁴⁶⁰. It may also affect end-users’ perceptions about the ongoing transition project, “as the sector hears of

⁴⁵⁷ Education Report: Further Update on School’s Payroll Project, Feb 2012

⁴⁵⁸ Education Report: Further Update on School’s Payroll Project, Feb 2012

⁴⁵⁹ Memo: Payroll Business Continuity Option Project Team, Aug 2011

⁴⁶⁰ Memo: Payroll Business Continuity Option Project Team, Aug 2011

the work being undertaken they lose confidence in Novopay”⁴⁶¹. Public sector projects undergo heavy scrutiny from the media and the public. The public may also lose confidence in the client’s ability to deliver these services: “as the public hears of the Payroll Business Continuity Option they lose confidence in the Novopay initiative and in the Ministry's ability to manage the schools payroll”⁴⁶².

5.9.1 Dilemma – Create contingency as a Fallback plan

This dilemma relates to the client in which they have to decide about establishing a contingency option and fallback plan. Although it is imperative from a risk management perspective to have such alternate options, it may compel the outgoing vendor to disrupt the transition project. Moreover, if other stakeholders are not involved in this decision or are not aware from the beginning, it may contribute towards a loss of confidence. This dilemma is portrayed in Figure 5.8.

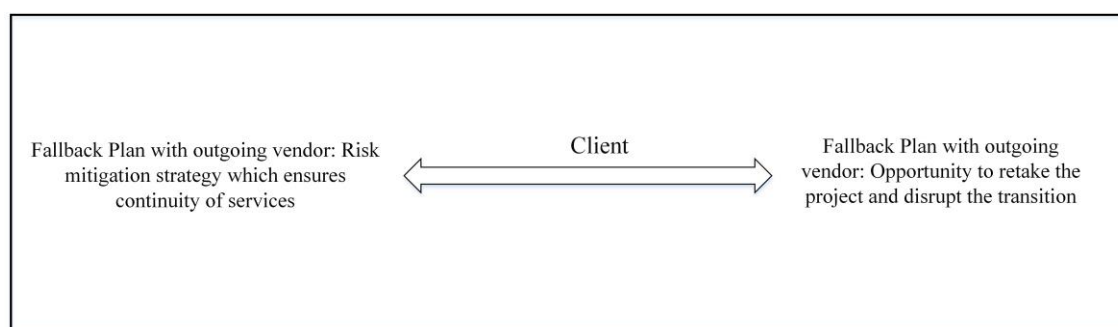


Figure 5.8 Create contingency as a fallback plan

5.10 Sending a Material Breach Notice

Material breach notification reflects the formal notice of a violation from agreed contractual obligations, which can be sent by either party (client or vendor) to the other. Under the terms of the Novopay project, after sending this notice, the receiving party had 15 days to rectify the underlying issues or it would lead to contract termination. Other forms of warning notices might not have any legal obligations.

During the course of a project, any party (client or vendor) may encounter a situation in which they need to decide whether to submit such a formal notice or use informal warnings, in case a project is not progressing satisfactorily. In the next two sub-

⁴⁶¹ Memo: Payroll Business Continuity Option Project Team, Aug 2011

⁴⁶² Memo: Payroll Business Continuity Option Project Team, Aug 2011

sections these options are further discussed in detail with consideration of the repercussions of each.

5.10.1 Informal warning messages

Clients may use an informal warning letter to show their disappointment when experiencing violations from agreed contractual obligations. In the Novopay case such letters were used: “MoE believes that T2 continues to be in default on a number of contractual milestones. Ministry reserves its position on whether the delays to date constitute a material breach of the agreement”⁴⁶³. However, an informal letter might be considered by the other party to be a soft warning and not taken seriously, as there are no formal or stipulated legal obligations. “To protect its contractual position, however, the Ministry issued a warning letter to Talent2 on Thursday 5 April. The warning letter states that the outstanding SIT milestone is to be delivered by mid-April. Failure to do so will result in the Board activating a material breach of contract”⁴⁶⁴.

The efficacy of the above is reduced if milestones are continuously missed without escalation to formal warnings. Essentially such an approach will weaken the contractual position of the client. It may also hamper the client’s chances of giving formal notices in future. It might give an impression that, although the agreed milestones were not achieved, the system is still considered *fit for purpose*. “We are seeking legal advice as to whether this weakens our ability to use further milestones to activate a material breach if required”⁴⁶⁵. Therefore, using informal warning messages and letters instead of a material breach notice may exhibit a weakness to hold the other party accountable to their contractual obligations.

5.10.2 Formal warning: material breach notice

A formal notice of violation can result in undesirable media attention and coverage and possibly affect the vendor’s reputation. Therefore, vendors could be forthcoming in their response towards receiving material breach notice(s). This could result in acquiescence, or push-back.

In the Novopay project, when the *client-MoE* indicated they might send a material breach notice to the vendor *Talent2*, the vendor (who was aware that the client was negotiating a fallback plan) threatened to counter it by sending a similar notice using the

⁴⁶³ Executive correspondence - Anne Jackson (Letter from MoE to Talent2), May 2012

⁴⁶⁴ Education Report: Novopay Project Report, April 2012

⁴⁶⁵ Education Report: Novopay Project Report, March 2012

good faith clause. Could this have influenced the client not to send a material breach notice? The advice being given to *client-MoE* was to send a material breach notice as a certain milestone was being continuously missed: “Issue a notice of material breach under clause 18.1(a) of the Talent2 contract. Talent2 is in clear material breach by its continuing failure to meet the SIT milestone within the agreed timeframes” ⁴⁶⁶.

It was the expectation that a material breach notice would indeed result in contract termination that appeared to persuade *client-MoE* not to send the notice, as evident from this excerpt: “Issuing a material breach will likely end the project, therefore a breach should not be issued unless all reasonable chances of continuing the project have been tried and failed” ⁴⁶⁷. What actually constituted “all reasonable chances” was left undefined.

5.10.3 Dilemma – Notify through material breach or informal notice

This dilemma relates to the client and the fallback vendor.

Client organizations may face a situation in which they have to decide whether to send an informal warning letter or use a formal material breach notice, in case the vendor is consistently failing on its contractual obligations. Sending a material breach notice may result in termination of contract, which would bring its own complexities and also the costs of invoking fallback plans into operation. However, if such a notice is delayed, it may be perceived as a weakness.

When a client is creating a fallback plan a longer-term contract is invariably preferred by the fallback vendor, whereas the client might prefer short- to medium-term contracts. “The Ministry is developing a payroll business continuity option with Datacom that could be invoked should the Novopay project risk become unacceptably high” ⁴⁶⁸. A possible dilemma which may arise for the fallback vendor is whether or not to negotiate short-term contracts. In this case, the preference of the fallback vendor was for a longer-term contract. “In the event of a project failure, however, Cabinet may require that a new Datacom contract only be let for a limited duration, perhaps two or three years, and that an open procurement process must be catered for within the medium term to select a long term solution. If this were so it would create a tension with Datacom who would of course seek [to] maximise contract length, and would be likely to drive up costs in order for Datacom to receive an acceptable return over a relatively short contract life” ⁴⁶⁹.

⁴⁶⁶ Education Report: Novopay Project Report, April 2012

⁴⁶⁷ Education Report: Urgent Update on Novopay project, April 2012

⁴⁶⁸ Memo: Principles For Draft Payroll Business Continuity Option, Nov 2011

⁴⁶⁹ Novopay Fallback Plan, by Maven, June 2010

These two aspects need to be continuously balanced, considering that the outgoing vendor (if selected for a fallback plan) may not be able to keep their resources available for the project: “Datacom has repeatedly stated that it cannot extend the contract under existing conditions because of the core technology risk and the ongoing risk of retaining the skilled staff it needs to operate the payroll (currently 180+)”⁴⁷⁰. This dilemma is portrayed in Figure 5.9.

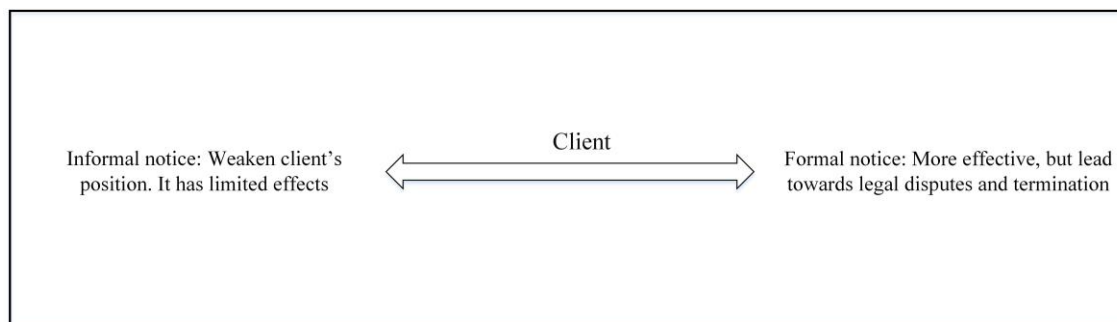


Figure 5.9 Notification of vendor's non performance through material breach or informal notice

5.11 Toll-gates for Advancing a Project

Toll-gates (or stage-gates) are measurable outcomes or objectives which vendors need to achieve before a project is progressed to the next stage. Toll-gates are especially significant when a project is approaching go-live. If a certain outcome is not contractually achieved by this point, then the client's insistence for a strict toll-gate could delay the project, as there is no buffer time. On the other hand, relaxed toll-gates may not guarantee that an expected level of quality will be achieved.

In the next two sub-sections, these decisions are further discussed in detail with consideration of the repercussions of each.

5.11.1 Strict toll-gates

During the course of a project it is not unusual to have certain conditions and toll-gates relaxed for a period of time, but there could also be certain points where clients may demand strict enforcement. In the Novopay project, System Integration Testing (SIT) was one such stage where the client insisted upon a strict toll-gate. “[T]he Ministry is asking for no more than its entitlement under the contract, and for good reason. The Ministry stands ready to commence E2E testing [internal term used for UAT] as soon as the SIT milestone is completed”⁴⁷¹. However, the vendor's position was that some of the

⁴⁷⁰ Education Report: Novopay - towards Confidence Point Two, April 2012

⁴⁷¹ Executive correspondence - Anne Jackson (Letter from MOE to Talent2), April 2012

outstanding defects should be tested at the later stage of End2End (UAT) testing and the project should be moved to the next phase. “T2 reiterates that the project is ready to progress to the formal End-to-End phase”⁴⁷².

Strict toll-gates, which are normally included to ensure that certain quality criteria are achieved, may delay a project. This, in effect, requires an extension of the continuation of the current services. For continuation of services for BAU, an outgoing vendor can be an appropriate choice. However, they may not be able to provide such extensions under the required conditions which ultimately requires the client to relax the toll-gates.

In the Novopay project, *client-MoE* insisted upon the completion of the SIT but later relaxed its conditions, “the Ministry still considers the delivery of the Novopay project possible if the alternative proposal presented by T2 is delivered”⁴⁷³.

5.11.2 Relaxed toll-gates

It is not uncommon for large-scale projects to have some defects carried over to go-live. However, it is expected that the implications and impacts of these defects should be well understood. “Concern was raised that accepting defects at Go Live will have flow-on implications”⁴⁷⁴. To provide assurances in the Novopay project, it was agreed that preparations would be made about the management and resolution of any defects carried forward. “These issues will be identified as far as possible before the go-live date and preparations made to manage them”⁴⁷⁵.

Near the go-live deadline there could be a temptation to reduce the efficacy of certain validation activities to recover some time whilst still maintaining a certain level of quality. In the Novopay project, a testing related phase initially planned to include 31 pay-periods was reduced to 12 pay periods and the *pilot testing* phase was merged with another phase in the later stages of the project. “Under the direction of the Steering Committee and the Project Director the decision was made to reduce the number of pay periods testing to 12”⁴⁷⁶. “Pilot testing was MoE test phase which was actually joined up with another phase”⁴⁷⁷. The downside of relaxing toll-gates is that it may give the impression that the

⁴⁷² Exec correspondence - John Rawlinson - Global CEO T2 (Letter from T2 to MOE), April 2012

⁴⁷³ High Risk Projects - Quarterly meeting reports (2010 to 2012), Q1 2012

⁴⁷⁴ Novopay Board meeting minutes, April 2012

⁴⁷⁵ Education Report: Novopay - Final Recommendation, June 2012

⁴⁷⁶ Milestone 7.15 UAT End to End, Aug 2012

⁴⁷⁷ Milestone 7.15 UAT End to End, Aug 2012

clients might eventually accept that system with limitations: “it could signal our acceptance of defective software and limit our potential contractual levers”⁴⁷⁸.

5.11.3 Dilemma – Bound by strict toll-gates decree or permit relaxed toll-gates

This dilemma relates to client organizations.

Near the go-live date, the client may face a dilemma in which they have to decide whether to keep pursuing strict toll-gates or relax them so as the project passes through the go-live. Strict enforcement of toll-gates near the go-live may delay the ongoing project, and could result in the extension of contracts with the outgoing vendor to ensure continuity of service. At this stage, the outgoing vendor is in a monopolistic position. They may accept the client’s terms and conditions, put forward their own, or simply walk away. Most likely, less favourable terms and conditions would be negotiated from the client’s perspective. In the worst scenario, they may not finalize any agreement which poses a threat for the BAU.

In order to avoid this, the client may decide to go-live with known defects whilst relaxing toll gates. In this case, if a system goes live with known defects and issues are faced by end-users, this could result in wide public outcry and backlash. This dilemma is portrayed in Figure 5.10.

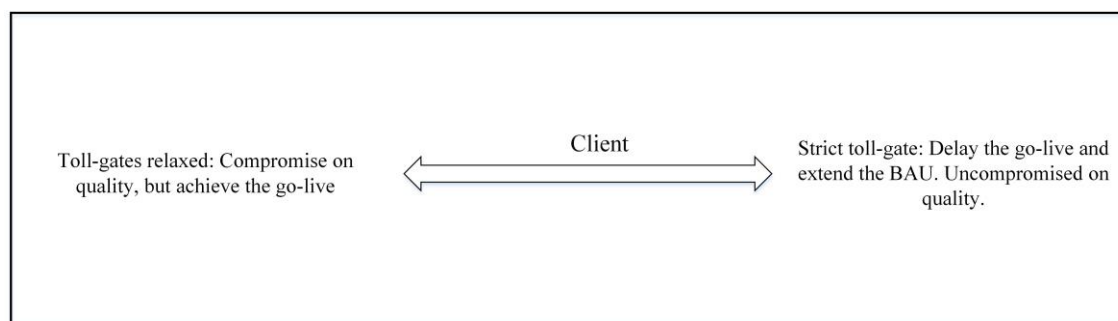


Figure 5.10 Bound by strict toll-gates decree at near go-live or permit relaxed toll-gates

5.12 Service Delivery Model

In order to adopt an appropriate service delivery model it is imperative to understand end-users’ capabilities. In a wide-ranging public sector context, different groups of end-users have different abilities. This may necessitate the adoption of a customized service model which is tailored according to the requirements and skills of the

⁴⁷⁸ Education Report: Novopay Project Report, March 2012

various end-user groups. On the other hand, a standardized service model is a *one size fits all model* where all end-users are provided with similar services. Standardized service models generally require less resources and in effect cost less than a customized approach, but they may require more effort from end-users. So in effect shift costs from one group of stakeholders (in this case: MoE and Incoming Vendor) to another group (end-users).

In the next two sub-sections the use of these two service models and their implications are discussed in detail in regard to Novopay.

5.12.1 Customized Model

In the Novopay project some end-users were based in rural areas. They had limited technical infrastructure, experience and/or knowledge of using complex software systems. In general, this group was more reliant upon service-centres to provide customized help in managing their operations. The following excerpt, taken from a PwC report regarding opportunities to improve Novopay, noted that some of the end-users did “not have a large amount of experience and knowledge and therefore requires more hands-on support and guidance from the service centre”⁴⁷⁹. This required using a customized service model to support them.

A further downside of using a customized service model is its reliance upon manual processes, which could trigger a lack of adherence to standardized policies. A similar situation was prevalent in the preceding service delivery model which was operating through four pay centres. “In the processing of payroll data the manual nature of the current payroll service requires a considerable number of Pay Clerks to input data received from schools. The pay clerk function involves applying the correct business rules to the employee payment to ensure the correct entitlement is received. The Ministry provides interpretation of the employment agreements to the current provider. However the application of the business rules varies between the four pay centres, resulting in an inconsistent payment of entitlements. Manual processes are not sufficient to effectively manage this variance”⁴⁸⁰. As the application of business rules varied at different service centres, this caused inconsistent payment of entitlements. “Practices are inconsistent both within and between pay-centres resulting in inefficiencies and errors”⁴⁸¹.

⁴⁷⁹ Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

⁴⁸⁰ Stage 2 Business Case, May 2005

⁴⁸¹ Revised Stage2 Business Case, Nov 2007

5.12.2 Standardized Model

Adoption of a standardized service delivery model coupled with automated rules can provide consistency and reduce data-related anomalies. Built-in validation routines can ensure the accuracy of data input. However, this requires shifting responsibilities and control over to end-users. In the case of Novopay this was one of the drawbacks of having a standardized model as it pushed more work towards end-users. “The benefits include consistent application of policy, timely changes to rates resulting in less rework, fewer pay clerks, simple to implement reports and confidence that changes can be successfully implemented”⁴⁸². With more responsibility comes more accountability and all end-users might not be prepared or interested in taking on such additional responsibilities: “People may be concerned about their future role in the “new world” and whether they will have the skills to survive or whether they will instead lose status”⁴⁸³.

Changing the service delivery model from a highly customized to a more standardized one may result in end-users’ resistance. It may require a significant shift in their mind-set, given that it is simply not designed to provide customized support. Unable to withstand the demands of a new service model, end-users can revert back to the old business processes. In the case of Novopay this would have added further pressure to the new service model which was not designed to handle a large number of manual transactions. “People who have invested significant time and effort making the existing process and systems work will typically have a high emotional ownership of the current way of doing things. They can see change as a threat to all they have worked for which can lead to resistance”⁴⁸⁴. “Talent2 does not have sufficient staff with the experience and skills to process forms efficiently and correctly, within the required timelines for the pay period”⁴⁸⁵. “There is a large backlog of calls”⁴⁸⁶.

5.12.3 Dilemma – Incline towards customized OR standardized service model

This dilemma relates to clients and end-users. The diversity of end-users and their varying capabilities could raise a dilemma for clients when deciding whether to provide standardized or customized services to end-users.

At the same time end-users could also face a dilemma in deciding whether to contact service-centres or use their own initiative to resolve issues. If end-users looked to be more self-reliant, which the new model demanded, then they would need to invest more

⁴⁸² Stage 2 Business Case, May 2005

⁴⁸³ Stage 2 Business Case, May 2005

⁴⁸⁴ Stage 2 Business Case, May 2005

⁴⁸⁵ Novopay Briefing to the Incoming Minister, Jan 2013

⁴⁸⁶ Novopay Newsletter NewslettersForSchools, Jan 2012

of their own personal effort and time: “Some Administrators are currently printing every transaction on paper in order to have a paper trail – enough to fill one folder per staff member – which they then need to reconcile with their Transaction or SUE Reports” ⁴⁸⁷. If they relied on under-resourced service centres, then they may not get the timely customized advice and help that they were seeking.

In other words, end-users struggling with new automated business processes have to choose whether to revert back to the old manual process or continue using the new business processes, which could be a dilemma for them. “Consequently they have reverted back to a system they trust: complete a paper form send it to Novopay, and keep a copy in a file so that you can prove that you sent it. This is labour intensive for schools, and further exacerbates the shortcomings in Talent2’s current service delivery model” ⁴⁸⁸. This may cause issues for vendors who have designed the new business processes to complement the new service delivery model. This dilemma is portrayed in Figure 5.11.

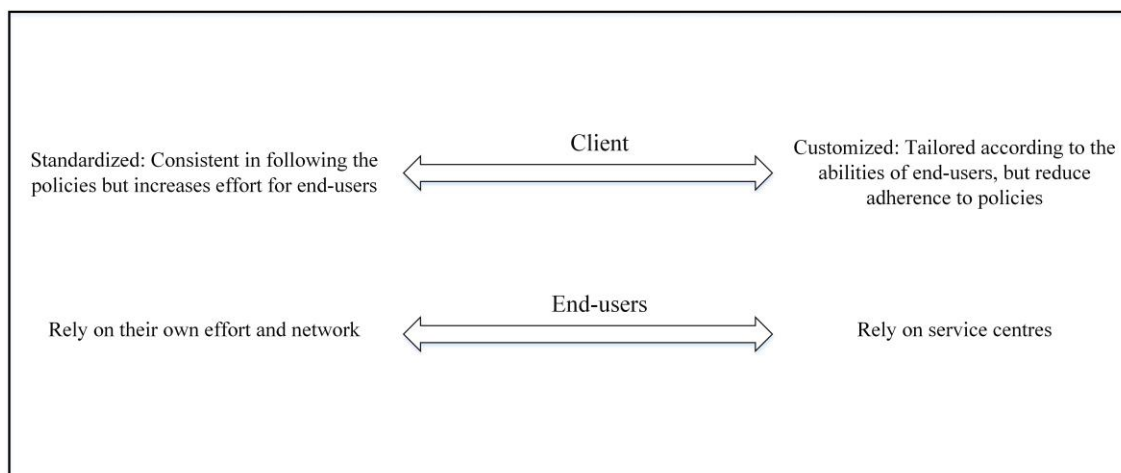


Figure 5.11 Choice between using customized and standardized service model

5.13 Roll-out Strategies

One of the risk mitigation strategies commonly used when rolling out a transition project is to carry it out in phases. Using this strategy, a new system and its associated services are rolled out to end-users in stages. The significance of following such an approach is that it can help the client to identify problems on a limited scale without disturbing the larger group of end-users. However, the phased approach may have its own complexities. In the next two sub-sections these options are further discussed.

⁴⁸⁷ Novopay Board meeting minutes, Oct 2012

⁴⁸⁸ Novopay Briefing to the Incoming Minister, Jan 2013

5.13.1 Phased Approach

A phased approach could involve dividing the end-user population into groups and then addressing them progressively over a period of time to complete the roll out process. The initial strategy in Novopay was to use a phased approach, initiating with the South-Island and followed up by the North-Island a few months later. “[T]he new payroll system would be rolled out progressively”⁴⁸⁹. This type of cutover strategy has its own complexities, however. As some end-users worked at multiple schools it could be difficult to provide consolidated payslips with both systems being used in parallel. Moreover, it was expected to lead to issues relating to the consistent storage and treatment of data.

5.13.2 Big bang Approach

In comparison, a big-bang approach was viewed as an easier undertaking which did not carry any overhead of managing two systems in tandem. However, it carried risks related to end-users’ acceptance. In a large-scale transition project which involves changing system, service model, and business processes, using a big-bang approach could be a recipe for failure.

5.13.3 Dilemma – Big bang OR gradual roll-out

This dilemma relates to the client. Deploying a new system to a diverse stakeholder population could raise a dilemma for clients in terms of whether to follow a staggered implementation or use a single-phase roll-out. A staggered implementation is more complex than a single-phase rollout but it carries inherent risks relating to end-users’ acceptance. The latter would rely upon other validation activities and toll-gates to provide assurance. This dilemma is portrayed in Figure 5.12.

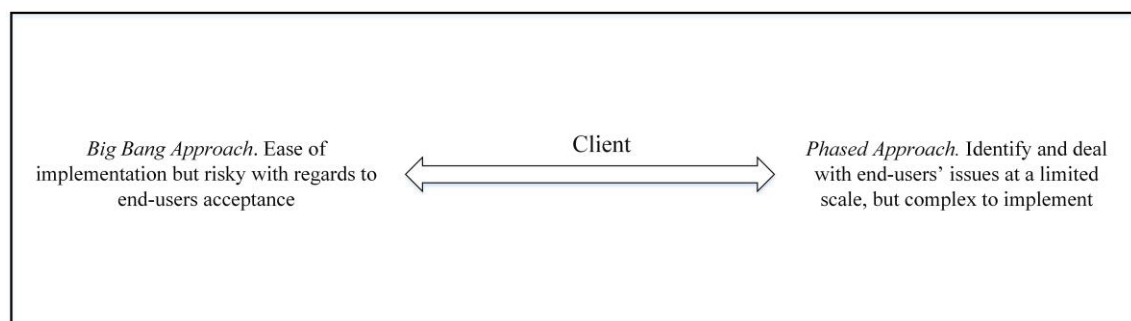


Figure 5.12 Choice between phased and big bang roll-out

⁴⁸⁹ Revised Stage2 Business Case, Nov 2007

5.14 Training of end-users

Given high stakeholder diversity it would be inevitable that training needs would be different for groups of end-users. In the Novopay project while some end-users were satisfied with the online mode of training, others required, or at least sought, a more hands-on approach. “[W]hile some schools will be comfortable with online training methods, others will require face to face interaction”⁴⁹⁰. The latter required more resources and effort. “These schools also do not like to have to ‘find’ the information themselves and would prefer to be ‘given’ all the information they need”⁴⁹¹. In the next two sub-sections these options are considered further particularly in regard to the ramifications of each.

5.14.1 Online training

A large-scale transition project such as Novopay with multiple groups of end-users, with varying capabilities, may require multiple approaches for training. One such approach is to segment end-users based on their different needs and capabilities and then tailor the training accordingly – though this would require more effort than providing a single training strategy. Whereas a standardized approach to training is less costly, it relies upon end-users making more effort. In the Novopay project, the *incoming vendor-Talent2* opted for standardized online training, even though an IQANZ report considered this “approach too narrow”⁴⁹². “Training plans have been developed based on the broad needs of the group to be trained”⁴⁹³.

The downside of a singular non-targeted approach could be a lack of interest by end-users to participate. As a result, it may not prepare them sufficiently well.

5.14.2 Hands-on approach

Rural and/or smaller schools tended to have limited infrastructure and resources, and therefore end-users at these schools would likely require better support: “Administrators in these schools are likely to require more basic training —delivered in a classroom based setting as this hands-on approach is likely to be the most effective for their learning outcomes”⁴⁹⁴. A hands-on approach could have helped to lift their capabilities.

⁴⁹⁰ Post Go-Live PID Remediation Programme, Feb 2013

⁴⁹¹ Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

⁴⁹² Independent Quality Assurance Report Rebaseline Health Check Review, July 2010

⁴⁹³ Independent Quality Assurance Report, Stage 5 Health Check, by IQANZ, Nov 2009

⁴⁹⁴ Identifying Opportunities to Improve the Novopay Service (part1), by PwC, May 2013

Another strategy could be to utilize informal social networks among end-users. Inter-connecting these informal networks might have helped in assisting, troubleshooting and resolving issues on a local scale. Encouraging and supporting the formation of such networks could also be cost-effective. However, it is reliant upon end-user engagement – some may value it, whereas, others may not: “While not all schools saw value in establishing cluster based support networks, many schools saw a lot of value” ⁴⁹⁵. Forcing end-users to become part of such networks can be counterproductive. These type of networks should ideally be allowed to emerge and mature over a period of time. The downside of this emergent nature, however, is that this may only work as a longer term strategy and so may not be feasible in the short-term.

5.14.3 Dilemma – Provide standard online training OR customize with a hands-on approach

Diversity in end-users’ capabilities could raise a dilemma for clients and vendors regarding end-user training. One possible option is to provide tailored face-to-face training, which takes much more time, effort and cost. The other option can be the provision of more standardised online training. However, this could be too narrow and may not prepare all users well. The latter approach follows a learning-by-doing model, but it may be less effective for end-users who rely on a hands-on approach. This dilemma is portrayed in Figure 5.13.

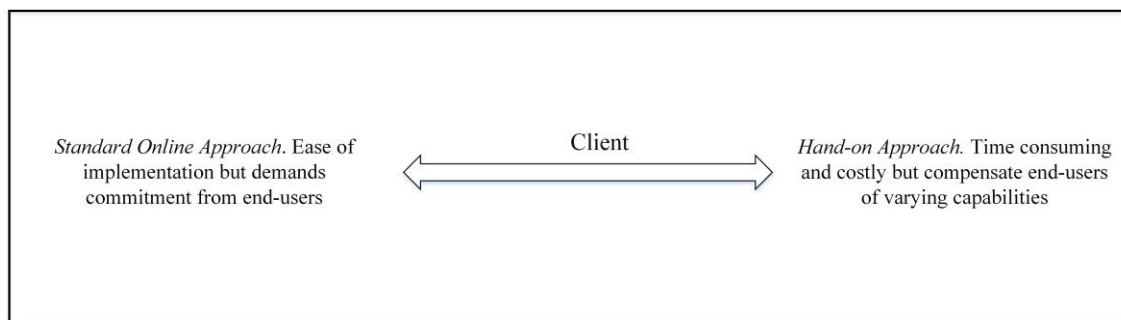


Figure 5.13 Choice between online training and hands on approach

5.15 Consideration about re-transition

After a transition project has gone live if major issues still persist then a client may be confronted by a decision about whether to revert back to the outgoing vendor or continue with the new vendor. The next sub-section discusses the two options briefly.

⁴⁹⁵ Initiative B2 - Improve User Experience, by PwC, May 2013

5.15.1 Reverting to the old vendor or continue with the new vendor

Reverting back to the old vendor is liable to generate a range of reactions from different segments of end-users. On the one hand, it would result in increased goodwill from end-users struggling with the new system. At the same time, it may also bring further disruption, especially for end-users who are (becoming) satisfied with the new system. The latter group may not consider another change worthwhile. “Insufficient change management could result in a rapid loss of any goodwill and potentially significant operational problems”⁴⁹⁶. It would also require data cleansing to resolve any data related issues. “Reconciliation will be difficult and will take a long time”⁴⁹⁷. Some data may be impossible to reconcile”⁴⁹⁸.

Once a transition project is completed and the operations are taken over by a new vendor, the old vendor may not have any access to or visibility of data stored in the new system. At this stage, if a client decides to revert back to the old vendor then this would require another cycle of transition and support from the vendor. “All of these will require support from Talent2. The approach to data conversion will require significant effort from schools”⁴⁹⁹. “Inadequate management of data activities could increase project costs and result in significant payroll issues”⁵⁰⁰.

Another transition in the Novopay project would have brought further significant disruption to the sector. “This would complicate the management and governance demands on the Ministry. The underlying commercial and contractual arrangements would be complex”⁵⁰¹. “In addition, there would be challenges in keeping the Novopay service operating during the transition. It is likely that Novopay would lose key people and there would be continuing contention between Novopay, Datacom, and the Ministry over the relatively small pool of people with deep schools payroll expertise”⁵⁰². It was thus decided to continue with the new vendor: “the Ministry is recommending that the current proposed contingency option not be taken up”⁵⁰³.

5.15.2 Backsourcing of operational services in Novopay

After approximately two years, when end-users continued to face issues and continued to complain about the level of service, *client-MoE* decided to set up an internal crown entity, Education Payroll Limited (EPL), to take over operational responsibilities from the vendor *Talent2*. Operations related to processing of the payroll were then

⁴⁹⁶ Key risk areas, Datacom school’s payroll proposal, by Deloitte, April 2013

⁴⁹⁷ Outlining Proposal for Resuming Payroll Services, by Datacom, March 2013

⁴⁹⁸ Outlining Proposal for Resuming Payroll Services, by Datacom, March 2013

⁴⁹⁹ Key risk areas, Datacom school’s payroll proposal, by Deloitte, April 2013

⁵⁰⁰ Key risk areas, Datacom school’s payroll proposal, by Deloitte, April 2013

⁵⁰¹ Key risk areas, Datacom school’s payroll proposal, by Deloitte, April 2013

⁵⁰² Education Report: Recommendations on Datacom contingency, April 2013

⁵⁰³ Education Report: Recommendations on Datacom contingency, April 2013

backsourced. “EPL is a Crown company established to provide payroll services to New Zealand’s schools. We were incorporated in August 2014 to take over the operation of the schools payroll service from Talent2 in October 2014. Ownership is held equally between two Shareholding Ministers, the Minister Responsible for Novopay and the Minister of Finance. EPL is governed by a Crown appointed Board of Directors⁵⁰⁴”. The reaction from struggling end-users, even at this advanced stage of operation by the new vendor, was positive. This required another transition programme to ensure the new set up had the capability to operate and the associated services were successfully transferred.

5.15.3 Dilemma – Continue with the same vendor or revert back to the old

This dilemma relates to clients. Once a transition project is completed and if a client or end-users are not satisfied then it could raise a dilemma in deciding whether to continue with the same arrangements or proceed with another *transition*.

Clients may have an option to revert back to the old vendor or continue supporting the new vendor. Another option is to backsource the operational services. This dilemma is portrayed in Figure 5.14.

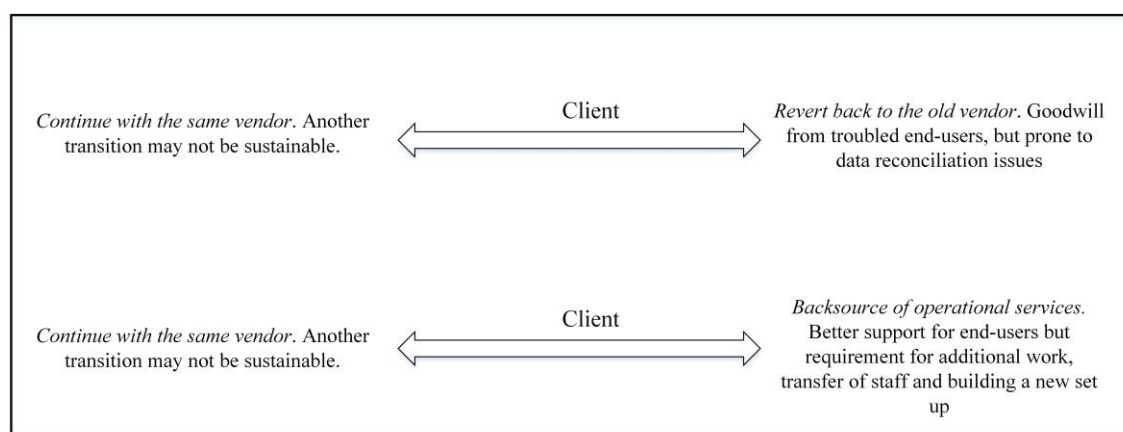


Figure 5.14 Continue with the new vendor, backsource or revert back to the old vendor

5.16 Concluding Remarks

This chapter has presented the key dilemmas identified in the Novopay case study. Adopting this form of conceptualization provided an opportunity for the researcher to reveal inherent tensions among and between stakeholder groups which could in turn support more effective theorizing and the building of more encompassing theories. The notion of a dilemma as described in this chapter is centred on conflicting situations

⁵⁰⁴Education Payroll Limited, Statement of Intent, 2015

relating to decisions. Only those dilemmas that had a direct link with data were listed, thus making the dilemmas grounded rather than speculative. A degree of inference and speculation based on the dilemmas identified here follows in the next chapter.

Following a transition, clients may be faced with a dilemma as to whether to continue with *outsourcing* or to *insource* the previously outsourced activities. Insourcing can provide better control for clients but it requires them to have in-built capabilities for effective management of operations. When outsourcing the client shares the risk with an external vendor, but this may come at the expense of losing internal control.

While changing vendors, during transition, an incoming vendor is reliant upon the outgoing vendor for the sharing of information about customizations and meta-data. The outgoing vendor is in a monopolistic position and so can face a dilemma about whether or not they should *share IP* to help the incoming vendors. Sharing this information may help in the transition, and they might be legally obliged to do so, but withholding this information also gives them the opportunity to continue having a *stake* in the project and generate further business opportunities.

Similarly, during an interim period in transition, both the incoming and outgoing vendors may require similar human resources. During this time, transition is still in progress and the outgoing vendor is operating BAU. Clients are thus faced with a dilemma in wanting minimal disruption to BAU but at the same time providing full support to the transition.

End-users typically have varying capabilities and so they are directly affected by service delivery and training modes. Choosing the mode of service, delivery and training can therefore be a source of dilemmas. Customized training and customized service delivery models require more time and cost from the client and incoming vendor side. On the other hand, the provision of standardized approaches is more cost-effective but the approach could be considered too narrow in scope and may not align with end-users' specialised capabilities and needs.

Chapter 6. Discussion

6.1 Introduction to this Chapter

In this chapter the results from the previous two chapters, *narratives* and *dilemmas*, are discussed. In doing so the results of this study are also considered in relation to the extant literature. In particular, the results are considered and compared with another transition project that occurred in Australia, the Queensland Health (QH) Payroll System, which underwent a similarly intended transition around the same time when Novopay was about to go-live in New Zealand. Given its particular relevance to the Novopay case the Queensland Health Payroll System Commission of Inquiry Report is referred to extensively in this discussion chapter.

This chapter also includes recommendations for public sector agencies. The intent is that these recommendations may help stakeholders to improve their readiness for transition. Recommendations are structured such that the initial sentences provide a preamble or set the scene for the subsequent core element, which is highlighted in bold.

These recommendations are built upon the narratives presented in chapter 4. Appendix A7 displays the link between narratives and recommendations in a tabular format.

6.2 Rationale for Transition

In certain countries like Finland and France, there is a sourcing requirement that agencies in the public sector must retender outsourcing services after four to six years, which could possibly result in the switching of vendors (Alaranta & Jarvenpaa, 2010; Grim-Yefsah, 2011). By pursuing such a deliberate strategy of *transition*, clients can periodically bring fresh pairs of eyes and new perspectives to their sourcing arrangements. It also provides an opportunity to improve service delivery and inject new ideas (Sia et al., 2010). As indicated by Gill (2000), governments also inherently have a mandate to implement new policies that may not be supported by current systems. In Novopay, *client-MoE* set out to change their business process from one that was highly *customized* to a more *standardized* model in order to attain better internal

control and access for end-users ⁵⁰⁵. The new system was also expected to support more effective decision-making. All of these contributed towards *transition*.

Continuous reliance upon an external vendor may cause loss of client knowledge and vendor lock-in. Deventer & Singh (2012) mentioned two mechanisms which vendors may use to effect this: '*hard assets*' and '*soft assets*'. The use of proprietary hardware and software is classified as a hard asset, whereas relationship building to heighten vendor switching costs is classified as a *soft asset*. The results of this study demonstrate how the outgoing vendor used *hard assets* and *soft assets* for *lock-in* ⁵⁰⁶. In terms of *soft assets*, vendor representatives developed personal relationships with end-users, so much so that end-users were excessively reliant upon them to carry out normal operations. It is due to this reliance upon vendors that clients could lose sight of their business processes. In such situations where a client is reliant upon vendors, coupled with a setting in which a system is owned and operated by the vendor itself, it is not possible to switch vendor without changing the application system. Even in COTS based systems, extensive customizations can adversely impact vendor's capability for maintenance. Therefore, it is more advisable in such situations to not only switch vendor but to also switch the system.

The findings of this research indicate that the process of transition could be initiated by the client, the vendor, end-users, or due to limitations of the system itself ⁵⁰⁷. Over a period of time, vendors may push their clients towards new versions of their applications so as to manage their support more easily. During this time, legacy systems may become unsupportable due to ICT advancements and changes in underlying technologies, which were used in the development of (the now legacy) systems. Clients may also plan to implement new policies due to new legislation requirements, which could also be risky to implement in legacy systems. So, avoiding *transition* may not be feasible and could be riskier than continuing with an existing vendor in such situations. Therefore, it is inevitable in certain situations to carry-out transition.

When a COTS-based system starts to become obsolete and vendors are finding it increasingly difficult to maintain, they may start to shift their clients to a newer version.

⁵⁰⁵ Chapter 4, Section: 4.3.10

⁵⁰⁶ Chapter 4, Section: 4.2.1.3

⁵⁰⁷ Chapter 4, Section: 4.2.1

From the results of this study, it was found that there are two main reasons for an incumbent system to become obsolete ⁵⁰⁸. First, it could be written in a language which is becoming deprecated. For example, in this case, the payroll system was developed using an older version of COBOL. Second, third party companies such as Microsoft and Oracle may end support of older versions of their Operating Systems (OS) and Database Management Systems (DBMS). If those older versions were used in the development of the COTS-based system, then it could become both risky and expensive to continue support of such a system. In such scenarios, if the third party companies decide to cease maintenance of their OS or DBMS, it may cause difficulties for the vendor to keep providing their support.

Clients, vendors and sub-contractors should continually strive to gain possible insights into such strategic issues, and these aspects should be considered and discussed whilst negotiating contracts. At times they may not be knowable in advance. Therefore, vendors should endeavour to develop partnerships with third party companies such as Microsoft and Oracle. This should help them to implement simpler tools and processes to shift customers to their new platforms or versions with ease and reduce the overall technical debt.

If a COTS-based system is customized for specific clients then vendors may find it difficult to shift them to its new version. Therefore, it is imperative to keep track of the customized version to ensure that a smooth process is developed for their transfer. The results of this study show that knowledge about these customizations may not be properly documented ⁵⁰⁹and not kept up to date, which can result in over-reliance on specific human resources. Due to this reason the incoming vendor is then reliant upon the outgoing vendor's support for transition.

The obsolescence of legacy systems can play a vital role in forcing decision makers to urgently change systems. When incumbent systems are perceived as quickly becoming obsolete then there is a chance that decision makers may accept the risks of a new system's failure and decide to go-live. This pattern was noticed in Novopay ⁵¹⁰ as well as in the Queensland Health (QH) payroll.

⁵⁰⁸ Chapter 4, Section: 4.2.1.1

⁵⁰⁹ Chapter 4, Section: 4.3.3.2

⁵¹⁰ Chapter 4, Section: 4.2.1.1 AND Chapter 5, Section: 5.2

Recommendation

1. Transition initiation is not under the control of clients, or any single stakeholder group. Transition is also not a one-off exercise. It should be considered as a continuous process. Therefore, a contemporary approach taken by any stakeholder for its prevention may not be sufficient. Therefore, clients should develop multivariate strategies to manage incumbent vendors whilst supporting end-users and keeping track of the obsolescence of incumbent-systems to become *transition-ready*.

6.3 Sourcing Strategies

6.3.1 Comparison with the Mirani Framework

According to Mirani (2006), an outsourcing relationship is not fixed or static when considered over time. Rather, it is variable and dynamic. It was further elaborated that clients often initiate their outsourcing relationship by engaging the provider in simpler and more straightforward tasks. After establishing initial contact and then trust, clients may begin to assign more complex applications to selected vendors. The latter necessitates establishing loose, trust- and network-based relationships. Over a period of time and when applications became business critical there may emerge a need to establish a command-based hierarchy so that the client can gain more control over their critical operations. The latter necessitates the client to either acquire some form of formal stake in the vendor or to set up some form of subsidiary of its own (Mirani, 2006). Government sector agencies, as compared to those in the private sector, usually have limited capacities to create such hierarchies. They either insource these activities in-house or create separate internal entities to manage them. The results of this study exhibit both similarities and contrasts with Mirani's (2006) framework. In this study, the *client-MoE* already had a business-critical application outsourced to an external vendor. In order to regain control, it was decided that a *transition* project should be carried out, in which the client would *insource* the management of the implementation of a new system. A partial insourcing and outsourcing approach was chosen; we call it *Transition1* for ease of discussion.

The approach taken in Transition1 differed from the results of a field survey carried out by Whitten et al. (2010), which compared strategic choices about whether to continue

outsourcing, switch vendors, or backsource the previously outsourced activities. Whitten et al. (2010) found that, when faced with such decisions, outsourcing continuation is preferred by clients, while insourcing is the least preferred option, and the preference of switching vendors is dependent upon the *switching-costs*. This is in contrast to the results of Transition1 in this study, where the client's first choice to regain control was selective *insourcing*. This may be due to the high degree of importance of the outsourced function/business process and the locked-in position of the client.

6.3.2 Comparison with the QH Project

In the case of the QH payroll, a similar comparison was also made between setting up an internal entity and engaging an external vendor. According to the Queensland Health Payroll System Commission of Inquiry Report there were contrary views about this strategic choice. Mr. Goddard, a Project Management Consultant, and Mr. Uhlmann, an expert in IT Projects Delivery, were of the view that engaging with an external vendor may not lower the cost of the overall project and would certainly increase the risk of the government losing control of its own program. Mr. Uhlmann's statement, as reported in the Queensland Health Payroll System Commission of Inquiry Report, is worth sharing here: "You could have brought someone in to ... to bring all the project disciplines into play, get all the right people with the right sort of expertise supporting around the PMO ... get that applied to your current partners and then drive that and hold them accountable If ... the prime contractor's role is ... to replace all of that ... I would not have support (sic) that ... [because] ... it's about who can best accelerate the packages of work ... and ... whoever has got the background knowledge and the skills and expertise on the ground, you want to leverage that ... you would not get rid of that sort of knowledge and background expertise ..." ⁵¹¹. These views of Goddard and Uhlmann from the QH payroll project also coincide with the actions and justifications for the decision taken in Transition1 of Novopay. It was argued that the payroll is business-critical for *client-MoE*, and that they had lost knowledge about and control over it – but *MoE* did not have the option to create a command-based hierarchy by acquiring a stake in the incumbent outgoing vendor and, therefore, they opted for an insourcing approach. However, an insourcing approach requires certain preparation and building up of internal capabilities – a scenario, it transpired, for which they were not prepared.

⁵¹¹ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 85

6.3.3 Change of sourcing strategies

McLaughlin & Peppard (2006) suggested that, during the life span of sourcing contracts, organizations will reconsider their original decisions to outsource. The available options at that point in time for the client are to either continue with the same client, re-negotiate a contract with the same vendor or retender in part or full to seek new vendors, or backsource in part or full the previously outsourced activities. Changing the sourcing strategy requires changing the client's role. Yakhlef & Sié (2012) described the process of moving from insourcing to outsourcing as one of moving from producer to purchaser of services. In contrast, Novopay Transition1 followed the process of changing from purchaser to provider of services – moving from outsourcing to insourcing. Insourcing requires an internal department to adopt practices in becoming more efficient and effective (Dibbern et al., 2004). It requires the re-integration of knowledge and developing new capabilities and competencies (Kotlarsky & Bognar, 2012). Building such capabilities internally in a public sector agency may not be straightforward, however. It may also not align with the agency's strategic goal of assuming a limited operational role as appropriate for government departments. It is a resurgence of ideas associated with neoliberalism (Benington, 2009) that advocates a government department's role is mainly to create policies and governance models, rather than managing large scale projects .

It can also be assumed that, during outsourcing, vendors may make efforts to transfer knowledge to their clients. In back sourcing, vendors may not have the same level of enthusiasm and motivation to help manage the transfer of knowledge back to the client.

Lack of preparedness and suitable internal capabilities for managing *insourcing* may trigger another transition. During the process of in/back sourcing or even after its completion, clients may realize their lack of internal abilities and further decide to re-outsource again. Such a scenario is evident in the results of this study⁵¹². After approximately two years, following the Transition1 (an insourcing strategy), the client realized that they did not have the capabilities to manage those operations internally. It was thus concluded that following a complete business process outsourcing approach would help share risks and reduce the cost of overall operations. Thus, Transition2 was initiated.

⁵¹² Chapter 4, Section 4.2.3.2, Sub-section: Internal MoE Capabilities

Although outsourcing enables client organizations to share risks with a vendor, the level of service expected by end-users may not be provided through a new vendor. In Novopay, end-users faced major issues – an increase in workload, inadequate validation procedures, an inability to use new processes for communication and submitting transactions, and to effectively use the new service model – after the re-outsourcing (Transition2) was completed⁵¹³. The *client-MoE* then decided to create an internal crown entity, a hierarchical setup, known as Education Payroll Limited (EPL), to take over operational responsibilities. This required another transition, Transition3 in this case, to ensure the right capabilities were indeed established⁵¹⁴.

6.3.4 Role of Government Agencies

Changing sourcing policies could also be viewed from the perspective of efforts being made to reform governments all over the world. Governments are experimenting with different methods and new approaches to provide better services and programs to their citizens, whilst managing shifts from industrialized to information-based economies and following the trends of globalization. Reliance upon external vendors has been considered by some as a panacea, as in the case of neo-liberal economics. However, governments should equally be careful with this type of approach, as they have a moral and legal responsibility to serve their citizens (Davison, Wagner, & Ma, 2005). It was noted from the results of the Novopay study that government agencies, after outsourcing responsibilities to a private vendor, may consider that they have no further responsibility to ensure that a system is designed and built properly⁵¹⁵. Similar concerns were raised in the QH report; particularly relevant excerpts are as follows: “Prime Contractor did not absolve the State from its responsibilities for insisting that the Prime Contractor deliver what the contract required”⁵¹⁶. “State could not, having appointed a Prime Contractor, sit back and await the delivery of a complete and completely functional SS Initiative. It had to monitor the performance of the contract and intervene, as the contract permitted, where appropriate”⁵¹⁷.

6.3.5 Comparison with the Japanese model of Outsourcing

With new vendors joining the market and newer technologies improving ICT, public-private partnerships, reluctantly or by mutual arrangement, are being broken down to

⁵¹³ Chapter4, Section: 4.3.9

⁵¹⁴ Chapter5, Section 5.15

⁵¹⁵ Chapter4, Section: 4.3.2

⁵¹⁶ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 86

⁵¹⁷ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 86

include new partners and vendors. Mirani's (2006) framework suggests that a second level of outsourcing requires a network-based model that is based on trust relationships with vendors. However, clients should be aware that it may not be a straightforward task to directly begin a network-based relationship with a new vendor. One solution to manage this issue could be to follow a Japanese model of outsourcing.

In this type of model, to evaluate a vendor's technical capabilities, which can be difficult to assess upfront during time-sensitive RFI and RFP processes, one particular solution is to invest substantial time and effort on this activity (Tiwana et al., 2008). An extreme approach is to undertake 'dummy projects' and to then evaluate the vendor's processes and outcomes, only then trusting them to undertake further projects. Japanese clients even go so far as to deliberately introduce 'defects' or ambiguities in their requirements and then assess the vendor's response capabilities to evaluate how they deal with them - without informing the vendors. This could also be extended to include multiple vendors to assess their capabilities using dummy projects simultaneously (Tiwana et al., 2008).

This type of model requires an upfront cost and investment of effort, whereas blindly trusting a vendor's success stories, which are generally provided during a traditional tender process, could be inherently biased. Success stories from vendor white papers and research articles might also provide limited and context-dependent results.

Recommendation

2. When vendors are being switched (as part of transition), it should be acknowledged that end-users would likely expect a similar level of relationship with any new vendor. End-users may not be supportive of transition if they are not prepared for a new type of relationship with new vendors. It must be noted that a network-based type of relationship cannot be established instantaneously. Rather, they are developed progressively.

6.4 Tender Process

6.4.1 Lack of competition

The procedure followed in a public sector project tender is usually to openly advertise the project and request vendors to bid. From the list of received bids, the most

appropriate vendor is chosen. Often this process involves more than one iteration of evaluation - starting with a general expression of interest (EOI). Initial selection is carried out based upon the replies. Selected vendors are then invited to formally bid for the project, often termed as a request for proposal (RFP). When undertaken as part of a transition a fundamental issue with this process is the challenge faced by new vendors, who have limited ideas about the requirements of the project and associated business processes, when they may be competing with an incumbent vendor who has been working with the client (perhaps for an extended period of time). Incumbent vendors should be aware of current business processes and have in-depth knowledge about them. If the incumbent vendor is in a monopolistic lock-in situation then it may become difficult for new vendors to compete without additional support, unless the client has already decided to switch from their incumbent vendor.

6.4.2 Strict public sector rules

The New Zealand public sector, as in other countries, has strict rules with regard to procurement. The values that underpin these procurement rules require public agencies to treat all vendors equally, with no discrimination between domestic and international vendors. Apart from in a limited range of situations, the default position is to advertise all contracts openly. Exemptions from open tenders could be made in certain conditions, such as in an emergency, or to follow-up an open tender which has not received substantial responses previously, or where there is ‘*no competition*’ due to specialist technical reasons (Smol, 2013). An excerpt from the government rules of sourcing (Smol, 2013), which describes the technical reasons that are relevant in this case, now follows:

- “where an agency has a bespoke IT system that was custom designed for it and only the supplier that designed it fully understands the code base”
- “where one supplier has, over a period of time, developed such an intimate knowledge of an outdated or complex system that the agency can reasonably claim that other suppliers would not have a similar level of readily available knowledge”

It should be noted, these updated rules were established in 2013 and so may not have been applicable to Novopay at the time of the tender process. When there is *no competition due to technical reasons*, other vendors have limited chances of winning a contract. Therefore, it is sensible to have exemptions from an open tender in such cases.

However, the desire to follow an open process may remain strong when a client specifically wants to change its main vendor due to a lock-in situation.

6.4.3 Supporting new vendors

A similar situation was prevailing in a UK Inland Revenue System project in 2002, where the incumbent vendor, EDS, had such an accumulated knowledge base and control that it had a significant competitive advantage (Cordella & Willcocks, 2012). Other vendors may refrain from even trying to bid for such a project (Cordella & Willcocks, 2012). From the results of this study of Novopay, in Transition2, *Datacom* and *Talent2* had similar advantages over other vendors⁵¹⁸. *Datacom* had been working as an incumbent for more than 12 years, and *Talent2* had been working on a transition project for the last 2 years. In the case of UK Inland Revenue, the UK Government followed an unusual practice of contributing several million pounds towards the bidding cost for a successful new vendor (Cordella & Willcocks, 2012). This provided a much more level playing field for all of the potential vendors competing for this contract. It was suggested that, without such incentives, the transition cost would have been too high for any new vendor, making it unwinnable for them (Cordella & Willcocks, 2012). This is not to argue that smaller economies such as New Zealand should also spend millions of dollars to offset the transition costs for vendors. It might not even be feasible in certain cases. However, there should be some investments and incentives in place, especially for projects in which the vendors are so entrenched. One must be careful, in this regard, so as not to go against mandatory obligations under regional and global treaties such as those of the World Trade Organization (<https://www.wto.org/>).

Already in New Zealand, there has been a precedent in the case of a Leadership assessment tool known as Leadership Insight (LI) (Agbonlahor, 2016). During the procurement of this tool, the team involved in the process went out to market advertising: “We’re interested in finding ways to get better insights about our future leaders – can we work with you on what that would look like?” (Agbonlahor, 2016). It generated sixteen responses, four vendors were then shortlisted from this list and given NZ\$20,000 each to develop a prototype in a 2-week time-frame. Andrew Hampton, Chief Talent Officer of the New Zealand Government who was involved in this process noted the advantages of such an approach: “It meant that we got a bunch of great ideas from suppliers, and they found it

⁵¹⁸ Chapter 4, Section 4.2.3.2, Sub-section: Requirements of Tender Process

really good too” (Agbonlahor, 2016). “[W]hat we were after in an iterative way, as opposed to having to try and define it based on a big pile of documentation” (Agbonlahor, 2016). Such an approach is also consistent with agile principles.

As indicated by Kettl (2005), new measures such as these should be considered in order to reform the public sector. The bidding process, if carried out properly, requires substantial effort from vendors with no guarantee of winning a contract. Smaller and medium-sized companies may not be able to afford to participate in this exercise without any guarantee of a return on investment. In a worst-case scenario, this could result in potentially capable vendors not participating in a tender.

This strategy, of supporting new potential vendors, could be useful when clients are not aware of any potential vendors for transition. Oemig (2015), while citing Searcy (2009), argues that in certain projects it is often that a final vendor is already known and chosen before an RFP is carried out. In such a case, the justification for carrying out an RFP is to seek the lowest price. Results of this study show that the *client-MoE* knew that for Transition2, *Datacom* and *Talent2* would be the main competitors and that the final chosen vendor would be one of them⁵¹⁹. In fact, the steering committee even favoured *Talent2* before the RFP began⁵²⁰. However, a full tender process was initiated again for Transition2 to comply with the necessary government rules of procurement (of that time). Following a complete re-tender process for a similar project can weaken the client’s position and there is a chance that, without incentives, appropriate vendors may not participate in the tender process.

Recommendation

3. In a vendor lock-in situation, new vendors should be encouraged to participate in bidding (for the transition project). However, it can be difficult to assess vendors’ capabilities to manage customizations.
Sharing bidding costs by clients may increase their interest and in order to evaluate new vendors’ capabilities for carrying out customizations, *new innovative means* can be employed, such as *developing prototypes* in the bidding process. This can also increase collaboration with vendors.

⁵¹⁹ Chapter 4, Section: 4.2.5.1

⁵²⁰ Chapter 4, Section: 4.2.5.1

6.4.4 Tight time frames

Usually, the time-frame given to potential vendors to bid on a project is relatively tight. In addition, vendors inevitably present their bids based on limited information, which could result in less than accurate estimates. In addition, most business processes and technical environments are too complex to be objectively evaluated with respect to cost and requirements and within the specified period of time (Kern & Willcocks, 2002). This may put pressure upon clients to objectively assess potential vendors who may or may not have presented their bids objectively, considering that some of the interested vendors may be new and might not have not worked with them before. Normal practice in following a tender process is to complete it within a short period of time – it is therefore likely that a client may make a decision based upon incorrect assumptions. Similarly, clients may or may not provide all the requirements upfront. Because of this, vendors often bid based on limited information. Assumptions made by either party could be detrimental to the later success of the project. One of the risk factors mentioned in a study conducted by Verner & Abdullah (2012) about the BskyB project is *unrealistic estimation of schedule and resources*. It was found during court proceedings that the estimates given by the vendor-EDS were not based upon thorough analysis. This was termed as '*fraudulent*' in the court's judgement, and it was further described that the representative who led the estimation process from the vendor's side had been '*cavalier*' in his estimates.

Hochstetter & Cares (2012) concluded that when a tender process is carried out using an uncertain and incomplete set of information then it may act as a *seed* for the whole project. Uncertain and incomplete information used in the tender process can result in a high frequency of deviations later in regard to cost and time. Paul Matthews, CEO of the New Zealand Institute of IT Professionals (IITP), illustrates the two main options for vendors. They either spend a considerable amount of time upfront working through requirements in detail, yet they may still not get the project. On the other hand, they may just '*wing it*'. They would expend limited effort to arrive at an estimate based upon their rough idea of the complexity and cost involved, and later on add some contingency margin and cross their fingers (Matthews, 2013).

In this study of the Novopay case, in Transition2 *Talent2* was given a higher ranking by the SC, in comparison to the incumbent *Datacom*, based on an assumption that *Talent2* showed a good understanding of the *data-related* issues⁵²¹. Contrary to this decision, in the results arising from the case study analysis it was found that *Talent2* had limited understanding about the *data*⁵²² and their lack of understanding resulted in *delays* and an increase in the number of defects. It can be argued that this could be because of the limited time and effort invested in validating that vendor's capabilities. *Datacom* was similarly penalized in the tender process because their proposal anticipated a higher level of effort from the client side, whereas the client-MoE's intent was to reduce their responsibility, making a single vendor solely responsible for service development, maintenance and delivery. This pretext was fraught with challenges – a public sector organization has the ultimate responsibility for the delivery of services to its citizens and it cannot outsource its responsibilities, even if it outsources the service. Lauesen & Vium (2004) had considered the client's under estimating of their effort as the highest risk for outsourced projects.

It was also noticed in the QH payroll project that although a public sector client had outsourced the development and operational services, the vendor was still reliant upon the client to carry out its responsibilities: "IBM's submissions confirmed that its approach had been to depend upon the customer (as end user) to communicate its requirements, for it to "document" scope and obtain the State's acceptance of that articulation of it" ⁵²³.

6.4.5 Qualification-based system

Public sector clients have an inclination for awarding contracts to the lowest bidders, which may have follow-on implications for the quality of the system (Cox et al., 2012). In contrast, the US federal Government has been using an alternative model for the tendering of engineering projects (Rusk, 2013). In this model, the price is discussed during the negotiation process and only after possible candidates have been short-listed. This initial short-list is created without consideration of price. A New Zealand IT professional, John Rusk also mentioned in an IITP newsletter (Rusk, 2013) that engineering projects can use a 'Qualification Based System' (QBS) (Ponomariov & Kingsley, 2008) to separate out pricing from capabilities. He cautioned that, as an

⁵²¹ Chapter 4, Section: 4.2.5.1

⁵²² Chapter4, Section: 4.3.1.3

⁵²³ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 103

insider who has been involved in providing estimates for IT related projects: “*awarding contracts to the lowest bidder is optimistic at best, and dangerous at worst*” (Rusk, 2013). This is especially true for large-scale transition-related projects where a client may not be aware of a new vendor’s capabilities. In the public sector, vendors may take advantage of the client’s inclination towards *lowest bidders*. Removing the cost factor from the initial bidding process may reduce the impact of this issue on vendor selection and on the likelihood of project success.

In the case of the QH payroll project, final evaluation scores of the two main competing vendors, IBM and Accenture, were close. Both proposals were considered satisfactory, however, the prime differentiator for IBM winning this contract was the quoted price, being half of what Accenture had quoted. However, these cost estimates, when compared with actual payments made to IBM or committed to be made to IBM during the course of the project, were close to half the costs incurred. “This was almost double the price which IBM had estimated in its ITO response and, perhaps not entirely accidentally, as I have shown above, about the same as Accenture had put forward in its response” ⁵²⁴. The QH report further described that “The evidence gives rise to a suspicion that IBM offered a price to win the tender which did not genuinely express its estimation of the true costs involved” ⁵²⁵.

6.4.6 Comparison with the Japanese model of Outsourcing

In seeking to verify vendors’ technical expertise before signing a contract, Japanese outsourcing practices offer valuable insights (Tiwana et al., 2008). In a study conducted by Tiwana et al. (2008), one client company deliberately introduced ambiguity in requirements and reverse engineered a project from three prospective vendors. The project had already been completed internally and the new potential vendors were not aware of this exercise. Afterwards, these three solutions were evaluated and compared with the internally completed solution. Considerations were also given when any vendor sought to clarify the ambiguous requirements or made assumptions. This type of vendor screening may be considered an extreme, but Japanese managers considered this as the beginning of a long-term endeavour, and so such an approach was warranted. Although this approach may not be applicable or relevant to all New Zealand public sector projects, it could be adapted to fit the market needs of a smaller market.

⁵²⁴ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 97

⁵²⁵ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 88

Chua et al. (2012) suggested that many aspects of a project are often not clear upfront and clients may not be able to adequately provide all details in a contract. In such circumstances, multiple variations are frequently made to a contract during the implementation phase to achieve better outcomes. Vendors, as we noticed from the QH payroll system, may exploit this situation, particularly, if the scope is vague. “IBM was content for scope to remain vague and to deal with that lack of clarity by relying upon and encouraging the State to vary the contract and its scope and to charge the State for those changes. IBM chose to leave scope uncertain and to “protect” it because it suited its short-term commercial interests to do so”⁵²⁶.

6.4.7 Discouragement of communication

Paech et al. (2012) mentioned in their study that extensive communication between clients and vendors during the tender process is often discouraged. This is mainly to ensure that the client avoids disbursing any such information which a particular vendor may use to its advantage against competitors, and to avoid covert practices and bribery to win deals. This issue has also been mentioned in a study conducted by Lilja et al. (2011), in which they made a comparison between the public and private sector tender process. In a private sector context, multiple (technical) discussions and meetings take place with vendors so that the client can better understand their offers and, therefore, make a more informed decision. It could even occur before the tender process to improve the content of the tender itself, incorporating feedback from vendors. However, public sector procurement processes and their underlying legislation are strict in this regard. They leave limited room for such discussions (Lilja et al., 2011).

On occasions when a vendor is in fact able to ask questions and clarify requirements during the tendering process then this communication is made public to other vendors (Paech et al., 2012). If a vendor is proposing a COTS-based system, building on their proprietary software, then it would not be in their commercial interest to openly discuss aspects of their IP in this dialogue, as the information and knowledge about this discussion would be shared with their competitors. Could this be a deterrent for openly discussing the solution and problems at the tender initiation stage? Or would allowing some relaxation of the rules to enable private discussion result in jeopardizing the acquisition process? This cannot be said for sure, but in order to receive better estimates from vendors, public sector agencies need to re-consider these factors. Questioning the

⁵²⁶ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 111

veracity of a vendor's estimates, and the capabilities of a client to assess them upfront, leads to the conclusion that the tendering process needs to be revisited and explored more. New guidelines and frameworks should be developed to cater for the new demands of this process.

6.5 Vendor Opportunism

6.5.1 Nature of co-opetition

Modern (global) business environments and advances in ICT have given rise to co-opetition between different firms (Loebecke et al., 1999). This implies that firms may have conflicting as well as common interests, which necessitates the establishment of co-opetition – cooperation and competition, simultaneously (Bengtsson & Kock, 2003). This phenomenon entails a paradoxical situation in which knowledge sharing for cooperation could also be used as a competitive advantage (Loebecke et al., 1999). There is also a likelihood of misunderstandings between groups collaborating in an inter-organizational context. This situation could be further exacerbated if third-party vendors are involved, as these third parties may not be obliged to follow the same rules by the same contractual arrangement between the clients and vendors (Alaranta & Jarvenpaa, 2010). The phenomenon of co-opetition has been discussed widely in multi-sourcing. Bapna et al. (2010) defines it as a stitching together of best-of-breed IT services from multiple vendors. They further opined that outsourcing is usually discussed in terms of a simple dyadic relationship between a client and vendor. However, this simplistic view falls short of explaining the intricacies involved when multiple vendors compete and cooperate at the same time to achieve a client's business objectives (Bapna et al., 2010). Loebecke et al. (1999) suggest that in this type of relationship, what makes a firm decide whether to cooperate or not is based upon the added value that it is expected to receive from cooperation with other firm(s). If cooperation does not outweigh any losses that it might incur during knowledge transfer, then partnering firms would be sceptical towards such cooperation (Loebecke et al., 1999).

6.5.2 Negotiation issues with outgoing vendor

The Novopay transition project was expected to reduce the human resource requirement in the service-centres⁵²⁷. This would have the effect of reducing profit margins for the third party sub-contractors working in those centres, and resulted in negotiation issues for extending third party contracts. In a BPO project, clients generally negotiate with a sole primary vendor, who is then responsible to sub-contract work to third party vendors as needed. Clients may not be aware of the agreements and associated KPIs with sub-contractors. In Novopay, the initial assumption for risk mitigation was that third-party contractors would be easily transferred to become third party contractors for the new vendor⁵²⁸, which did not happen as planned.

The reason for the lack of cooperation, and one noted by Loebecke et al. (1999), was that it did not bring added value. On the contrary, it was a losing situation for those additional providers. It was anticipated that the new system would reduce the number of third party contractors – resulting in lesser profit margins. If a transition project results in lowering profit margins of third party contractors, then they may not continue to provide services. An outgoing vendor could be contractually bound to support transition, but this might not be applicable to third party contractors who may not have similar stipulations in their contract. Alaranta & Jarvenpaa (2010) also point out that the third party firms may not be bound by the original client and vendor contract. These types of risks should be factored into the overall risk management policy and possibly network-based relationships should be developed with third party sub-contractors.

The results of this study show that if there is any chance for an outgoing vendor to *take back* the transition-project then it might provide an opportunistic situation⁵²⁹. In Novopay, *client-MoE* developed a contingency option with the old vendor. This may provide an opportunity for vendors to not cooperate in transition. One may speculate, if an old vendor is completely ruled out from taking back a project that had been vendor locked-in, then they might have cooperated more. The dynamics of competition could have been different. Then, the downside would have been that the client would need to develop a contingency option with another vendor, and managing three vendors

⁵²⁷ Chapter 4, Section: 4.3.1

⁵²⁸ Chapter 4, Section: 4.3.1.1

⁵²⁹ Chapter 5, Section: 5.9

simultaneously would have been even more challenging for the client. Sia et al. (2010) suggest that in order to avoid this situation, a client should develop a *transition ready* plan to effectively switch from one vendor to another. They further suggest that only by becoming *transition ready* can a client leverage competitive dynamics of the outsourcing market and are in a position to better sustain healthier relationships with ongoing vendors. This warrants the carrying out of additional study as a future work.

6.5.3 Contract and Relationship based model

Cox et al. (2012), while analysing outsourcing in the UK public sector, point out the importance that local councils gave in written contracts to minimizing risks. Cox et al. (2012) argued that in many situations it is almost impossible to cover every detail in contracts and an element of trust is required to manage projects successfully. In the case of Novopay where the new vendor, *Talent2*, had not previously worked with the client, MoE, the level of trust cannot simply be created instantaneously. Development of trust necessitates consistency in performance over time. Cox et al. (2012) further indicate that, although councils were aware of the limitations of '*contracts*', they followed a mentality of '*play it safe*' and so placed great emphasis upon them. In line with this attitude the UK public sector councils were sceptical about developing partnerships. However, it was found that those councils that focussed on contracts were less successful than those that favoured partnerships (Cox et al., 2012). Focussing on contracts may achieve short term benefits but in order to achieve strategic goals councils should develop partnerships (Cox et al., 2012). From the results of this study, it was found that '*partnerships*', that may be essential in the overall management of a large-scale project, could over time lead towards '*loss of control*' and contribute towards '*vendor lock-in*'⁵³⁰. This has also been asserted by Mirani (2006).

Even though public sector organizations tend to be heavily focused on '*contracts*', they also typically lack the motivation and will to hold vendors accountable to them. One justification is that public sector organizations tend to avoid going into litigation, which can be exploited by vendors or by opposition political parties. This has been pointed out by Chua et al. (2012); by gambling upon the contractual complexities, an outgoing vendor may renege on contractual terms. The time required to resolve legal disputes and the associated negative publicity may hinder public sector clients to pursue a legal

⁵³⁰ Chapter 4, Section: 4.2.1.4

course. This is quite evident from the results of this study. MoE decided not to send a material breach notice when the vendor threatened to challenge it ⁵³¹. Despite this, the legal advice given to *client-MoE* was that, legally, their position was much stronger.

Even if clients had previously been involved in outsourcing multiple times, as mentioned by Cullen et al. (2006), their experience and context could be different. It may appear that clients have a history of experiences to draw from, but they may well find themselves in a new situation every time. To elaborate further, the context for a first level or round of outsourcing can be different from the follow up outsourcing deals (Cullen et al., 2006). Therefore, the lessons that are learned from the previous endeavours may or may not be applicable in a new transition project. In this study, the *client-MoE* decided to have a strict contract because of their previous bad experience. However, the results show that even having a strong contract did not guarantee successful management of the vendor.

6.5.4 Material breach notice

A material breach notice is a formal notice of a breach of the contractual arrangements that may cause serious damage to the reputation of vendors. Therefore, they may undertake or threaten to undertake serious actions in case such a notice is delivered. In Novopay, the new incoming vendor threatened the client that the transition project would be terminated if a material breach notice was sent. Similar apprehensions were shown in the QH payroll project. There were concerns that sending a material breach notice may trigger a legal dispute and the vendor, IBM, might *walk off the job* leaving the transition system in a susceptible situation. This was even though, as in Novopay, the legal advice in the QH payroll project was to send this notice. In effect, this would have made the client's position strong in subsequent negotiations. An excerpt taken from the QH payroll report states that: "The State was advised by its solicitors that IBM was in material breach of contract by reason of late and deficient delivery of the payroll system. The solicitors further advised that the State could, pursuant to the terms of the contract, terminate it and prosecute an action for damages which could be as much as the value of the contract price" ⁵³². It was further

⁵³¹ Chapter4, Section: 4.3.7

⁵³² Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 211

advised that: “State’s negotiating position would be strengthened by terminating the contract. There was no impediment to negotiating an agreement with IBM after termination”⁵³³.

However the prevailing belief of the state government of Queensland was that the: “State could sue IBM or it could have the payroll fixed; but it could not do both”⁵³⁴. The overall picture is summed up by a confidential statement given by one of the internal advisors of the QH payroll project to the inquiry committee: “The politicians are extremely nervous and driven by the fact that if IBM is removed then there would be nobody to blame for the payroll problems [outside Government]. James said his personal view is that this is the worst possible outcome. IBM played hardball and got what it wanted. James said that the real issue is that the DG was concerned about himself and the Minister. There will be an election in 18 months and they are very concerned about anything being public [in the health area]”⁵³⁵.

Contrary to the above, sending a material breach notice would have likely created a strong negotiating position. An excerpt from the QH payroll report mentions that: “Such negotiations can occur immediately but Mallesons {Legal Adviser} advises that these can equally occur after either a Notice to Show Cause is issued or after any subsequent Notice of Termination”⁵³⁶ and “Mallesons also notes that there are potential benefits to the State’s negotiation position from conducting these after a Notice to Show Cause is served on IBM. If a Notice to Show Cause is delivered, the State will be in a position to immediately proceed to termination of the contract if negotiations are unsuccessful. If a Notice to Show Cause has not been issued, the State will not be in a position to immediately terminate the contract”⁵³⁷. In both Novopay and the QH payroll, it was found that the clients MoE and State of QH could not effectively use the terms of contractual obligations and could not hold their private vendors accountable due to fears that the project would be terminated.

An important consideration at this point is the availability of a fallback plan for any adverse situations. One relevant organization for fallback could be an incumbent outgoing vendor. However, this may provide an opportunity for them to exploit and take back the project, considering that the ongoing transition-project is experiencing difficulties and issues in delivering in line with agreed time-lines. In this case, MoE did create a fallback plan with the *outgoing vendor-Datacom*, but it was considered as an

533 Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 211

534 Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 203

535 Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 191

536 Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 179

537 Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 179

encroachment by the *incoming vendor-Talent2*, and they were critical of it ⁵³⁸. *Talent2* considered it against the spirit of contractual obligations and threatened to use it against *client-MoE* by sending a material breach notice themselves. In short, a vendor may intimidate clients by such threats to avoid getting a material breach notice.

On the flip-side, while negotiating a fallback plan with any vendor, clients may want to pretend that the transition project is satisfactorily progressing. This impression could help make for a better negotiation. Therefore, the timing has to be considered for sending a material breach notice to the incoming vendor. In this case a decision relating to the sending of the material breach was therefore delayed⁵³⁹.

Having a fallback plan inherently means that, at a certain point in time, a decision will be made about whether or not to invoke this option. Clients should have clear red-lines and crossing them should result in taking up the fallback plan.

6.5.5 IP Sharing

In regard to sharing information about customizations and source code, Chua et al. (2012) point out that an outgoing vendor might be willing to transfer source code and personnel internally to a client in a backourcing process. However, if a client is transitioning to another vendor then handing over this proprietary knowledge to competing vendors is unlikely to be a priority. In this situation, when an old vendor has reservations about sharing their customized system's information with the new vendor, the client may negotiate with them to deliver data in an intermediary format after consultations with the new vendor. Sia et al. (2010) provide some insight into how organizations can develop their readiness for transition. Their foremost point is to ensure resource ownership and access rights are discussed and understood. Failing to do so may result in substantial coordination issues.

Alaranta & Jarvenpaa (2010) mentioned some of the challenges that might arise when changing IT service providers in transition projects. Failing to successfully carry out transition could bring bad publicity to both the incoming and outgoing vendors. In the case they studied, failure to carry out a transition project was '*not an option*'. The old vendor and the new vendor both would have received bad publicity and the old vendor

⁵³⁸ Chapter4, Section: 4.3.7.1

⁵³⁹ Chapter 4, Section: 4.3.7.2

would have lost any chance of getting opportunities for any further work from this client. In contrast, from the results of this study, failure to transition also gave an opportunity for the old vendor to win back a *lost* project. It could also be a '*great success story*'.

Recommendation

4. Data migration requires knowledge about the incumbent system as well as of the new system. Outgoing and incoming vendors might be reluctant to share knowledge about their respective systems and hence share intellectual property with each other. This can affect data migration. Therefore, before initiating a transition project, responsibilities for data migration and any transformation of data should be negotiated and settled between the outgoing and incoming vendor. An intermediary format for data management, acceptable to both parties, could be considered. Otherwise outgoing and incoming vendors may push this responsibility upon each other.

6.6 Generalizing end-users' capabilities

6.6.1 Digital divide among end-users

Governments all over the world are trying to encourage greater usage of ICT by their citizens and businesses. Usage of ICT by citizens, businesses and the government is considered as an essential step towards progress and national development (Srivastava & Teo, 2011). There has also been a growing trend in the public sector across the globe to reform administration and facilitate their citizens to use more electronic forms for receiving services, also known as e-government. The purpose of e-government is to supply services and information to the public electronically, by building a digital state (Dwivedi, Weerakkody, & Janssen, 2011). This rapidly growing field of e-government has several important aspects including social, technical, economic and public administration (Shareef, Kumar, Kumar, & Dwivedi, 2011). National stakeholder groups have varied capabilities, leading to varied interests and influences in undertaking an e-government project. In addition, IT readiness and the competency of stakeholders are prime factors affecting technology acceptance (Srivastava & Teo, 2011). Variance of IT readiness and competency is known as the *digital divide*, defined as: "the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities" (OECD, 2001). The digital divide is

considered a threat to any wide-ranging program of e-government (Scott, Golden, & Hughes, 2004a). Due to dependence on citizens, success of an e-government project does not solely rely upon the technical implementation. Many countries did exceptionally well in the technical implementation of e-government projects, but struggled to increase the adoption of related electronic services by their citizens.

6.6.2 Heterogeneity of end-users

Srivastava & Teo (2011) concluded that in order to achieve the desired results of e-government, policy makers should focus upon stakeholders - businesses and citizens. Similarly, Scott et al. (2004b) emphasized the importance of managing stakeholder relations to ensure the success of e-government initiatives. They pointed out that addressing the expectations and attitudes of multiple stakeholders increases the rate of acceptance (Scott et al., 2004b). Dwivedi et al. (2011) stressed the distinction between e-government and e-business and other IS implementations. They established that theories that are developed for a more general IS domain may need to be updated to cater for the specific e-government conditions (Dwivedi et al., 2011).

Dwivedi et al. (2011) attributed the lack of adoption of e-government services to the heterogeneity of end-users, limited transformation of traditional business processes and a lack of end-user orientation. Shareef et al. (2011) encapsulated the acceptance, diffusion and success of e-government projects to the willingness of citizens in adopting new processes of service-delivery. Especially now when, e-government applications have evolved from simple web-based presence to more sophisticated transactional and integrated applications (Mishra & Mishra, 2011).

Scott et al. (2004a) emphasized the importance of a multi-channel service delivery strategy from government to its citizens. From the results of their study carried out in the Donegal County Council in Ireland, it was found that, generally, citizens supported online delivery of services. However, the importance of physical delivery was also highlighted. This suggests that governments should support a multi-channel delivery model by utilizing the advantages of web-enabled efficiencies and also retaining physical interaction with citizens (Scott et al., 2004a).

The findings of this research show that end-users of public sector projects had varying capabilities and a clear digital divide between them⁵⁴⁰. However, the persistence of the *client-MoE* to convince the end-users to use the electronic online mode to input data caused much distress⁵⁴¹. There were approximately 2500 schools in the New Zealand public sector where the Novopay system was rolled out (the number of schools may vary, hence an approximate figure is used). Among these schools roughly 1000 did not face any issues in transitioning to the new payroll system. A further 1000 schools had some issues here and there. However, with some help and extra work they were able to mitigate them. This left a group of around 500 schools who could not cope with the new system at all. In an e-government transition project, the possible needs of the whole sector should be considered. All of the end-users may not have similar capabilities, and supporting them through generic or standardized methods may not achieve desired objectives. In order to deal with the digital divide, various governments have started to consider alternate means to provide service delivery to their citizens (Dwivedi et al., 2011). Generalising training requirements of end-users who have different capabilities could be ineffective.

Recommendation

5. End-users of public sector projects are diverse with varying capabilities and needs. In order to increase the acceptability of a new system, multiple training methods should be used. This should be preceded by exercises to assess their capabilities and segmentation into groups. Otherwise, end-users may lose interest and involve themselves less, which in effect may not prepare them adequately. In worst case conditions, transition objectives will not be achieved.

6.6.3 Dependence on Adequate Infrastructure

Dwivedi et al. (2011) suggested that the success of e-government depends upon how governments encourage their citizens to use their online public services. To take up online services and benefit from e-government, different segments of the society should be equipped with basic understanding of ICT and have access to a high-speed internet

⁵⁴⁰ Chapter 4, Section: 4.3.8.1

⁵⁴¹ Chapter 4, Section: 4.3.9.7

connection. The findings of this study show that some schools had issues with the internet and infrastructure, which was realized late by MoE. One of the strategies to improve confidence in end-users is to properly train them so that they feel confident in transitioning to a new system. Care must be taken to devise training modules that increase their personal capacity and technical capability. If end-users are not satisfied with their training, they may feel threatened and unprepared for the transition-system.

6.6.4 Training program

If end-users' preferences and capabilities do not align with training programs they may be reluctant to complete those programs, which could cause a lack of preparedness. The findings of this study suggest that self-confidence and the ability to carry out tasks using a new business model are important factors in adopting a new system⁵⁴². In order to build this confidence, an initial impression carries the utmost significance. Therefore, governments need to ensure that initial impressions should be pleasant. Wang & Doong (2010) also suggest that, apart from being a sponsor of an e-government project, governments also have the responsibility to *diffuse* a new system to end-users. Based upon *innovation diffusion theory*, Wang & Doong (2010) analysed the diffusion pattern in a tax e-filing system (TEFS) project in Taiwan. It was found that external influences, like promotional activities, played a limited role in influencing citizens, whereas *word-of-mouth* between citizens played a critical role (Wang & Doong, 2010). If end-users are not satisfied with their initial interaction then it may result in a negative impression, becoming wide-spread through word of mouth. This highlights the importance of the initial positive interaction with the new system.

A literature review on e-government diffusion carried out by Zhang et al. (2014) mentioned that most studies focussed primarily on planned or formal diffusion processes, whereas spontaneous or informal diffusion processes were neglected. It may be inferred that since government agencies mainly rely on private vendors for diffusion approaches, the excessive use of short-term and more visible, result-oriented diffusion approaches had been used. In the case of Novopay, it was the vendor who was responsible for training⁵⁴³.

⁵⁴² Chapter 4, Section: 4.3.9

⁵⁴³ Chapter 4, Section: 4.3.8

Rolling out a beta system for training should occur well before the actual go-live date, in order to solicit and respond to feedback from end-users. If beta systems are rolled out close to the deadlines to go-live then the feedback of end-users may not be incorporated. If their feedback is not incorporated, then they may not be satisfied with the system. In this study, the beta system was rolled out in the second phase of training. Practising on the beta system made end-users realize that it was taking more time and effort than expected to complete simpler tasks, with no assurances about their accuracy and correctness. The findings of this study also show that end-users had access issues with the beta-system,⁵⁴⁴ which created noise and negative impressions even before the system went live.

Governments may face issues in convincing their citizens/end-users to actively take part in training programs as they cannot simply direct end-users to participate. Convincing end-users to take up training and prepare themselves for using the actual system could be tricky – especially considering that certain segments of end-users are not happy with a generic mode of training. It is immaterial how well the functional requirements are implemented or how much automation a new system has, if end-users are not able to use it, then the system might still be considered *a failure*. Segmenting end-users based upon their feedback and providing training separately could be useful. Incentives should be used to encourage end-users to take up training. Acceptance and diffusion of transition systems used should be carried out gradually.

6.6.5 Comparison with private retail

In order to increase the usage of electronic forms of delivery, governments can learn from private retail companies. The latter have e-commerce websites in which they use loyalty programs to keep their customers focussed on choosing their brands. They also take advantage of specialised software like CRM to encourage customers to return again and buy products or services (Davison et al., 2005). In comparison, governments have different competition. Although governments may provide different channels for their citizens to receive services, their own preferred mode, typically in e-government, is *electronic*. Governments, therefore, have a competition between their manual and electronic services. Davison et al. (2005) suggest that governments should therefore encourage *digital loyalty* and design e-government services in such a way that end-users

⁵⁴⁴ Chapter 4, Section: 4.3.8.4

should transact with this system easily. Customized front-ends with varying functionalities for different end-users could be beneficial.

6.6.6 Gradual change

When undergoing a transition project end-users expect a similar level of care and ease of use from a new system and its associated services. If a new system is expected to increase workload or change end-user roles, then changing the mode of service model may impose an extra pressure. End-users may even find difficulties in coping with multiple changes. Therefore, a gradual change is considered more appropriate. Changing the system first and then later carrying out the change in service model may provide a better chance of *acceptance* from end-users. However, a gradual and staggered approach might take more time and effort, which could be considered as a complex undertaking.

This is particularly relevant when a project is already delayed, then clients may feel compelled to lean towards a single-phase roll out. Certain scenarios can only be validated in a real-time environment. Therefore, a gradual roll-out by having a *pilot* can provide better outcomes. In Novopay, it was wrongly decided that a less complex roll-out approach should be undertaken. This was to save time and effort ⁵⁴⁵. In hindsight, a gradual roll-out would have uncovered issues found in the operational phase.

Recommendation

6. In public sector projects, end-users have varying capabilities. Significance of their training is of utmost importance. Therefore, as the new vendors may overlook the diverse needs of end-users, end-users' training for transition should be managed by the client or carefully followed up with vendors.

6.6.7 External dependencies

Lauesen (2012) carried out a study to understand the reasons for failure of the IT System for Land Registration and Ownership in Denmark. This system caused a national disaster in Denmark for end-users selling and getting mortgages. Using the new system took months to complete the whole process and owners ended up paying higher

⁵⁴⁵ Chapter 4, Section: 4.3.5.3

interest rates. It was concluded that, although the system worked as intended, the main issues were due to overloading of staff in the registry office (Soren Lauesen, 2012). When the Land Registration and Ownership system went live, it generated more than the expected number of manual requests for authorization. Expectations were that citizens would use *DanID* (the national digital signature) but due to its complexity and maintenance, it was not properly managed. Consequently, lawyers had to get manual authorisation on behalf of their clients from the registry office. The registry office could not manage the large number of these requests as they did not expect this substantial quantity of requests.

These external dependencies should be considered and possible alternatives or permanent solutions should be put in place. Lauesen (2012) discussed the importance of usability testing and simulated environments for end-users to record issues and observations of their interaction with the system. In order to improve the rate of acceptance, end-users' capabilities should be tracked and a log should be maintained. This exercise should not necessarily be tied to any specific project, rather it should be continuous and on-going. Expert external vendors can also be employed to keep track of such progress and develop user-centred design perspectives to improve usability.

Recommendation

7. It is onerous to determine all the external dependencies of a new system. Therefore, certain scenarios from login credentials, browser compatibility, infrastructure and service readiness should ideally be validated by following a staggered implementation.

6.6.8 Feedback of end-users

Trust in governments to deliver necessary services online is one of the confidence-building measures for their citizens. The Singapore Government has created an *online feedback unit* in order to improve end-users' trust and to create a sense of contribution for citizens. Through this website, government and citizens can interact more directly (Srivastava & Teo, 2009). A similar portal could be created for transition projects to receive timely feedback from end-users.

If end-users are not satisfied with the new service-model they may revert back to the previous model. This may cause issues for the whole service delivery. For instance, in

Novopay, when end-users faced issues in using the electronic portal/website for submitting transactions, they switched back to the old manual process of submitting transactions through service-centres. However, the new service model was not set up to handle a large number of manual transactions. Similarly, in the QH payroll it was decided to centralise payment processing by taking control from individual hospitals and centralising it in major central hubs. The effect of this business process change was that payroll officers who were previously familiar with local arrangements at specific hospitals lacked connection and relationship with end-users. An excerpt taken from the QH payroll project report noted: “We now had people trying to contact payroll, contacting somebody who did not even work in Queensland Health and did not know Queensland Health let alone payroll taking a message, telling the payroll officer, who, by this time is still trying to deal with other matters, and having to ring them back and them getting abused because it took so long, or they could not answer” ⁵⁴⁶. Similar to Novopay, in the QH Payroll, this change caused end-users to contact the service-desk more than anticipated. The resulting increase in volume *choked* the service-centres. “The unexpectedly high number of payroll inquiries meant that payroll staff were distracted from their ordinary duties because they had been directed to answer telephone enquiries” ⁵⁴⁷.

It is not unusual for end-users to follow certain activities, which can give them assurances about the reliability of their operations. For example, in the Novopay case end-users reconciled and validated their submitted transactions through SUE and Transaction Reports ⁵⁴⁸. From a new system, end-users can expect to have similar validation routines readily available. If these routines are not available then end-users might use less-optimal and time-consuming means to validate and reconcile their transactions.

In the Novopay case end-users/payroll administrators took screen shots of every transaction, then took print outs and kept hard copies in registers and files for the purpose of manual validation. This resulted in extra work and a source of discontent. Any extra work required while using a new system could result in discontentment.

Recommendation

8. If a new system and/or service delivery model is expected to increase the effort of end-users, then it may generate resistance from them. Therefore, successful

⁵⁴⁶ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 160

⁵⁴⁷ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 160

⁵⁴⁸ Chapter 4, Section: 4.3.9.6

completion of transition should be linked to a KPI that quantifies the difference between the number of end-users successfully using new business processes in comparison to those who are unable to use new processes and therefore continue to use the old business process.

6.7 Customizations of COTS

6.7.1 Demand for change in business processes

When an incumbent legacy system is being replaced with a new state of the art COTS based system, it may demand certain changes in business processes. Without making such a back-end business process transformation, there is a risk that complex rules and processes will be set for automation contributing towards additional customizations. Streamlining internal business processes and requirements before embarking upon any endeavour of transition may therefore help smooth the overall process. A research review by Dwivedi et al. (2011) suggests that, previously, the focus of transition projects had been on front-end processes without considering the need to transform back-end processes, which were laden with bureaucracy and red tape. Scott et al. (2004b) also targeted the transforming of back-end business processes, which was expected to address social and political challenges involved in implementation. Similarly, Davison et al. (2005) pointed out that governments should think beyond providing an online interface. Transition projects provide an opportunity to redesign processes. From the results of this study, it was found that public sector agencies have unique rules and complex processes. This can require substantial customizations in COTS-based products⁵⁴⁹. Since these customizations are carried out for a specific client, they cannot be made an integral part of the product, especially customizations that impact upon the core package. Therefore, there is a possibility that validation of add-ons and their overall effect on other modules may not be covered in detail and, therefore, lack thorough analysis.

Recommendation

9. COTS based systems may become bespoke-like, if complex and unique business processes are not simplified prior to transition. Therefore, COTS-based systems should include similar risk rating and plans as a bespoke project, unless the processes are simplified.
Choosing a COTS-based system as a risk mitigation strategy itself, without

⁵⁴⁹ Chapter 4, Section: 4.3.3.1

consideration for simplifying complex business processes, may not achieve desired objectives.

6.7.2 Managing customizations

Outsourcing the development of customizations to specialized third party contracting companies can reduce the workload of the primary vendor. However, the new team members may need some time to upskill as they may not have knowledge of the base product. They may also lack background understanding and knowledge of any defects. Expecting them to resolve defects and get started on a fast track may not be reasonable.

Public sector projects are likely to accommodate and reflect local country-specific legislation requirements. As these requirements are country-specific, therefore, their implementation may require additional customizations in standard COTS products. In order to protect their IP, vendors may create a pre-defined list of contracting companies with whom they are willing to share knowledge of the base-product, which can advance the process of customizations. Contrary to this, making customizations without extensive knowledge of the base-product could result in *on-the-fly* changes that can be difficult to maintain in the long-term. Therefore, it could be beneficial overall for vendors to share knowledge about their internal products with reliable third-party vendors, so that they may bring more informed technical resources to help manage the load and complexity of any customizations.

Rowland & Gieryn (2008), while citing an example of a university-based transfer program, suggest that every university has a unique organizational culture in which employees share tacit knowledge. This type of knowledge is difficult to articulate precisely in an unambiguous algorithmic set of rules which afterwards can be used to match with functionalities of a COTS-based package. In effect, only a subset of differences between the legacy system and new COTS package are considered (Rowland & Gieryn, 2008). This is typical of public sector software-related projects in which complex and embedded business rules are often poorly understood, as in Novopay and the QH payroll. When these differences become apparent, it results in customizations. Thus, the advantages of using COTS can be nullified if customizations are not controlled, and a project may turn into a *bespoke-like* endeavour.

Moreover, if proper documentation about these customizations is not produced then maintenance is reliant upon specific individuals. If these human resources decide to leave that organization a loss of information will result, and subsequent upgrade to a newer version could be risky. Documenting customizations with proper traceability matrices may help reduce reliance upon human resources. However, we found in this study that, after a period of time, interest in keeping documentation up to date reduces, which then results in loss of traceability between documents⁵⁵⁰. If a certain project is delayed and it is already constrained in terms of resources, then keeping documents up-to date might not be the highest priority.

During transition projects client organizations could be tempted to extend their scope. One instance in this study was MoE's decision to change the service model and inaccurately estimating that, since the new system had more automated rules and an electronic interface, the number of staff in service centres could therefore be reduced. Assumptions regarding the capacity and capability of end-users should always be critically evaluated. Ideally, changes that affect a larger group of end-users should also be carried out progressively.

6.8 Delays in Transition projects

Jones (2006) indicated that larger IT projects by their very nature are hazardous. Delays or cost over runs are not exceptions, but a norm. *Delays* in transition-projects have an added dimension in needing to keep supporting BAU through a legacy system that may be becoming obsolete. This might also require managing an outgoing vendor, which will have limited interest in continuing to provide the services.

Genuchten (1991), while describing the reasons for delays in software development, noted that overestimation in planning and under-estimation in complexity are the foremost reasons. Moreover, management failure to provide necessary resources and failure to provide clear requirements also play an active role. It is evident that most of the cited reasons are less technical, rather, they are social in nature. Ma et al. (2000) reviewed literature to identify the causes of schedule slippage in software projects. They posited that it has become difficult to manage projects within a specified time due to the rapidly evolving nature of the software industry, large application sizes, unpredictable

⁵⁵⁰ Chapter 4, Section 4.3.3.2, Sub-section: Inadequate requirements management process

activities and varying processes, contexts and environments. Ma et al. (2000) are also in agreement with Genuchten (1991) about the reasons for most of the slippages, which are less technical and more social in nature – management, organization and personnel related. This coincides with the results of this study. Reluctance to simplify business processes, coordination issues between outgoing and incoming vendors, not recognizing the client's role in clarifying requirements, and unavailability of SMEs to help interpret requirements all played a significant role in delaying the Novopay project.

If a transition project gets delayed the outgoing system may have to be supported and kept in operation for an extended period. This could become a *catch 22* situation in which a client has to negotiate with an outgoing vendor as well as with an incoming vendor to secure suitable terms and conditions. A client is thus bound by an outgoing vendor to operate BAU, potentially for an extended period, until the transition project is completed or another system is acquired. Outgoing vendors at this stage may want to arrange longer-term contracts and possibly suggest to switch to their new system. However, this may not coincide with the client's policies. In Novopay, the client, MoE, neither wanted to take up the new system owned by the outgoing vendor, nor arrange a longer-term contract.

Alternate to the above is a short- to medium-term contract extension with an outgoing vendor, which can reduce immediate threats to BAU. At the same time, the outgoing vendor may get an opportunity to retake the '*lost project*'. Regular extensions of short-term contracts may not be feasible for the client nor for the outgoing vendor. As it creates an uncertain situation, it might be difficult to keep supporting incumbent systems, at short notice, for unspecified periods of time. If third-party contractors are involved, it creates another layer of negotiation.

It was evident in Novopay that the scope was increased during the course of the project to show greater benefit for end-users. Providing NOL for end-users to input data was not originally part of an initial phase of the project⁵⁵¹. NOL was later included within the scope of the initial phase after variations in contract. So, rather than simplifying the project, the scope and complexity were further increased.

⁵⁵¹ Chapter 4, Section: 4.4.1.1

The overlapping of testing-related phases may save time and could be justifiable in certain scenarios, but it also carries an inherent risk of reducing quality. Vendors may push to combine different phases when projects are getting delayed. In the QH payroll project, it was assessed that there was an imminent risk of the incumbent system's failure at any time, because the transition project had taken more than the anticipated time to implement. Therefore, some of the thresholds that were put in place to ensure the quality of the transition project were '*altered or lowered*'. "Had the parties simply adhered to the controls which they had in place at the commencement of the Project, the system would never have progressed to the point at which serious compromises had to be made to Go Live. The system had reached that stage only because of conscious decisions made by the parties to "lower the bar" as Dr Manfield [An expert who was engaged to assess QH payroll system] said by changing the criteria by which it would be permitted to proceed to the next stage and by decisions to downgrade the Severity of defects which had been identified" ⁵⁵². In Novopay, certain validation activities were merged and others were carried out in parallel. For example, data conversion, system configuration, customization and testing were carried out in parallel. In effect, this reduced their overall efficacy and results were based only upon sub-sets of data. Moreover, a planned pilot testing phase involving a small sub-set of schools was removed altogether ⁵⁵³. It was assessed that the pilot might not provide additional benefits as the end-users instead had the opportunity to use the beta-system. However, the beta-system did not have complete functionality to validate either. In the QH payroll project some of the quality criteria were lowered so as to pass the project through to toll-gates. "Entry into UAT did not technically satisfy UAT entry criteria – concessions were made (such as downgrading Severity 1 issues to Severity 3 – P0 & P1) to facilitate progression into UAT4" ⁵⁵⁴. In summary, overlapping multiple validation activities could be justifiable, if timelines are tight. However, it demands proper analysis to be carried out and substantive evidence that it will not affect the overall quality.

Recommendation

10. Delays in a transition project require clients to continue to support BAU and possibly negotiate with the outgoing vendor. This type of extended support for BAU should ideally be negotiated in advance, presumably as a contingency in case of delays in the project schedule. Extension for this type of contract should ideally be for short- to mid-term and communicated across

⁵⁵² Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 96

⁵⁵³ Chapter 4, Section: 4.3.5.4

⁵⁵⁴ Queensland Health Payroll System Commission of Inquiry Report, 2013, pp. 117

all stakeholders as a *fallback plan*, in advance.
If the transition project is terminated, continuity of operations will be ensured through this fallback plan.

6.9 Concluding Remarks

A transition project provides an opportunity for clients to reset their relationship with vendors as well as to simplify their business processes. The whole process has technical as well as social implications. While developing a new relationship, clients must be aware that, although new vendors may bring new perspectives and *fresh pairs of eyes*, the development of a network-based form of relationship with a new vendor will take some time. Establishing a similar level of trust and a loosely defined structure that the client might have had with an outgoing vendor will not occur instantaneously.

Simplifying business processes *before* initiating a transition project, could be beneficial, otherwise a project may become *bespoke*-like. A transition process should not be considered as a one-off exercise, rather, it should be dealt with as a continuum. This process can be initiated again, if certain conditions are not met.

It is unrealistic to expect unconditional support from an outgoing vendor to an incoming vendor. Even if there are contractual stipulations, it may not be feasible for them to have senior human resources available for a project that has already been taken over by their competitor. Outgoing vendors may transfer their human resources on to other projects.

It is naïve to standardize training requirements and service delivery modes for end-users. Categorising and structuring training plans and service delivery modes, accordingly, may be helpful in the overall acceptance of transition by end-users.

Chapter 7. Conclusion

This chapter summarizes the research reported in this thesis, states its overall conclusions, and lists the key contributions made. In addition, implications for researchers and practitioners are mentioned. Research limitations and suggestions for the future are also highlighted.

7.1 Research Summary and Conclusions

The main motivation for this research came from a Systematic Snapshot Mapping (Raza, MacDonell, et al., 2013) (SSM) study carried out in its initial phases. The SSM was conducted to analyse the topics that were being researched in Global Software Engineering. While categorizing research articles according to the timeline of the sourcing process it was found that most of the studies had concentrated on establishing drivers behind sourcing and upon the post-establishment nature of these relationships (including Outsourcing and Insourcing). In other words, the *decision* and *operation* phases of sourcing had been quite actively researched. A limited number of articles had addressed the *transition* phase, the important interim period in which an outgoing vendor is operating BAU and an incoming vendor is implementing the new system. One of the reasons for the limited number of prior studies may be the controversial or sensitive nature of the topic and difficulties in accessing relevant data for researchers, as indicated in Appendix A4. Although transition is not an uncommon phenomenon, especially in the public sector, this phase of outsourcing has not been covered adequately in prior research.

Having identified this gap in the literature, we set out to carry out a case study on the Novopay project. This was a transition-related project centred on the payroll system of the Ministry of Education in New Zealand, which had been outsourced to a New Zealand-based vendor, *Datacom*, since 1995. In 2005, MoE decided to transition this system and contracted *Talent2*, an Australian-based vendor, to develop a new payroll system and take over operations from *Datacom*.

Novopay went live in Aug 2012 and subsequently caused much distress in the education sector of New Zealand. Media picked up on this debacle and provided wide coverage. In accordance with the Official Information Act 1982 of New Zealand, documents and reports about Novopay were published online in 2013. Taking advantage of this

opportunity we undertook a pilot study to analyse a subset of this data to judge whether it was relevant to the *transition* phenomenon. This pilot study (Clear et al., 2013) also helped to establish the feasibility of carrying out a detailed study through the utilization of this non-primary data source. After getting positive feedback and ensuring that the available data was indeed of relevance and interest we set out to conduct a full-scale in-depth case study of Novopay. The types of documents that were made available and were subsequently used in this study are listed in Table 3.3.

Initially, we set out to identify and record the main dilemmas encountered in the transition process. While analysing the data it was found that in order to provide a thick, rich description, the underlying sequence of events could also be explained, and which could be of value to researchers and practitioners. Thereafter, a process-based approach was chosen to provide narratives that would complement the dilemma analysis. In order to keep the dilemmas and narratives grounded in data, extensive quotes are used.

7.1.1 Narratives of a Transition Project

The following conclusions are drawn upon from the Narratives:

- Antecedents for discontinuation of a sourcing relationship could be numerous. Discontinuation can arise due to technical or functional limitations of the incumbent system, an undesirable vendor lock-in situation for the client, excessive maintenance overheads imposed by the vendor, or an inability to bar end-users from following inconsistent policies and procedures. At the same time, there is added benefit for vendors to push their clients to newer versions as it enables vendors to maintain new versions efficiently and generate continuous revenue streams. Incumbent systems could themselves become obsolete due to aging technologies used in their development. As a client, all these antecedents may not be in your control.
- It was also found that sourcing strategies are typically volatile rather than stable. Antecedents for the volatility of sourcing strategies were found to be end-users' dissatisfaction, a lack of or reduction in client control, misalignment with the strategic goals of clients, and extension of legacy system support. In Novopay, *client-MoE* changed their sourcing strategy from BPO to insourcing in Transition1. It had been determined that, after following BPO for more than 10 years, they had lost control and knowledge of their payroll operations. In order

to regain control, an insourcing strategy was chosen. However, after following an insourcing strategy for two years it was realized that the client, MoE, lacked the internal capability for effective ongoing management of the payroll system and processes: insourcing was misaligned with their strategic goals. Therefore, they reverted back to a BPO strategy in Transition2. Thereafter, when the transition project went live end-users faced major and ongoing issues with the new vendor's service delivery model. It was then decided to insource the operations of the service delivery centres.

- When changing sourcing strategies, or discontinuing sourcing relationships, clients in the public sector could be required to carry out a full tender process. Even if the project is functionally the same, due to certain regulatory requirements clients may have no choice but to carry out the tender process. This may involve extra work and burden for clients. In addition, if the incumbent system is becoming obsolete there may be a temptation to carry out the process in haste – a risky strategy.
- COTS-based products are often given preference over bespoke development because of their use at other sites and the associated sharing of maintenance costs. Use of such products, however, likely requires prior refinement of internal business processes. Otherwise extra customizations may be needed and the end-product may become bespoke-like. Moreover, in order to have an effective requirements management process, clients must ensure that relevant human resources are both available and employed. For instance, SME's should be available to help the new vendor interpret requirements and business processes. Similarly, if a new vendor is unaware about the incumbent system's customizations and data, then they may make *on the fly changes* in the original product, contributing towards later difficulties in maintenance. It is also difficult to assess vendors during a tender process, as to how well they will manage customizations and their internal capabilities.
- *Transition* may include the changing of vendors. In such a scenario the incoming vendor is reliant upon the outgoing vendor to provide support in taking over operations. Ideally, human resources should be transferrable from the outgoing to an incoming vendor. This may not be a straightforward endeavour, however. During the interim period, similar human resources may be required for both

BAU and the transition project. Shifting these human-resources to the new project may threaten BAU. Moreover, due to commercial sensitivities it is not always feasible or desirable for an outgoing vendor to keep their resources bound by a project which is already being taken over by a competitor vendor.

Delays in a transition project will likely cause clients to extend their BAU contracts with either the outgoing vendor or with another vendor. This may provide an opportunity for the outgoing vendor to retake the lost project and cooperate less with the incoming vendor.

- Ensuring the preparedness of end-users for the transition and diffusion of a new system should be targeted to their capabilities and preferences. End-users may have varying capabilities and the use of multiple strategies could be more cost-effective. Business process transformation requires ground work to ensure that the necessary infrastructure and dependencies are established.

As an initial impression carries utmost importance, if end-users' first interaction is not satisfying then it could create anxiety. This anxiety may escalate through different channels and, if picked up by the media, can cause distraction for clients and vendors from the actual resolution of issues. A further consequence of the lack of preparation of end-users could be less than anticipated use of new business processes, which in turn may affect other teams.

In Novopay, it was anticipated that the new system had more automated features and online capability to submit transactions – therefore, end-users should take more responsibility and submit transactions online, themselves, which would reduce the need for service centre staff. However, when the transition system went live, end-users found it difficult to use the online mode for submitting transactions and instead used manual means. Service centres could not cope with the large number of manual transactions and it created a vicious cycle.

7.1.2 Dilemmas of a Transition Project

The following conclusions can be drawn from the Dilemmas:

- When discontinuing a sourcing relationship, a client has two main alternatives: 'insourcing' or 'outsourcing'. Insourcing provides better internal control to manage an overall business processes, whereas outsourcing helps share the risks with external vendors. Further, in outsourcing, there are two sub-options:

continue with the same vendor or change the vendor. Continuing with the same vendor may contribute towards loss of control and vendor lock-in, whereas changing vendors requires establishing new relationships.

Complex projects require network-based relationships due to an inability to adequately specify all services to be provided – these relationships are loosely defined and trust-based so must be developed over a period of time. That said, network-based relationships tend to contribute to an over-reliance on vendors and loss of internal control. Therefore, when changing vendors, a client may pursue a contract-based relationship with a new vendor; this may create tension for end-users who could have become reliant on a network-based relationship model with the previous vendor.

- A transition project entails an overlapping interim period in which an incoming and outgoing vendor(s) are simultaneously working with the client. The incoming vendor would be working on the transition project and the outgoing vendor on BAU. Multiple dilemmas could emerge for different stakeholders during this time. The client may need to ensure that human resources are readily available for the transition project but at the same time want minimal disruption to ongoing BAU operations. If a new vendor requires human resources that are being used in BAU then it creates a dilemma for the client. Not providing appropriate human-resources for the transition project could delay the transition project, which would require the client to extend BAU with the outgoing vendor. The outgoing vendor may want to have a longer-term contract but the client would likely prefer a shorter-term contract. In such circumstances it might be inevitable to extend BAU contracts, which may give an opportunity for the outgoing vendor to retake the project.

Delays in a transition project automatically push the continuation of BAU, which requires an extension of the outgoing vendor's contract. At this stage the outgoing vendor may want to push the client into switching to their new version of system or for a longer-term contract. These arrangements may not align with the client's strategic policies. Clients in the public sector may also need to follow an open tender for an extension of any such contracts.

- In case of delays in transition projects clients may establish a contingency option with an outgoing vendor. This option, on one hand, ensures that if the transition

fails, a possible fallback option is available. It also provides a risk mitigation strategy. On the other hand, the outgoing vendor could be motivated to re-take the lost project, which could be a great success story for them. This perception may encourage the outgoing vendor to take advantage of this exploitative relationship. They are thus faced with a dilemma about whether or not to support a competing incoming vendor. This decision could affect the sharing of data, source code, human resources and information about customizations of their incumbent system.

- The dilemma that may arise for clients changing the service delivery model for end-users is whether to choose a customized service delivery model or a standardized model. A customized model could be tailored according to different needs of different end-users but it is more resource intensive and may result in a lack of adherence to standard policies. On the other hand, a standardized service model may increase the workload for end-users and become misaligned with their capabilities. Similarly, for training end-users, one option is to use a standardized approach through an online system in which end-users are expected to be proactive and self-supportive. Another approach is to provide customized training through face to face channels, based upon a one-to-one model. The former is more cost- and time-effective but it relies on end-users to make more effort in training themselves. The latter is more resource intensive but it provides tailored opportunities for end-users. Another option could be to provide customized training to a sub-group of end-users and then create communities of practice, based upon these special end-users, to interact regularly.

7.1.3 Discussion of a Transition Project

The following conclusions can be drawn from the Discussion:

- In order to support vendors during the tender process and create a level playing field between them, clients may need to make some upfront investment and share costs with vendors to evaluate their capabilities. Without this support certain capable vendors may not be able to compete with entrenched vendors. This will also provide a better opportunity for clients to evaluate probable

vendors' capabilities for carrying out customizations. In the current evaluation process there is limited room for evaluating capabilities of customizations.

- A contingency plan is a risk mitigation strategy, in case transition projects fail to go-live. Clients may develop such plans with the outgoing vendor to ensure continuity of operations in adverse conditions. Instead of continuing with an outgoing vendor the client may also choose a new vendor for business continuity. This would, however, require another cycle of tendering and negotiations and would also require the simultaneous management of three vendors – not an especially desirable scenario.
- Network-based relationships are developed with vendors over time. Therefore such relationships cannot be established instantly with a new vendor. Moreover, risk-averse clients in the public sector have a preference for contract-based relationships. However, complex projects and applications may not be well managed through contract-based relations.
- Given their public-facing exposure public sector clients often avoid going into litigation and legal disputes. If there is a possibility that any action would lead to a legal dispute, then, most likely, a public sector client would try to avoid that, particularly during the course of a project. Material breach is a formal notice of non-compliance, which requires parties to rectify the underlying issue or face termination. Sending such a notice may trigger a legal dispute between the vendor and client. Even though, from the legal perspective, the client may be in a strong position, they may not choose to use material breach.
- Data transfer from the old system to the new could become a source of contention between the incoming and outgoing vendors. Understandably, the outgoing vendor may not want to take responsibility for providing data in a format required by the new vendor. Conversely, the new incoming vendor may not have sufficient knowledge and information about the data stored in the old system and also may not want to take on the added responsibility of cleaning and transforming data. Ideally these issues should be settled prior to the initiation of the transition project, and an intermediary format could be chosen.
- End-users may have varying capabilities. Generalizing their needs for communication, training and service delivery could be detrimental. Therefore, multiple channels should be used to cover their diverse capabilities. Clients and

vendors may look at historical data to gather information about how end-users have interacted previously with the system. This information could inform the development of programs for training, communication and service delivery. Any extra work generated for end-users in using new business processes should be properly informed and end-users' confidence should be built-up prior to the go-live date.

- Initial perceptions and interactions of end-users with a new system must be satisfactory. Even if a beta system is used in training, it must be ensured that end-users should be able to perform their normal activities with that version of the system. Otherwise, this may cause anxiety for end-users and this impression will be taken on-board when the actual system goes live. End-users may then show their unhappiness through various channels and the client may not effectively focus on solving actual issues.
- Staggered implementation and using a *pilot* implementation could provide useful insights into end-users' behaviour. It may also unearth certain issues which *slipped-through* and were not identified during other validation activities. Certain scenarios and dependencies might only become evident when a system is used by end-users in a live setting. However, this could be done through a pilot or during a staggered implementation.
- A transition project should entail refinement of the client's business processes to ensure that those business processes are simplified and standardized as far as possible – otherwise it could lead to the provision of uncontrollable customizations. For such customizations, vendors may seek help from third-party companies, but they may not have sufficient knowledge about the base product. Having a predefined list of third-party vendors and creating strategic partnerships with them could be beneficial.

7.1.4 Recommendations

Table 7.1 lists a range of recommendations for client organizations who are involved in transition or who are planning to undertake transition in the future. These are taken from Chapter 6 of this thesis.

Recommendations
<p>1. Transition initiation is not under the control of clients, or any single stakeholder group. Transition is also not a one-off exercise. It should be considered as a continuous process. Therefore, a contemporary approach taken by any stakeholder for its prevention may not be sufficient. Therefore, clients should develop multivariate strategies to manage incumbent vendors whilst supporting end-users and keeping track of the obsolescence of incumbent-systems to become <i>transition-ready</i>.</p>
<p>2. When vendors are being switched (as part of transition), it should be acknowledged that end-users would likely expect a similar level of relationship with any new vendor. End-users may not be supportive of transition if they are not prepared for a new type of relationship with new vendors. It must be noted that a network-based type of relationship cannot be established instantaneously. Rather, they are developed progressively.</p>
<p>3. In a vendor lock-in situation, new vendors should be encouraged to participate in bidding (for the transition project). However, it can be difficult to assess vendors' capabilities to manage customizations. Sharing bidding costs by clients may increase their interest and in order to evaluate new vendors' capabilities for carrying out customizations, new innovative means can be employed, such as developing prototypes in the bidding process. This can also increase collaboration with vendors.</p>
<p>4. Data migration requires knowledge about the incumbent system as well as of the new system. Outgoing and incoming vendors might be reluctant to share knowledge about their respective systems and hence share intellectual property with each other. This can affect data migration. Therefore, before initiating a transition project, responsibilities for data migration and any transformation of data should be negotiated and settled between the outgoing and incoming vendor. An intermediary format for data management, acceptable to both parties, could be considered. Otherwise outgoing and incoming vendors may push this responsibility upon each other.</p>
<p>5. End-users of public sector projects are diverse with varying capabilities and needs. In order to increase the acceptability of a new system, multiple training methods should be used. This should be preceded by exercises to assess their capabilities and segmentation into groups.</p> <p>Otherwise, end-users may lose interest and involve themselves less, which in effect may not prepare them adequately. In worst case conditions, transition objectives will not be achieved.</p>
<p>6. In public sector projects, end-users have varying capabilities. Significance of their training is of utmost importance. Therefore, as the new vendors may overlook the diverse needs of end-users, end-users' training for transition should be managed by the client or carefully followed up with vendors.</p>
<p>7. It is onerous to determine all the external dependencies of a new system. Therefore, certain scenarios from login credentials, browser compatibility, infrastructure and service readiness should ideally be validated by following a staggered implementation.</p>
<p>8. If a new system and/or service delivery model is expected to increase the effort of end-users,</p>

<p>then it may generate resistance from them. Therefore, successful completion of transition should be linked to a KPI that quantifies the difference between the number of end-users successfully using new business processes in comparison to those who are unable to use new processes and therefore continue to use the old business process.</p>
<p>9. COTS based systems may become bespoke-like, if complex and unique business processes are not simplified prior to transition. Therefore, COTS-based systems should include similar risk rating and plans as a bespoke project, unless the processes are simplified. Choosing a COTS-based system as a risk mitigation strategy itself, without consideration for simplifying complex business processes, may not achieve desired objectives.</p>
<p>10. Delays in a transition project require clients to continue to support BAU and possibly negotiate with the outgoing vendor. This type of extended support for BAU should ideally be negotiated in advance, presumably as a contingency in case of delays in the project schedule. Extension for this type of contract should ideally be for short- to mid-term and communicated across all stakeholders as a fallback plan, in advance. If the transition project is terminated, continuity of operations will be ensured through this fallback plan.</p>

Table 7.1 Recommendations for transition

7.2 Research Contributions

When considering the purpose and contribution of research Brinberg & McGrath (1985) identified three separate domains: conceptual, methodological and substantive. They framed them as follows: “All research involves the combination of some set of concepts, some set of methods for making observations and comparing sets of observations, and some set of substantive events that are to be the focus of study”. In arriving at the conclusions reported above this doctoral study has provided contributions across these three domains.

7.2.1 Conceptual

The conceptual domain relates to findings regarding the abstract representation of aspects of the substantive phenomenon. This research provides rich information as narratives to explain the *transition* process. These narratives are then conceptualized and modelled as *antecedent and consequence* diagrams. Moreover, in this research, conflict-filled situations are conceptualized as dilemmas that represent abstractions of the underlying choices and alternatives evident in the data.

7.2.2 Methodological

The methodological domain relates to findings regarding the set of methods used for making and comparing observations. This research demonstrates the utility of publicly available documents and sources in enabling the investigation of a controversial topic, that of *transition*. In this research, the application of multiple data analysis techniques, combining Narrative Analysis and Dilemma Analysis, has been demonstrated.

7.2.3 Substantive

The substantive domain relates to findings regarding the specific phenomenon that is the focus of this research. This research provides rich insights into the *transition* process, through the conduct of an in-depth longitudinal case study. To date this process has received very limited attention.

7.3 Limitations

It is important to acknowledge that there are a number of limitations in this research.

The results of this study are based upon a single, albeit in-depth, case study. Yin (2014) justified the use of a single case study and mentioned five rationales for doing so. Two of those rationales, where a case is *revelatory* and *longitudinal*, are relevant to Novopay, and so warrant the use of a single case study in this research. Transition is not uncommon in practice but this phenomenon has been only minimally researched, which could be due to difficulties in accessing relevant data. This makes Novopay a revealing case. Moreover, the available data represents different time frames over an extended period of time, which provided an opportunity to analyse the underlying phenomenon at multiple points in time, thus making it also unique in this aspect.

The second limitation of this research relates to the use of the *data dump* provided by the Ministry of Education in New Zealand, provided in accordance with the Official Information Act 1982, as the predominant source of information. Verner & Abdullah (2012) suggest that secondary data can be valuable if it has enough relevant information. In order to decide on the relevance of the MoE Novopay data dump we carried out a pilot study on a sub-set of the data. After analysing that subset of documents we concluded that the data available for the project was indeed relevant to the phenomenon of interest. This pilot was then followed up with a full-scale case study. An advantage of using this type of data dump that the analysis is reproducible; given a common data source it is possible to carry out comparative or complementary studies. As an example, a large repository of documents relating to the Queensland Health Payroll System Commission of Inquiry are also available online and can be accessed here: <http://www.healthpayrollinquiry.qld.gov.au/documents2>. The data set comprised a wide range of material which also included relevant meeting minutes, including Cabinet Meeting minutes; status reports, Steering Committee Meeting minutes; Payroll Reference Group meeting minutes and Novopay Board Meeting

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Minutes. There is some likelihood of sanitation of this material to paint often difficult situations in a more positive light for the vendor, suppliers, consultants, ministers and senior officials. But perhaps this risk is reduced, as given the fact that the data was under the ownership of client MoE's representatives. Some sensitive data [usually commercial or personal information] was redacted. Sanitation could be a validity threat, however, the data set comprised wide ranging materials, as indicated in Table 3.3, which covered numerous phases of the Novopay project from the inception of the idea to justification of the project. Therefore, we argue it remains to be a limited threat.

Another related limitation relates to the unstructured format of the data. Since the data was not gathered and published specifically to support a study such as that reported here the researcher had to work with the data 'as is, where is'. One of the negative consequences of this was that it took quite some time for the researcher to become familiar with the data and to establish connections between different concepts. On the other hand, this had the advantage of enabling the researcher to get immersed in the data and to reduce researcher bias in the data analysis. As was experienced here, gaining access to and permission from an organization that is willing to share data that relates to a controversial topic such as transition could be a difficult exercise. In addition, if an organization had carried out transition in the past then it may not be possible to have access to the human resources who could provide objective recollections about the transition. Therefore, data dumps like that made for Novopay can provide researchers with the possibility to explore unexploited and possibly untapped data sources.

Another limitation relates to the constrained coverage of stakeholder groups. Initially we had intended to consider the perspectives of a wider group of stakeholders but due to the limitations of the data we mainly confined ourselves to the Client (Ministry of Education New Zealand), Outgoing vendor (Datacom), Incoming Vendor (*Talent2*), and End-users (payroll administrators and school staff).

The scope of the Novopay transition project covered: setting up a service desk and payroll centres, implementing a payroll system, receiving data extracts from the old system, transforming, cleaning and loading it into the new system, defining and implementing new service support and service delivery processes, and training end-users. This scope could differ from that relevant to other transition projects and this should be considered by other researchers and practitioners when interpreting the results

of this study. Moreover, the Novopay and QH projects were both related to the provision of a payroll system – transition projects in other domains or application areas may reveal different outcomes.

Another limitation arises due to the availability of only limited guidelines for carrying out Dilemma Analysis. It took more than the anticipated time to undertake this part of the research with several backward steps needed during the analysis stage. In order to mitigate this risk regular meetings with senior researchers were conducted and feedback from supervisors and other adjunct professors was sought and incorporated. The number of dilemmas reported could have been increased by *inferring* more than those currently listed, but the conservative approach taken meant that only those dilemmas that were actually grounded and evident in the data, and exhibited at least two competing alternative courses, were derived and reported.

7.4 Future Work and Implications

- The Narratives and Dilemmas described in Chapter 4 and Chapter 5 could be complemented with full scale comparative studies of other transition projects. This may increase the number and coverage of potential dilemmas and complement the narratives reported in this research. It may also help develop a process area for the phenomenon of transition.
- This research provides new insights into the transition stage of outsourcing and adds to the body of knowledge in this area, which to-date has received little attention. The narratives, antecedents/consequences and dilemmas that were derived in this research may be specific to a public-private partnership context but could be used as a baseline to carry out further complementary or replication studies.
- Creating a *dilemma analysis* tool to support stakeholders in supplementing their instincts could be another possible extension for future work. This tool could provide possible alternatives at important decision points and report relevant empirical evidence regarding alternative courses of action along with their possible consequences. Such a tool may help stakeholders to make more informed decisions.
- Theorists may apply the dilemma analysis technique to understand other topics and phenomena. As indicated by Pettigrew (1990), linear theories may not

encapsulate the multifaceted intricacies of '*change*'. Other researchers may also research the different outputs obtained from primary data and secondary data and provide empirical evidence about which of them is suitable to use under which circumstances.

- This research has demonstrated the use of publicly available data in supporting qualitative research. Similar data available for other projects could be explored and used by other researchers.
- The recommendations and implications for practitioners are skewed towards client organizations. These can be extended further in future work to more fully consider the perspective of vendor organizations.

7.4.1 Implication for researchers

- This research has pointed towards a new type of multi-sourcing model in which an outgoing vendor is required to collaborate with an incoming vendor. Traditionally, in multi-sourcing, vendors collaborate and compete at the same time - also known as co-opetition. In transition, however, this co-opetition is carried out between an incoming and outgoing vendor. This area can be further explored.
- Some of the risks listed in the Novopay risk registers were not mitigated – they were essentially ignored. Researchers could develop new mitigation strategies and more proactive risk management approaches, rather than ensuring only that they are noted in registers. One possible solution could be to carry out periodic exercises to analyse *dilemmas* during the course of the project. This can be supported by the use of a tool to support decision makers in applying their intuition and experience when choosing between different alternatives.
- As sourcing strategies are volatile, researchers may extend the list of antecedents, which may contribute towards *setting off* the transition. This area will need more research and in-depth case studies to understand and categorize the antecedents. Practitioners may then use this list of antecedents to become more transition-ready.
- Researchers may also work on establishing criteria to more thoroughly assess a vendor's capabilities in carrying out customizations.

7.4.2 Implication for practitioners

Some significant implications for practitioners are as follows:

- The underlying reasons for discontinuing a sourcing relationship and initiating a transition project are not in any particular stakeholder's control. Clients should anticipate and prepare for a range of scenarios from which *transition* could be triggered.
- It is risky to consider end-users as homogeneous and so choose a standardized approach to train, communicate and develop processes. Segmenting end-users and devising multiple strategies based upon their needs and capabilities should help in delivering a successful transition.
- Success of a transition project should be mapped and linked to KPI's that quantify the number of end-users who satisfactorily use and complete their transactions using the new business process, in comparison to the number of end-users who revert back.
- COTS-based products are usually preferred over bespoke developments due to the associated benefits of cost-sharing, increased maintainability and more straightforward evaluation. However, if internal business processes are not refined, ideally prior to project initiation, then the advantages of COTS adoption could be nullified and the project could become *bespoke-like*.
- Possible areas of conflict between an outgoing and incoming vendor, including the sharing of IP, human resources and data, should be identified, negotiated and settled beforehand.
- Automation of business rules should bring greater standardization. Before setting up for automation, clients should consider simplifying business processes. Otherwise a transition project may be set to automate complex business processes, which in effect may require extensive – but undesirable – customizations.

7.5 Final Remarks

This research sought to address the knowledge gap pertaining to the transition phase of outsourcing. This phase will be relevant for some time – with increases in outsourcing transitions will continue to occur; transition may be unavoidable in certain circumstances, especially when a legacy system becomes unsupportable, in a vendor

lock-in situation, or when a system or vendor is unable to accommodate new demands. Transition can carry forward and perpetuate to another cycle if clients fail to choose the right sourcing model or strategy. Understanding internal capabilities and acknowledging varying capabilities of end-users are imperative in this regard.

In this research multiple instances of evidence are identified from Novopay, and where possible these are compared with observations of the QH payroll project, showing the applicability of both concepts and outcomes. The results of this research are thus more likely generalizable to a public-private partnership (PPP) context given the similarities that are evident between the Queensland Health (QH) Payroll project and Novopay, although a fuller analysis of the QH Payroll project is still to be carried out. This is being considered as a future direction for this research.

References

- Adolph, S., Hall, W., & Kruchten, P. (2011). Using grounded theory to study the experience of software development. *Empirical Software Engineering*, 16(4), 487–513. <http://doi.org/10.1007/s10664-010-9152-6>
- Agbonlahor, W. (2016). Andrew Hampton , chief talent officer , New Zealand government: exclusive interview. Global Government Forum. Retrieved from <http://www.globalgovernmentforum.com/andrew-hampton-chief-talent-officer-new-zealand-government-exclusive-interview/>
- Alaranta, M., & Jarvenpaa, S. L. (2010). Changing IT Providers in Public Sector Outsourcing: Managing the Loss of Experiential Knowledge. In *43rd Hawaii International Conference on System Sciences*. <http://doi.org/10.1109/HICSS.2010.101>
- Ali Babar, M., Verner, J. M., & Nguyen, P. T. (2007). Establishing and maintaining trust in software outsourcing relationships: An empirical investigation. *Journal of Systems and Software*, 80(9), 1438–1449. <http://doi.org/10.1016/j.jss.2006.10.038>
- Archer, S. (1988). Qualitative research and the epistemological problems of the management disciplines. In *in Competitiveness and the Management process* (A. Pettigr, pp. 265–302). Oxford: Basil Blackwell.
- Avison, D. E., Lau, F., Myers, M. D., & Nielsen, P. A. (1999). Action research. *Communications of the ACM*, 42(1), 94–97. <http://doi.org/10.1145/291469.291479>
- Bapna, R., Barua, A., Mani, D., & Mehra, A. (2010). Cooperation, Coordination, and Governance in Multisourcing: An Agenda for Analytical and Empirical Research. *Information Systems Research*, 21(4), 785–795. <http://doi.org/10.1287/isre.1100.0328>
- Bariff, B. M. L., & Ginzberg, M. J. (1982). MIS and the behavioral sciences: research patterns and prescriptions. *SIGMIS Database*, 14(1), 19–26.
- Barney, H. T., Low, G. C., & Aurum, A. (2010). The Morning After: What Happens When Outsourcing Relationships End? In *Information Systems Development*, G. A. Papadopoulos, W. Wojtkowski, G. Wojtkowski, S. Wrycza, and J. Zupancic, Eds., Springer US, 637–644. <http://doi.org/10.1007/b137171>

- Barney, S., Wohlin, C., Chatzipetrou, P., & Angelis, L. (2011). Offshore Insourcing: A Case Study on Software Quality Alignment. *2011 IEEE Sixth International Conference on Global Software Engineering*, 146–155. <http://doi.org/10.1109/ICGSE.2011.13>
- Barthélemy, J., & Adsit, D. (2003). The seven deadly sins of outsourcing. *The Academy of Management Executive*, 17(2), 87–100.
- Baruch, Y., & Lin, C.-P. (2012). All for one, one for all: Coopetition and virtual team performance. *Technological Forecasting and Social Change*, 79(6), 1155–1168. <http://doi.org/10.1016/j.techfore.2012.01.008>
- Beecham, S., Noll, J., Richardson, I., & Dhungana, D. (2011). A Decision Support System for Global Software Development. *2011 IEEE Sixth International Conference on Global Software Engineering Workshop*, 48–53. <http://doi.org/10.1109/ICGSE-W.2011.20>
- Bengtsson, M., & Kock, S. (2000). "Coopetition" in Business Networks—to Cooperate and Compete Simultaneously. *Industrial Marketing Management*, 29(5), 411–426. [http://doi.org/10.1016/S0019-8501\(99\)00067-X](http://doi.org/10.1016/S0019-8501(99)00067-X)
- Bengtsson, M., & Kock, S. (2003). Tension in Co-Opetition. In *Creating and Delivering Value in Marketing. Developments in Marketing Science: Proceedings of the Academy of Marketing Science* (pp. 38–42). Springer International Publishing. http://doi.org/10.1007/978-3-319-11848-2_10
- Benington, J. (2009). Creating the Public In Order To Create Public Value? *International Journal of Public Administration*, 32(3–4), 232–249. <http://doi.org/10.1080/01900690902749578>
- Beulen, E. (2011). Maturing IT Outsourcing Relationships: A Transaction Costs Perspective. In *In Global Sourcing 2011, LNBIP 91*, J. Kotlarsky, L.P. Willcocks, and I. Oshri (Eds.) (pp. 66–79). Springer-Verlag Berlin Heidelberg.
- Beulen, E. (2016). Contract Renewal Decisions in IT-Outsourcing: A Survey in the Netherlands. In J. Kotlarsky, I. Oshri, & L. P. Willcocks (Eds.), *Shared Services and Outsourcing: A Contemporary Outlook. 10th Global Sourcing Workshop 2016, LNBIP 266, Revised Selected Papers*. (pp. 178–192). Cham: Springer

- Beulen, E., & Tiwari, V. (2010). Parallel Transitions in IT Outsourcing : Making It Happen. In *Global Sourcing 2010, LNBIP 55, I. Oshri and J. Kotlarsky (Eds.)* (pp. 55–68). Springer-Verlag Berlin Heidelberg.
- Bhagwatwar, A., Hackney, R., & Desouza, K. C. (2011). Considerations for Information Systems “Backsourcing”: A Framework for Knowledge Re-integration. *Information Systems Management*, 28(2), 165–173. <http://doi.org/10.1080/10580530.2011.562132>
- Bharadwaj, S. S., Saxena, K. B. C., & Halemane, M. D. (2010). Building a successful relationship in business process outsourcing: an exploratory study. *European Journal of Information Systems*, 19(2), 168–180. <http://doi.org/10.1057/ejis.2010.8>
- Bhattacharya, P. J., & Seddon, P. B. (2011). Going Beyond Operations with Enterprise Systems. In *22nd Australasian Conference on Information Systems (29th November to 2nd December 2011, Sydney). ACIS'13*.
- Bleistein, S. J., Cox, K., & Verner, J. (2005). Strategic Alignment in Requirements Analysis for Organizational IT : an Integrated Approach. In *Proceedings of the 2005 ACM symposium on Applied computing* (pp. 1300–1307). Santa Fe, NM, USA. <http://doi.org/10.1145/1066677.1066972>
- Bleistein, S. J., Cox, K., & Verner, J. (2006). Validating strategic alignment of organizational IT requirements using goal modeling and problem diagrams. *The Journal of Systems and Software*, 79, 362–378. <http://doi.org/10.1016/j.jss.2005.04.033>
- Bleistein, S. J., Cox, K., Verner, J., & Phalp, K. T. (2006a). B-SCP: A requirements analysis framework for validating strategic alignment of organizational IT based on strategy, context, and process. *Information and Software Technology*, 48(9), 846–868. <http://doi.org/10.1016/j.infsof.2005.12.001>
- Bleistein, S. J., Cox, K., Verner, J., & Phalp, K. T. (2006b). Requirements engineering for e-business advantage. *Requirements Engineering*, 11(1), 4–16. <http://doi.org/10.1007/s00766-005-0012-7>
- Brinberg, D., & McGrath, J. (1985). *Validity and the Research Process*. Beverly Hills, 222

California: SAGE.

- Butler, N., Slack, F., & Walton, J. (2011). IS/IT Backsourcing - A Case of Outsourcing in Reverse?. In *Proceedings of the 44th Hawaii International Conference on System Sciences(HICSS'11)* (pp. 1–10). <http://doi.org/10.1109/HICSS.2011.261>
- Carmel, E. (1999). *Global software teams: collaborating across borders and time zones*. Prentice Hall, Upper Saddle River, N.J.
- Carver, J. (2007). The Use of Grounded Theory in Empirical Software Engineering. V. Basili et Al. (Eds.): *Empirical Software Engineering Issues, LNCS 4336, Springer-Verlag Berlin Heidelberg*, 42.
- Chesterman, R. N. (2013). *Queensland Health Payroll System Commission of Inquiry Report*. Retrieved from http://www.healthpayrollinquiry.qld.gov.au/__data/assets/pdf_file/0014/207203/Queensland-Health-Payroll-System-Commission-of-Inquiry-Report-31-July-2013.pdf
- Chua, C. E. H., Lim, W.-K., Soh, C., & Sia, S. K. (2012). Client strategies in vendor transition: A threat balancing perspective. *The Journal of Strategic Information Systems*, 21, 72–83. <http://doi.org/10.1016/j.jsis.2011.12.001>
- Chua, C. E. H., Lim, W. K., Sia, S. K., & Soh, C. (2008). Threat balancing in vendor transition. In *Third International Research Workshop on Information Technology Project Management* (pp. 19–26). Paris, France.
- Chua, W. F. (1986). Radical Developments in Accounting Thought. *The Accounting Review*, 61(4), 601–632.
- Clear, T., & MacDonell, S. G. (2011). Understanding technology use in global virtual teams: Research methodologies and methods. *Information and Software Technology*, 53, 994–1011. <http://doi.org/10.1016/j.infsof.2011.01.011>
- Clear, T., Raza, B., & MacDonell, S. G. (2013). A Critical Evaluation of Failure in a Nearshore Outsourcing Project What dilemma analysis can tell us. In *Proceedings of the 8th International Conference on Global Software Engineering (ICGSE'13)* (pp. 178–187). Bari. <http://doi.org/10.1109/ICGSE.2013.31>

- Computer Weekly News. (2010, September). Government scraps £12.7bn NHS National Programme for IT. Retrieved from <http://www.computerweekly.com/news/1280093737/Government-scraps-127bn-NHS-National-Programme-for-IT>
- Cordella, A., & Willcocks, L. (2012). Government policy, public value and IT outsourcing: The strategic case of ASPIRE. *The Journal of Strategic Information Systems*, 21(4), 295–307. <http://doi.org/10.1016/j.jsis.2012.10.007>
- Cox, M., Roberts, M., & Walton, J. (2012). IT Outsourcing in the Public Sector Local Government: Experiences of the management and selection of IT service providers. *The Electronic Journal Information Systems Evaluation*, 15(3), 231–243.
- Creswell, J. W., & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice*, 39(3), 124–130.
- Cruzes, D. S., & Dyba, T. (2011). Recommended Steps for Thematic Synthesis in Software Engineering. *International Symposium on Empirical Software Engineering and Measurement*, (7491), 275–284. <http://doi.org/10.1109/ESEM.2011.36>
- Cuban, L. (1992). Managing Dilemmas While Building Professional Communities. *Educational Researcher*, 21(1), 4–11.
- Cullen, S., Seddon, P., & Willcocks, L. P. (2006). *Managing Outsourcing: The Lifecycle Imperative* (No. 139).
- Czarniawska, B. (1997). *Narrating the Organization*. Chicago: Chicago University Press.
- Davison, R. M., Wagner, C., & Ma, L. C. K. (2005). From government to e-government: a transition model. *Information Technology & People*, 18(3), 280–299. <http://doi.org/10.1108/09593840510615888>
- Dawson, R., Brereton, P., & Jackson, M. Lou. (2004). Empirical Methodologies in Software Engineering. In *Proceedings of the 11th Annual International Workshop on Software Technology and Engineering Practice (STEP'03)* (pp. 52–58).

- Delone, W. H., & Mclean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems*, 19(4), 9–30. <http://doi.org/10.1080/07421222.2003.11045748>
- Deventer, S. Van, & Singh, H. (2012). The impact of switching costs on the decision to retain or replace IT outsourcing vendors. In *Proceedings of the 23rd Australasian Conference on Information Systems (ACIS'12)* (pp. 1–9).
- Devos, J., Landeghem, H. Van, & Deschoolmeester, D. (2013). Narratives of an Outsourced Information Systems Failure in a Small Enterprise. In S. B. Heidelberg (Ed.), *Grand Successes and Failures in IT. Public and Private Sectors. Vol. 402* (Y. Dwivedi, pp. 57–72).
- Dibbern, J., Goles, T., Hirschheim, R., & Jayatilaka, B. (2004). Information Systems Outsourcing: A Survey and Analysis of the Literature. *ACM SIGMIS Database*, 35(4), 6–102. <http://doi.org/10.1145/1035233.1035236>
- Dwivedi, Y. K., Weerakkody, V., & Janssen, M. (2011). Moving Towards Maturity: Challenges to Successful Implementation and Diffusion. *The DATA BASE for Advances in Information Systems*, 42(4), 11–22. <http://doi.org/10.1145/2096140.2096142>
- DWP cancelled £300m Fujitsu deal over transition deadline failures. (2011). *Computer Weekly*. 17 March 2011, (November). Retrieved from <http://www.computerweekly.com/news/1280097324/DWP-cancelled-300m-Fujitsu-deal-over-transition-deadline-failures>
- Dybå, T. (2013). Contextualizing Empirical Evidence. *IEEE Software*, 30(1), 81–83.
- Easterbrook, S., Singer, J., Storey, M.-A., & Damian, D. (2008). Selecting Empirical Methods for Software Engineering Research. In *Guide to Advanced Empirical Software Engineering* (F. Shull e, pp. 285–311). London: Springer-Verlag.
- Fincham, R. (2002). Narratives of Success and Failure in Systems Development. *British Journal of Management*, 13, 1–14.
- Firestone, W. a. (1993). Data as Applied to Qualitative Research. *Qualitative Research*, 22(4), 16–23.

- Fitzgerald, B., & Howcroft, D. (1998). Competing Dichotomies In IS Research And Possible Strategies For Resolution. In *Proceedings of the International Conference on Information systems, ICIS '98* (pp. 155–164). Helsinki, Finland.
- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2), 219–245. <http://doi.org/10.1177/1077800405284363>
- Forbath, T., Brooks, P., & Dass, A. (2008). Beyond Cost Reduction: Using Collaboration to Increase Innovation in Global Software Development Projects. In *Proceedings of the Third International Conference on Global Software Engineering (ICGSE '08)* (pp. 205–209). <http://doi.org/10.1109/ICGSE.2008.32>
- Garvin, D. A. (1997). The Processes of Organization and Management. *Sloan Management Review*, 4(39), 33–50.
- Gauld, R., & Goldfinch, S. (2006). *Dangerous enthusiasms: e-government, computer failure and information system development*. Otago University Press.
- Gheondea-Eladi, A. (2014). Is qualitative research generalizable? *Journal of Community Positive Practices*, XIV(3), 114–124. <http://doi.org/ISSN 2247-6571>
- Gill, J. (2000). Some New Zealand public sector outsourcing experiences. *Journal of Change Management*, 1(3), 280–291. <http://doi.org/10.1080/714042468>
- Glass, R. L., Vessey, I., & Ramesh, V. (2002). Research in software engineering: an analysis of the literature. *Information and Software Technology*, 44(8), 491–506. [http://doi.org/10.1016/S0950-5849\(02\)00049-6](http://doi.org/10.1016/S0950-5849(02)00049-6)
- Gregor, S. (2006). The nature of theory in information systems. *MIS Quarterly*, 30(3), 611–642.
- Grim-Yefsah, M. (2011). Changing Provider in an Outsourced Information System Project- Good Practices for Knowledge Transfer. In *Proceedings of the International Conference on Knowledge Management and Information Sharing (KMIS '11)* (pp. 318–321).
- Hall, K. (2011, March). Government to Shelve 32 ICT Projects. *Computer Weekly*, (November). Retrieved from www.computerweekly.com/news/1280095343/Government-to-shelve-32-ICT-

projects

- Harrison, R., & Wells, M. (2000). A Meta-analysis of Multidisciplinary Research. In *Empirical Assessment in Software Engineering (EASE)* (pp. 1–15).
- Herz, T. P., Hamel, F., Uebernickel, F., & Brenner, W. (2012a). Global IT Multisourcing: Objectives, Challenges and Requirements In Multinational Insurance Companies. In *Proceedings of the 16th Pacific Asia Conference on Information Systems (PACIS)*.
- Herz, T. P., Hamel, F., Uebernickel, F., & Brenner, W. (2012b). IT Governance Mechanisms in Multisourcing--A Business Group Perspective. In *Proceedings of the 45th Hawaii International Conference on System Sciences (HICSS'12)* (pp. 5033–5042). Ieee. <http://doi.org/10.1109/HICSS.2012.30>
- Hochstetter, J., & Cares, C. (2012). Call for Software Tenders: Features and Research Problems. In *Proceedings of the 7th International Conference on Software Engineering Advances (ICSEA'12), Lisboa, 18-23 November*. Retrieved from http://www.thinkmind.org/index.php?view=article&articleid=icsea_2012_12_10_10037
- Hossain, E., Bannerman, P. L., & Jeffery, D. R. (2011). Scrum Practices in Global Software Development: A Research Framework. In *Proceedings of the 12th international conference on Product-focused software process improvement (PROFESS'11)* (pp. 88–102).
- Host, M., & Runeson, P. (2007). Checklists for Software Engineering Case Study Research. In *First International Symposium on Empirical Software Engineering and Measurement (ESEM 2007)* (pp. 479–481). Ieee. <http://doi.org/10.1109/ESEM.2007.46>
- Jarvenpaa, S. L. (1990). Panning for Gold in Information Systems Research: “Second-Hand” Data. In H.-E. Nissen, H. K. Klein, & R. Hirschheim (Eds.), *Proceedings of the IFIP TC/WG 8.2, Working Conference on the Information Systems Research Arena of the 90s Challenges, Perceptions and Alternative Approaches (14-16 Dec., 1990, Copenhagen)* (pp. 63–80).
- Jin, X., & Kotlarsky, J. (2012). A Conceptual Framework of Knowledge Integration in

- Multisourcing Arrangements. In *Proceedings of the Thirty Third International Conference on Information Systems (ICIS'12)*, (pp. 1–20).
- Jin, X., Kotlarsky, J., & Oshri, I. (2014). Towards Understanding Knowledge Integration in Multi-Sourcing Engagements. *Springer-Verlag Berlin Heidelberg 2014 R. Hirschheim et Al. (Eds.), Information Systems Outsourcing, Progress in IS*, 273–287. <http://doi.org/10.1007/978-3-662-43820-6>
- Johns, G. (2006). The Essential Impact of Context on Organizational Behavior. *Academy of Management Review*, 31(2), 386–408.
- Jones, C. (2006). CrossTalk 2006-06: Why Projects Fail. *The Journal of Defense Software Engineering*, 19(6), 4–9.
- Jowitt, T. (2010, January). Cost of Labour's Botched IT Projects Exposed. *Tech Week Europe*. Retrieved from www.techweekeurope.co.uk/news/news-government-it/cost-of-labours-botched-it-projects-exposed-3076
- Karanja, E., & Patel, S. C. (2012). A review of research trends in strategic information-systems planning. *International Journal of Business Information Systems*, 10(2), 151. <http://doi.org/10.1504/IJBIS.2012.047145>
- Karolak DW. (1998). *Global Software Development: Managing Virtual Teams and Environments*. IEEE Computer Society, Los Alamitos, Calif.
- Kern, T., & Willcocks, L. P. (2002). The Winner's Curse in IT Outsourcing: Strategies For Avoiding Relational Trauma. *California Management Review*, 44(2), 47–69.
- Kettl, D. F. (2005). *The Global Public Management Revolution* (Second). Washington, D.C.: Brookings Institution Press.
- Khan, S. U., Niazi, M., & Ahmad, R. (2009). Critical Success Factors for Offshore Software Development Outsourcing Vendors: A Systematic Literature Review. In *Proceedings of the Fourth International Conference on Global Software Engineering (ICGSE' 09)* (pp. 207–216). Ieee. <http://doi.org/10.1109/ICGSE.2009.28>
- Kitchenham, B., Pickard, L., & Pfleeger, S. L. (1995). Case studies for method and tool evaluation. *IEEE Software*, 12(4), 52–62.

- Klein, H. K., & Myers, M. D. (1999). A Set of Principles For Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, 23(1), 67–93.
- Kotlarsky, J., & Bognar, L. (2012). Understanding the process of back sourcing: two cases of process and product back sourcing in Europe. *Journal of Information Technology Teaching Cases*, 2(2), 79–86. <http://doi.org/10.1057/jittc.2012.7>
- Lacity, M. C., Solomon, S., Yan, A., & Willcocks, L. P. (2011). Business process outsourcing studies: a critical review and research directions. *Journal of Information Technology*, 26(4), 221–258. <http://doi.org/10.1057/jit.2011.25>
- Langley, A., Mintzberg, H., Pitcher, P., Posada, E., & Saint-Macary, J. (1995). Opening up Decision Making: The View from the Black Stool. *Organization Science*, 6(3), 260–279.
- Lauesen, S. (2012). Why the electronic land registry failed. *18th International Working Conference, Requirement Engineering: Foundation for Software Quality*, 1–15. http://doi.org/10.1007/978-3-642-28714-5_1
- Lauesen, S., & Vium, J. P. (2004). Experiences from a tender process. In *In: Regnell et al. (eds.): Proceedings of REFSQ'04, Riga, Essener Informatik Beitrage* (pp. 29–46). Retrieved from <http://www.it-c.dk/people/slauesen/Papers/SupplierSelection3.pdf>
- Lee, J., Huynh, M. Q., & Chi-wai, K. R. (2000). The Evolution of Outsourcing Research: What is the Next Issue? In *Proceedings of the 33rd Hawaii International Conference on Systems Sciences* (Vol. 0, pp. 1–10).
- Lever, S. (1997). An Analysis of Managerial Motivations Behind Outsourcing Practices in Human Resources. *Human Resource Planning*, 20(2), 37–47.
- Lilja, K. K., Lindén, A., & Jaakkola, H. (2011). The Importance of a Common Language in the Requirements Defining Process. In *Proceedings of PICMET '11: Technology Management in the Energy Smart World* (pp. 1–16). Portland, OR.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park California: Sage Publications.

- Loebecke, C., Van Fenema, P. C., & Powell, P. (1999). Co-opetition and knowledge transfer. *SIGMIS Database*, 30(2), 14–25. <http://doi.org/10.1145/383371.383373>
- Ma, Z., Collofello, J. S., & Smith-Daniels, D. E. (2000). Improving software on-time delivery: an investigation of project delays. *2000 IEEE Aerospace Conference. Proceedings (Cat. No.00TH8484)*, 4. <http://doi.org/10.1109/AERO.2000.878454>
- Markus, L., & Robey, D. (1988). Information technology and organizational change: causal structure in theory and research. *Management Science*, 34(5), 583–598.
- Matthews, P. (2013). Opinion: Early lessons from Novopay. Retrieved from <http://computerworld.co.nz/news.nsf/news/opinion-early-lessons-from-novopay>
- McKernan, J. (1991). *Curriculum Action Research*. London: Kogan Page.
- McLaughlin, D., & Peppard, J. (2006). IT Backsourcing: From “ Make or Buy ” TO “ Bringing IT Back In-House .” In *Proceedings of the 14th European Conference on Information Systems (ECIS'06)*.
- McLaughlin, L. (2003). An eye on India: outsourcing debate continues. *IEEE Software*, 20(3), 114–117. <http://doi.org/10.1109/MS.2003.1196336>
- Mingers, J. (2001). Combining IS Research Methods: Towards a Pluralist Methodology. *Information Systems Research*, 12(3), 240–259. <http://doi.org/10.1287/isre.12.3.240.9709>
- Mirani, R. (2006). Client-Vendor Relationships in Offshore Applications Development : An Evolutionary Framework. *Information Resources Management Journal*, 19(4), 72–86.
- Mishra, A., & Mishra, D. (2011). E-Government - Exploring the Different Dimensions Of Challenges, Implementation, and Success Factors. *Data Base for Advances in Information Systems*, 42(4), 23–37. <http://doi.org/10.1145/2096140.2096143>
- Mitchell, C. (1983). Case and situation analysis. *The Sociological Review*, 31(2), 187–211. <http://doi.org/10.1111/j.1467-954X.1983.tb00387.x>
- Moe, N. B., Smite, D., & Hanssen, G. K. (2012). From Offshore Outsourcing to Offshore Insourcing: Three Stories. *2012 IEEE Seventh International Conference on Global Software Engineering*, 1–10. <http://doi.org/10.1109/ICGSE.2012.33>

- Morisio, M., Seaman, C. B., Parra, A. T., Basili, V. R., Kraft, S. E., & Condon, S. E. (2000). Investigating and Improving a COTS-Based Software Development Process. In *International Conference on Software Engineering (ICSE)* (pp. 31–40).
- Myers, M. D. (1997). Qualitative Research in Information Systems. *MIS Quarterly*, 21(2), 241–242.
- Myers, M. D., & Klein, H. K. (2011). A Set of Principles For Conducting Critical Research In Information Systems. *MIS Quarterly*, 35(1), 17–36.
- Newman, M., & Robey, D. (1992). A Social Process Model of User- Analyst Relationships. *MIS Quarterly*, 16(2), 249–266.
- O'Reilly, M., & Parker, N. (2013). “Unsatisfactory Saturation”: A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, 13(2), 190–197. <http://doi.org/10.1177/1468794112446106>
- OECD. (2001). *Understanding the Digital Divide*. OECD Publications Paris.
- Oemig, C. (2015). When Analysts turn into Boxers: An Introduction to Pre-Sales Requirements Engineering. *Complex Systems Informatics and Modeling Quarterly*, (3), 1–14. <http://doi.org/10.7250/csimq.2015-3.01>
- Olzmann, M., & Wynn, M. (2011). Switching IT Outsourcing Providers – a Conceptual Framework and Initial Assessment of Critical Success Factors. In *Third International Conferences on Advanced Service Computing Switching* (pp. 38–45). Rome, Italy.
- Olzmann, M., & Wynn, M. (2012). How to Switch IT Service Providers : Recommendations for a Successful Transition. *International Journal on Advances in Intelligent Systems*, 5(1), 209–219.
- Orlikowski, W., & Baroudi, J. J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research*, 2(1), 1–28.
- Oshri, I., Kotlarsky, J., & Willcocks, L. (2007). Managing Dispersed Expertise in IT Offshore Outsourcing: Lessons from Tata Consultancy Services. *MIS Quarterly Executive*, 6(2), 53–65.

- Paech, B., Heinrich, R., Zorn-Pauli, G., Jung, A., & Tadjiky, S. (2012). Answering a Request for Proposal - Challenges and Proposed Solutions. *Requirements Engineering: Foundation for Software Quality, REFSQ 12, 18th International Working Conference, LNCS 7195*, 16–29. <http://doi.org/10.1007/978-3-642-28714-5>
- Pentland, B. T. (1999). Building process theory with narrative: from description to explanation. *The Academy of Management Review*, 24(4), 711–724.
- Perry, D. E., Sim, S. E., & Easterbrook, S. M. (2004). Case studies for software engineers. In *Proceedings of the 26th International Conference on Software Engineering (ICSE'04)* (pp. 736–738). IEEE Comput. Soc. <http://doi.org/10.1109/ICSE.2004.1317512>
- Petersen, K., & Wohlin, C. (2009). Context in Industrial Software Engineering Research. In *Third International Symposium on Empirical Software Engineering and Measurement (ESEM'09)*.
- Pettigrew, A. M. (1990). Longitudinal field research on change: theory and practice. *Organizational Science, Special Issue: Longitudinal Field Research Methods for Studying Processes of Organizational Change*, 1(3), 267–292. <http://doi.org/10.1287/orsc.1.3.267>
- Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies*, 47(11), 1451–1458. <http://doi.org/10.1016/j.ijnurstu.2010.06.004>
- Ponomariov, B., & Kingsley, G. (2008). Applicability of the Normative Model of Outsourcing in the Public Sector: The Case of a State Transportation Agency. *Public Organization Review*, 8, 253–272. <http://doi.org/10.1007/s11115-008-0059-2>
- Poole, M., & Van de Ven, A. (1989). Using Paradox to Build Management and Organization Theories. *The Academy of Management Review*, 14(4), 562–578. <http://doi.org/10.5465/AMR.1989.4308389>
- Prikladnicki, R., Damian, D., & Audy, J. L. N. (2008). Patterns of Evolution in the Practice of Distributed Software Development in Wholly Owned Subsidiaries: A

- Preliminary Capability Model. In *Proceedings of the Third International Conference on Global Software Engineering (ICGSE '08) on Global Software Engineering* (pp. 99–108). Ieee. <http://doi.org/10.1109/ICGSE.2008.36>
- Ramamani, M. (2006). Offshore Subsidiary Engagement Effectiveness: The Role of Subsidiary Capabilities and Parent - Subsidiary Interdependence. In *Proceedings of the First Midwest United States Association for Information Systems, (MWAIS 2006)*.
- Raymond, L., Uwizeyemungu, S., & Bergeron, F. (2006). Motivations to implement ERP in e-government : an analysis from success stories. *Electronic Government*, 3(3), 225–240. <http://doi.org/10.1504/EG.2006.009597>
- Raza, B., Clear, T., & Macdonell, S. G. (2014). Lessons from Novopay and Queensland Health Payroll. *IITP Techblog*. Retrieved from http://www.techblog.co.nz/677-LessonsfromNovopayandQueenslandHealthPayroll?utm_source=email
- Raza, B., Clear, T., & Macdonell, S. G. (2015). Onshore to Near-Shore Outsourcing Transitions : Unpacking Tensions. In *Proceedings of the 10th International Conference on Global Software Engineering Workshops (ICGSEW'15)* (pp. 1–6). Ciudad Real. <http://doi.org/10.1109/ICGSEW.2015.11>
- Raza, B., Macdonell, S. G., & Clear, T. (2013). Topics and Treatments in Global Software Engineering Research – A Systematic Snapshot. In *Proceedings of the 8th International Conference on Evaluation of Novel Approaches in Software Engineering (ENASE'13)* (pp. 85–96).
- Raza, B., MacDonell, S. G., & Clear, T. (2013). Research in Global Software Engineering: A Systematic Snapshot. In J. Filipe & L. A. Maciaszek (Eds.), *Evaluation of Novel Approaches to Software Engineering (ENASE'13), Communications in Computer and Information Science(CCIS)*, (Vol. 417, pp. 126–140). Berlin, Heidelberg: Springer. http://doi.org/10.1007/978-3-642-54092-9_9
- Robert K. Yin. (1994). *Case Study Research: Design and Methods* (Second ed.). Sage Publications.
- Robert K. Yin. (2014). *Case Study Research: Design and Methods* (5th ed.). Sage Publications.

- Rowland, N. J., & Gieryn, T. F. (2008). *Transfer Troubles: Outsourcing Information Technology in Higher Education*. (T. Pinch & R. Swedberg, Eds.) *Living in a material world: economic sociology meets science and technology*. Cambridge, Massachusetts: MIT Press.
<http://doi.org/10.7551/mitpress/9780262162524.003.0002>
- Runeson, P., & Höst, M. (2009). Guidelines for conducting and reporting case study research in software engineering. *Empirical Software Engineering*, 14(2), 131–164. <http://doi.org/10.1007/s10664-008-9102-8>
- Rusk, J. (2013). Price-based tendering to blame for Novopay? Retrieved from http://www.iitp.org.nz/newsletter/article/416?utm_source=index
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (Fifth Ed.). Essex, UK: Prentice Hall.
- Scott, M., Golden, W., & Hughes, M. (2004a). A Click And Bricks Strategy For eGovernment. In *Proceedings of the 17th Bled BCommerce Conference “eGlobal”* (pp. 1–14). Bled, Slovenia.
- Scott, M., Golden, W., & Hughes, M. (2004b). Implementation Strategies for E-Government: A Stakeholder Analysis Approach. In *In the 12th European Conference on Information Systems, Turku, Finland* (pp. 203–215).
- Seaman, C. B. (1999). Qualitative methods in empirical studies of software engineering. *IEEE Transactions on Software Engineering*, 25(4), 557–572.
<http://doi.org/10.1109/32.799955>
- Searcy, T. (2009). *RFPs Suck! How to Master the RfP System Once and for All to Win Big Business*. New York: Channel V Books.
- Seddon, P., & Scheepers, R. (2012). Towards the improved treatment of generalization of knowledge claims in IS research: drawing general conclusions from samples. *European Journal of Information Systems*, 21(1), 6–21.
<http://doi.org/10.1057/ejis.2011.9>
- Shareef, M. A., Kumar, V., Kumar, U., & Dwivedi, Y. K. (2011). e-Government Adoption Model (GAM): Differing service maturity levels. *Government Information Quarterly*, 28, 17–35. <http://doi.org/10.1016/j.giq.2010.05.006>

- Shu Hui, W., Othman, R., Hj Omar, N., Abdul Rahman, R., & Husna Haron, N. (2011). Procurement issues in Malaysia. *International Journal of Public Sector Management*, 24(6), 567–593. <http://doi.org/10.1108/09513551111163666>
- Sia, S. K., Kiat, L. W., & Periasamy, K. P. (2010). Switching IT Outsourcing Suppliers : Enhancing Transition Readiness. *MIS Quarterly Executive*, 9(1), 23–33.
- Smite, D., Wohlin, C., Feldt, R., & Gorschek, T. (2008). Reporting Empirical Research in Global Software Engineering: A Classification Scheme. In *Proceedings of the Third International Conference on Global Software Engineering* (pp. 173–181). <http://doi.org/10.1109/ICGSE.2008.22>
- Smite, D., Wohlin, C., Galviņa, Z., & Prikladnicki, R. (2014). An empirically based terminology and taxonomy for global software engineering. *Empirical Software Engineering*, 19(1), 105–153. <http://doi.org/10.1007/s10664-012-9217-9>
- Šmite, D., Wohlin, C., Gorschek, T., & Feldt, R. (2009). Empirical evidence in global software engineering: a systematic review. *Empirical Software Engineering*, 15(1), 91–118. <http://doi.org/10.1007/s10664-009-9123-y>
- Smol, D. (2013). Government Rules of Sourcing: Rules for planning your procurement, approaching the market and contracting. Retrieved from www.procurement.govt.nz
- Srivastava, S. C., & Teo, T. S. H. (2009). Citizen trust development for e-government adoption and usage: Insights from young adults in Singapore. *Communications of the Association for Information Systems*, 25, 359–378.
- Srivastava, S. C., & Teo, T. S. H. (2011). Development and impact of e-government: the intertwined role of e-commerce from a cross-country stakeholder's perspective. *Electronic Government, an International Journal*, 8(2/3), 144–163. <http://doi.org/10.1504/EG.2011.039834>
- Srivastava, S. C., Teo, T. S. H., & Mohapatra, P. S. (2008). Business-Related Determinants of Offshoring Intensity. *Information Resource Management Journal*, 21(1), 44–58. <http://doi.org/10.4018/irmj.2008010103>
- Su, N., & Levina, N. (2011). Global Multisourcing Strategy : Integrating Learning From Manufacturing Into IT Service Outsourcing. *IEEE Transactions on Engineering Management*, 58(4), 717–729.

- Talanquer, V., Tomanek, D., & Novodvorsky, I. (2007). Revealing Student Teachers' Thinking through Dilemma Analysis. *Journal of Science Teacher Education*, 18(3), 399–421. <http://doi.org/10.1007/s10972-007-9047-6>
- Thomas, K. (2007). Outsourcing is more than just saving money. Retrieved from <http://www.ft.com/cms/s/0/29ca3f0a-fa4a-11db-8bd0-000b5df10621.html#axzz2dQdVNSNY>
- Thomas, P., & Nandakumar, A. (2006). *Switching Vendors, an Outsourcing Reality. White Paper by Cognizant Technology Solutions*. Retrieved from <http://docplayer.net/10460019-Switching-vendors-an-outsourcing-reality.html>
- Tiwana, A., Bush, A. a., Tsuji, H., Yoshida, K., & Sakurai, A. (2008). Myths and paradoxes in Japanese IT offshoring. *Communications of the ACM*, 51(10), 141. <http://doi.org/10.1145/1400181.1400212>
- Urquhart, C., Lehmann, H., & Myers, M. D. (2009). Putting the “theory” back into grounded theory: guidelines for grounded theory studies in information systems. *Information Systems Journal*, 20(4), 357–381. <http://doi.org/10.1111/j.1365-2575.2009.00328.x>
- van Genuchten, M. (1991). Why is software late? An empirical study of reasons for delay in software development. *IEEE Transactions on Software Engineering*, 17(6), 582–590. <http://doi.org/10.1109/32.87283>
- Veltri, N. F., Saunders, C. S., & Kavan, C. B. (2008). Information Systems Backsourcing: Correcting Problems and Responding to Opportunities. *California Management Review*, 51(1), 50–76.
- Verner, J. M., & Abdullah, L. M. (2012). Exploratory case study research: Outsourced project failure. *Information and Software Technology*, 54(8), 866–886. <http://doi.org/10.1016/j.infsof.2011.11.001>
- Verner, J. M., Sampson, J., Tasic, V., Abu Bakar, N. A., & Kitchenham, B. A. (2009). Guidelines for industrially-based multiple case studies in software engineering. In *Proceedings of the 3rd International Conference on Research Challenges in Information Science (RCIS'09)* (pp. 313–324). Ieee. <http://doi.org/10.1109/RCIS.2009.5089295>

- Vessey, I., Ramesh, V., & Glass, R. L. (2005). A unified classification system for research in the computing disciplines. *Information and Software Technology*, 47, 245–255. <http://doi.org/10.1016/j.infsof.2004.08.006>
- Walsham, G. (1995). Interpretive case studies in IS research : nature and method. *European Journal of Information Systems*, 4, 74–81.
- Wang, H.-C., & Doong, H.-S. (2010). Does government effort or citizen word-of-mouth determine e-Government service diffusion? *Behaviour & Information Technology*, 29(4), 415–422. <http://doi.org/10.1080/01449291003639897>
- Whitten, D. (2010). Adaptability in IT Sourcing: The Impact of Switching Costs. *Lecture Notes in Business Information Processing: Global Sourcing of Information Technology and Business Processes*, 55, 202–216.
- Whitten, D., Chakrabarty, S., & Wakefield, R. (2010). The strategic choice to continue outsourcing, switch vendors, or backsource: Do switching costs matter? *Information & Management*, 47(3), 167–175. <http://doi.org/10.1016/j.im.2010.01.006>
- Whitten, D., & Leidner, D. (2006). Bringing IT Back: An Analysis of the Decision to Backsource or Switch Vendors. *Decision Sciences*, 37(4), 605–621. <http://doi.org/10.1111/j.1540-5414.2006.00140.x>
- Winter, R. (1982). “ Dilemma Analysis ”: A contribution to methodology for action research. *Cambridge Journal of Education*, 12(3), 161–174. <http://doi.org/10.1080/0305764820120303>
- Wohlin, C., Runeson, P., Höst, M., Ohlsson, M. C., Regnell, B., & Wesslén, A. (2012). *Experimentation in Software Engineering*. Berlin, Heidelberg: Springer Berlin Heidelberg. <http://doi.org/10.1007/978-3-642-29044-2>
- Yakhlef, A., & Sié, L. (2012). From Producer to Purchaser of IT Services : interactional Knowledge. *Knowledge and Process Management*, 19(2), 79–90. <http://doi.org/10.1002/kpm>
- Yang, K., Hsieh, J. Y., & Li, T. S. (2007). Contracting Capacity and Perceived Contracting Performance: Nonlinear Effects and the Role of Time. *Public Administration Review*, 69(4), 681–696.

- Young, S., & Macinati, M. S. (2012). Health Outsourcing / Backsourcing Case studies in the Australian and Italian health sector. *Public Management Review*, 14(6), 771–794.
- Zhang, H., Xu, X., & Xiao, J. (2014). Diffusion of e-government: A literature review and directions for future directions. *Government Information Quarterly*, 31(4), 631–636. <http://doi.org/10.1016/j.giq.2013.10.013>

Appendix A 1

In order to show the representation of different stages of data analysis carried out in this research, this appendix presents sample lists of quotes along with sources header files. These sample quotes are taken from sections 4.2.1, section 4.3.1 and section 4.4.6 of this thesis. The following table lists their section numbers and their corresponding reference foot-note numbers. These quotes are then shown in different phases of data analysis in the next appendices.

Section	Foot-note	Section	Foot-note	Section	Foot-note
4.2.1	42	4.3.1	112	4.4.6	431
	43		117		433
	44		121		435
	45		125		436
	46		130		437
	47		139		441
	48		142		
	49		144		
	50		146		

Datacom Payroll Application Sustainability Review

Prepared for:
Ministry of Education

Prepared by:
Equinox Limited

August 2004

Ministry of Education

2 Executive Summary

"Foot-note: 42"

The two major sustainability issues identified in this report are the unsupported versions of the Teacher/Manager Server operating system and database currently used in the ESCs and ESPC.

The Microsoft Windows NT 3.51 operating system used in the majority of ESCs has been unsupported by Microsoft since September 2002, and version 7.2.x of the Oracle Database has been unsupported since October 2000.



Cabinet

Minute of Decision

This document contains information for the New Zealand Cabinet. It must be treated in confidence and handled in accordance with any security classification, or other endorsement. The information can only be released, including under the Official Information Act 1982, by persons with the appropriate authority.

Chair, Cabinet Committee on Government Expenditure and Administration

Copies to:

Prime Minister
Deputy Prime Minister
Minister of Finance
Hon Jim Anderton
Minister of Justice
Minister of State Services
Minister of Education
Minister for Courts
Controller and Auditor-General
Chief Parliamentary Counsel
Secretary, EXG



Report of the Cabinet Committee on Government Expenditure and Administration: Period Ended 3 June 2005

On 7 June 2005, Cabinet made the following decisions on the work of the Cabinet Committee on Government Expenditure and Administration for the period ended 3 June 2005.



Cabinet Committee on Government Expenditure and Administration

Minute of Decision

This document contains information for the New Zealand Cabinet. It must be treated in confidence and handled in accordance with any security classification, or other endorsement. The information can only be released, including under the Official Information Act 1982, by persons with the appropriate authority.



In Confidence

CAB Min (05) 20/2

- e. **Customer satisfaction risk** – the lack of timely access to HR/Payroll information means that schools are less than adequately supported in planning resourcing requirements, managing attestation, managing recruitment and performance management, as well as a number of other administrative activities.

"Foot-note: 43"

- c. **Compliance risk** – employment agreements are being interpreted manually in different pay centres, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements.

"Foot-note: 44"



memo

To: Leadership Team
Cc:
From: Anne Jackson, Deputy Secretary Schooling
Date: 25 May 2007 File: SCHOOLS' PAYROLL PROJECT
Subject: Schools' Payroll Project: Recommendations for Next Steps

- 57 Extending the time of operation on the existing TM4/DATAPAY system means that the ministry will be the sole user of TM4/DATAPAY for an extended period of time. Datacom is currently migrating its clients to JETPAY and expects to have completed this before June 2011. The ministry will therefore bear all costs and risks of a functionally and technically obsolete system.

Foot-note: 45



SCHOOLS' PAYROLL REVISED STAGE TWO BUSINESS CASE


November 2007

Foot-note: 46

Loss of ministry Intellectual Property (IP)/control (Priority 4)

The ministry's management of the outsourced payroll service provider led to substantial loss of ministry visibility and knowledge of payroll processes, systems, and performance. This reduced the ability of the ministry to effectively manage the payroll service provider.

Sample quotes alongwith their source file header. These are used as foot-notes: 42, 43, 44, 44, 45 and 46


MINISTRY OF EDUCATION
Te Tihuhu o te Mātauranga


SCHOOLS' PAYROLL

**REVISED
STAGE TWO BUSINESS CASE**

November 2007

"Foot-note: 47"


Lack of contestability of the payroll service
 Lack of Ministry knowledge placed the incumbent vendor in a monopolist role, with the Ministry uncertain about whether it was getting value for money and whether it had an accurate view of service performance and risk.

 **Commercial: In Confidence** *MCE*

**Cabinet Committee on
Government Expenditure
and Administration** **EXG (05) 9**


30 May 2005
Copy No: 28

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a. **Contestability risk** – it is difficult for the Ministry to change providers because the software is bespoke, owned by the existing service provider, and working practices are undocumented.

"Foot-note: 48"


MINISTRY OF EDUCATION
Te Tihuhu o te Mātauranga


**Stage 2 Business Case
for
Schools' Payroll Project Cluster**

Version: 1.0
4th May 2005


"Foot-note: 49"

4.2.5 Access to Payroll Information / Absence of HR Information

The lack of access for schools to the payroll system is hindering their ability to effectively manage their employees. Direct access to information would also lower the transaction cost involved with these inquiries, both for the central payroll operation and the schools making the inquiries.


MINISTRY OF EDUCATION
Te Tihuhu o te Mātauranga

memo

To: Leadership Team
 Cc:
 From: Anne Jackson, Deputy Secretary Schooling
 Date: 25 May 2007 File: SCHOOLS' PAYROLL PROJECT
 Subject: Schools' Payroll Project: Recommendations for Next Steps

56 Extending the time required to run the existing systems raises the risk of some kind of public failure. This may be through a failure of the payroll itself so that significant number of staff are paid incorrectly or an inability to implement government policy (e.g. tax changes, superannuation).

"Foot-note: 50"

Sample quotes alongwith their source file header. These are used as foot-notes: 47, 48, 49 and 50

SCHOOLS' PAYROLL

REVISED STAGE TWO BUSINESS CASE

November 2007

"Foot-note: 112"

To maintain its reputation in the marketplace Datacom is very unlikely to engage in behaviour that could place the schools' payroll at risk during any transition.

IN CONFIDENCE

Monitored Major Projects Quarterly Report: October-December 2011

High Risk Projects

HIGH RISK
Increasing

Minedu: Novopay Project (Schools' Payroll)

"Foot-note: 117"

... have been less responsive to requests for necessary assistance to understand the data in their current system. There has been a number of delays to urgent requests for assistance

Ministry of Education

Novopay Project

Independent Quality Assurance Report

Rebaseline Health Check Review

Date: 13 July 2010

Version: v1.0 Final



"Foot-note: 121"

While both Datacom and Talent2 recognise the risk, there are commercial sensitivities which also complicate their ability to be fully transparent and collaborative in developing mitigations. We are concerned that

Sample quotes alongwith their source file header. These are used as foot-notes: 112, 117 and 121

CONFIDENTIAL



memo
+

To: Anne Jackson; Deputy Secretary Schools
Lesley Longstone, Chief Executive

Cc: The Novopay Board (Ministry Personnel Only)

From: Leanne Gibson Chief Information Officer

Date: 19 April 2012 File:

Subject Recommendations associated with the outcome of the Warning Letter issued to Talent 2 on the 5th April

"Foot-note: 125"

Though this sounds promising, both organizations have independently stated that they would not work with each other as business partners. Experience states that unless the Ministry acts as the lead integrator (which is a very hard role) then this solution is highly likely to fail.



The Ministry of Education Project Novopay Review Report

Published: 29 January 2010

Extrinsic Services Limited,
PO Box 10-654, Wellington 6143

Commercial in Confidence

Telephone: +64 (4) 477 4174
www.extrinsic.com

"Foot-note: 130"

Any ongoing issues regarding payroll data have potential to affect the schools' usage of the online payroll system, with resulting impacts on the capacity of pay centres to manage the payroll accurately.

Sample quotes alongwith their source file header. These are used as foot-notes: 125, 130

Deletions have been made under section 9(2)(b)(ii) of the Official Information Act to protect information where making the information available would likely unreasonably prejudice the commercial position of the person who supplied or is the subject of that information.

There do not appear to be overriding public interest reasons that support the release of the information withheld.

Manage Service Delivery Service Schedule

PROVISION OF FULLY OUTSOURCED PAYROLL SERVICES FOR THE SCHOOLS' SECTOR

The Sovereign in right of the Government of New Zealand (the *Ministry*)

Talent2 NZ Limited (*Supplier*)

"Foot-note: 139"

- (a) the Ministry acknowledges that in order for the Supplier to meet its obligations under clause 3.1 the Ministry will need to make relevant Ministry personnel available in a reasonably timely fashion to answer queries from the Supplier on the Ministry's business requirements and those business processes of the Ministry that will interface with the Supplier business processes to be developed

2 May 2013

National Office

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Fax: 0-4-463 8001
www.minedu.govt.nz

Zoe Griffiths
Director
Ministerial Inquiry into Novopay
C/o Chief Executive's Office
Secretary for Education

Dear Zoe

Ministry responses to letter dated 23 April 2013

"Foot-note: 142"

The SMEs had often gained all their payroll knowledge at Datacom in the schools payroll. This meant that the SMEs sometimes expected that the new payroll would automate pre-existing manual processes rather than use the full capabilities of a modern payroll system with which they were not familiar.

Sample quotes alongwith their source file header. These are used as foot-notes: 139, 142

Assessment and Improvement of Culture in the Novopay Project

For Ministry of Education

CHANGE DYNAMICS LTD

June 2011

Authored by: Bronwyn Anderson

PO Box 162, Otaki, 5542

Cell: 021 818 636. bronwyn@changed.co.nz

"Foot-note: 144"

There is a lack of clarity around roles and responsibilities and who owns what,
Many people were concerned that the vendor had no plan for transitioning into the change
management phase, and setting up the service part of the contract with a "go live" date a year
away.

NOVOPAY BOARD MEETING 90 MINUTES Talent 2

Attendees	Anne Jackson (AJ) Buddy Keirse (BK) Judith Johnston (JJ) Kevin Wilson (KW) Rob Fox (RF) (by phone), David Cashmore (DC)
Apologies	Leanne Gibson Tina Cornelius
Meeting Date	3:30pm – 5pm 21 January 2009
Meeting Purpose	Novopay Board Meeting (Schools' Payroll Project) Meeting # 90
Distribution Date	23 January 2009
Distribution List	Anne Jackson (AJ) Tina Cornelius (TC) Buddy Keirse (BK) Leanne Gibson (LG) Judith Johnston (JJ) Kevin Wilson (KW) David Cashmore (DC)
Minutes Reported By	
Status	Draft for review – v0.1 (watermarked)

"Foot-note: 146"

There are two many people involved
with tasks being moved from one person to the next which causes delays in delivery.

Sample quotes alongwith their source file header. These are used as foot-notes: 144, 146

MoE: Novopay Project (Schools' Payroll)



Project Purpose

The purpose of the Novopay Project (Schools' Payroll Transition Project) is to transition from the existing payroll services for the Education Service Payroll (ESP), run by Datacom, to the new fully outsourced payroll services, run by the new supplier Talent2 (T2). Note: The current payroll system is obsolete and there is no right to renew after October 2012.

Highlighted by bilal raza (04/03/14 19:16) in 'My Library'

Project Status Indicators	This Quarter	Trend	Last Quarter	SSC Risk Assessment	
Overall Project Status	AMBER	▼	AMBER	Current Risk	HIGH
Schedule	AMBER	▼	RED	Previous Quarter	HIGH
Budget	GREEN	—	GREEN	Inherent Risk	HIGH
Scope / Deliverables	GREEN	—	AMBER		
Resources	GREEN	—	AMBER		

Major Issues

"Foot-note: 431"

The Novopay service desk has been performing poorly. Schools have experienced long wait times (upwards of nine minutes) with many schools abandoning attempts to get through (typically 30% to 50%).



Appendix D

Initiative B4 - Assess School Payroll Process Improvement Opportunities

"Foot-note 433"

Users generally felt they had to wait a long time to get through to the Service Desk. When they got through, they felt that service agents were not able to help them without either having to put them on hold (to seek advice from a supervisor) or transferring them to another agent. This was seen to be frustrating, as the users had to

Sample quotes alongwith their source file header. These are used as foot-notes: 431, 433

NOVOPAY PROJECT BOARD MINUTES
MTG 134 THURSDAY 9 AUGUST 2012, 10.30AM-12NOON

Chair	Anne Jackson		
Attendees	Rowena Phair	Rebecca Elvy	Leanne Gibson
	Tina Cornelius	Judith Johnston	Grant Dennis - PwC
	Vaughan Crouch	David Miller	Mel Wallwork - SSC
	Mary Sue Rogers - T2	John Rawlinson - T2	Brian Ashton - T2
	Greg Davidson - Datacom	[REDACTED] - minutes	
Key Advisors/ Observers	Craig Reid	Duncan Boennic - T2	Annette Highnam - Datacom
	Don Sykes – Asparona	Rob O'Connell - Assurity	James Jong
	[REDACTED]	Vaughan Harrison – PwC	
Apologies	Mike Askew - Datacom		

"Foot-note: 436"

While many of these errors have been remedied, there is still the impression of continuing errors, which taints the experience.

NOVOPAY PROJECT BOARD MINUTES
MTG 136 WEDNESDAY 6 SEPTEMBER 2012, 10:30AM-12.00NOON

Chair	Anne Jackson / Rowena Phair		
Attendees	Leanne Gibson	Tina Cornelius	David Miller
	Grant Dennis - PwC	Mel Wallwork - SSC	Judith Johnston
	Vaughan Crouch	John Rawlinson - T2	Brian Ashton - T2
	Mary Sue Rogers - T2	[REDACTED] - minutes	
Key Advisors/ Observers	Craig Reid	David Cashmore	Duncan Boennic - T2
	Ian Rogers (Asparona)	Rob O'Connell (Assurity)	
Apologies	Rebecca Elvy, [REDACTED]		

"Foot-note: 437"

Service Centre has received 154,000 payroll instructions over the past 14 days, which is significantly more than had been expected. The team is currently



Programme Initiation Document (PID) Novopay Remediation Programme

"Foot-note:441"

28 February 2013

This will ensure users can contact the service centre at times that suit them, without having to wait on hold or wait for a call back that may come when they are no longer available.

NOVOPAY PROJECT BOARD MINUTES
MTG 137 WEDNESDAY 4 OCTOBER 2012, 10:30AM-12.00NOON

Chair	Rowena Phair		
Attendees	Leanne Gibson	Rebecca Elvy,	Tina Cornelius
	David Miller	Mel Wallwork (SSC)	Judith Johnston
	Vaughan Crouch	Brian Ashton (T2)	John Rawlinson (T2)
	Mary Sue Rogers (T2)	[REDACTED] - minutes	
Key Advisors/ Observers	Craig Reid	James Jong	[REDACTED]
	Duncan Boennic (T2)		
Apologies	David Cashmore, Grant Dennis (PwC)		

"Foot-note:435"

Administrators try to use the system, they encounter an issue and call or email the Service Centre; when they don't receive a helpful response and the payroll deadline approaches, they escalate their problems to all channels that are available to them, which includes ESP, Deputy Secretaries, Lesley Longstone and the Minister.

Sample quotes alongwith their source file header. These are used as foot-notes: 436, 437, 441, 435

Appendix A 2 (i)

In this sub-appendix, the sample list of quotes are shown in NVivo 10. These are the same sample of quotes which are mentioned in the Appendix A 1.

Appendix A2 is divided in three parts, A2(i) lists the quotes taken from section 4.2.1.

novopay_shared_iteration_9_merging_codes - Copy.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Group Coding Comparison Compound Group Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_3rd party issues
D_Alesco
D_Communication Issues
D_Confidence on Nov
D_Configuration Management_D
D_Cost and quality issue
D_Culture team
D_Custom work milestone_D
D_Data Entry
D_Data issues_D
D_Datacom contract
D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
D_Evaluation of Tenders
D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue

Text Search Query - Results P **Min_Inquiry**

[Click to edit](#)

Min_Inq28 Aug-04 Equinox
Datacom Payroll Application Sustainability Review

Since 1995 the Ministry of Education's payroll system has been outsourced to Datacom. This outsourcing agreement includes the data capture, system operation, facilities management and application support for the system.

No ministry of education staff interacts with the system directly, instead schools forward payroll details to one of four processing centres by telephone, fax or email and the data entry is done by Datacom PayServe or other Datacom sub-contracted organisations. Reports and data analysis are provided to the schools and the Ministry from the system

"Foot-note:42"

Min_Inq29 Aug-04 Equinox
Datacom Payroll Application Sustainability Review

The two major sustainability issues identified in this report are the unsupported versions of the TeacherManager Server operating system and database currently used in the ESCs and ESPC. The Microsoft Windows NT 3.51 operating system used in the majority of ESCs has been unsupported by Microsoft since September 2002, and version 7.2.x of the Oracle Database has been unsupported since October 2000.

The risks associated with remaining on unsupported products include little likelihood that the vendors will provide any assistance if an issue does arise, new generation hardware not having the device drivers required to run the Windows NT 3.51 operating system, and the inability to undertake enhancements due to the risk associated with making changes to an

Sample quote as shown in shown in Nvivo 10, foot-note number:42

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue
D_OP_Stabalization Actions
D_OP_Suggestion to improve
D_OP_System issues
D_OP_Usability
D_OP_User experience
D_OP_User Feedback Post
D_Relationship_D
D_Replacement options
D_Resistant Factors
D_Resource Constraints_D
D_risks and issues
D_Scope
D_Service
D_Specification (requirements)_D
D_Stakeholders
D_System Integration Testing
D_TR_Go-Live Milestone
D_TR_Joint Exit Possibility
D_TR_Leave balances
D_TR_Material Breach
D_TR_NOS
D_TR_OP_Media Publicity
D_TR_OP_Online uptake
D_TR_OP_Payslips
D_TR_OP_Service1

Text Search Query - Results P Min_Inquiry Text Search Query - Results P Background_Novopay

[Click to edit](#)

Bak_Nov4 Jun-05 Cabinet
TheMinistry_NovopayProject_Background_Historical
CabinetDocuments_CABMin_05_20_2

Contestability risk — it is difficult for the Ministry to change providers because the software is bespoke, owned by the existing service provider, and working practices are undocumented.

Technical risk — the system is constructed using sunset technologies. Year on year, it is becoming more difficult to support and maintain the system. The risk of payroll failure is therefore increasing.

Compliance risk employment agreements are being interpreted manually in different pay centres, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements.

Accountability risk — while the Ministry is legally accountable for the correct payment of remuneration to employees and to the Inland Revenue Department for taxation, it is reliant on Datacom for application of the business rules resulting in correct payments. This creates a risk that employee employment conditions may not be met.

Customer satisfaction risk — the lack of timely access to HR/Payroll information means that schools are less than adequately supported in planning resourcing requirements, managing attestation, managing recruitment and performance management, as well as a number of other administrative activities.

"Foot-note: 43"

Bak_Nov5 Jun-05 Cabinet
TheMinistry_NovopayProject_Background_Historical
CabinetDocuments_CABMin_05_20_2

To provide a low risk, efficiently operated, accurate and reliable payroll service that provides smarter services and improved access to payroll and human resources information. The

Sample quote as shown in shown in Nvivo 10, foot-note number:43

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue
D_OP_Stabalization Actions
D_OP_Suggestion to improve
D_OP_System issues
D_OP_Usability
D_OP_User experience
D_OP_User Feedback Post
D_Relationship_D
D_Replacement options
D_Resistant Factors
D_Resource Constraints_D
D_risks and issues
D_Scope
D_Service
D_Specification (requirements)_D
D_Stakeholders

Sources

- Nodes

Text Search Query - Results P

Min_Inquiry

Text Search Query - Results P

Background_Novopa

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Min_Inq66 **May-05** **MoE** **Stage 2 Business Case**

Functional obsolescence — the service does not provide the range of functionality required of a modern payroll service. For example there is no on—line access; no leave management; and no linking of salaries to pay grades.

Lack of HR/Payroll information — there is no Human Resources (HR)information held in the current system and schools do not have access to the payroll information that is held in the system and which is necessary for inquiries, analysis and decision—making. This hinders their ability to effectively manage their employees. The system is also unable to support the more complex information and research needs of the Ministry.

Lack of control — the Ministry has gradually lost visibility and knowledge of the operation and application of the Payroll service as the operational information is largely held by the existing service provider. This has increased the risk associated with delivering accurate and timely payments to teachers and support staff.

"Foot-note: 44"

Min_Inq67 **May-05** **MoE** **Stage 2 Business Case**

Contestability risk — it is difficult for the Ministry to change providers because the software is bespoke, owned by' the existing service provider, and working practices are undocumented.

Technical risk — the system is constructed using “sunset” technologies. Year on year, it is becoming more difficult to support and maintain the system. The risk of payroll failure is therefore increasing.

Compliance risk — employment agreements are being interpreted manually in different pay centres, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements.

Sample quote as shown in shown in Nvivo 10, foot-note number:44

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name

- D_3rd party issues
- D_Alesco
- D_Communication Issues
- D_Confidence on Nov
- D_Configuration Management_D
- D_Cost and quality issue
- D_Culture team
- D_Custom work milestone_D
- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Specialization Actions

Text Search Query - Results P
Min_Inquiry
Click to edit

Min_Inq159
May-07
MoE
Memo Recommendations for Next Steps

As the incumbent vendor is involved in bidding for the new payroll, its behaviour Will be affected by the vendor choice that is made by the ministry. Unless Datacom is directly chosen, they have reduced incentive to maintain their existing level of costs for the remainder of the time the existing payroll is required for. There is no contract in place for the period June 2009 to June 2011 and the current contract does not provide for a right of renewal under the existing terms. The ministry will also need to maintain a higher level of staffing for business as usual to manage the required service levels with Datacom.

"Foot-note: 45"

Min_Inq160
May-07
MoE
Memo Recommendations for Next Steps

Extending the time required to run the existing systems raises the risk of some kind of public failure. This may be through a failure of the payroll itself so that significant number of staff are paid incorrectly or an inability to implement government policy (e. g. tax changes, superannuation). The payroll already suffers significant errors with a current error rate of 6.3% of all pays in any one pay—run.

Extending the time of operation on the existing TM4/DATAPAY system means that the ministry Will be the sole user of TM4/DATAPAY for an extended period of time. I Datacom is currently migrating its clients to JETPAY and expects to have completed this before June 2011. The ministry will therefore bear all costs and risks of a functionally and technically obsolete system.

Given the existing problems, there will be significant operational and reputation risk to the ministry and to Government regarding keeping the payroll operating reliably and accurately, well before the June 2011 projected end date. The costs will certainly increase.

Sample quote as shown in shown in Nvivo 10, foot-note number:45

Nodes

Relationships

Node Matrices

Name
D_3rd party issues
D_Alesco
D_Communication Issues
D_Confidence on Nov
D_Configuration Management_D
D_Cost and quality issue
D_Culture team
D_Custom work milestone_D
D_Data Entry
D_Data issues_D
D_Datacom contract
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D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues

[Click to edit](#)

overpayment and underpayment errors largely offset each other. The error rate is therefore hidden and the accuracy cannot be improved without a modern payroll system.

Commercial obsolescence (Priority 3)
Datacom has already started transferring its other payroll customers from the obsolete TM4/DATAPAY base to its new JETPAY system and expects this to be complete by the end of April 2008. The ministry will therefore carry the full costs and risks of maintaining an aging payroll system from this point.

"Foot-note: 46"

Pro_Ini45 Nov-07 MoE Revised Stage2 Business Case
Loss of ministry Intellectual Property (I P)/control (Priority 4)
The ministry's management of the outsourced payroll service provider led to substantial loss of ministry visibility and knowledge of payroll processes, systems, and performance. This reduced the ability of the ministry to effectively manage the payroll service provider.

Functional obsolescence of System (Priority 5)
The present TM4/DATAPAY payroll system is a legacy system that does not offer the efficiency and quality improvement features of a modern payroll system. As payroll requirements continue to change (e.g. KiwiSaver, Holidays Act), more and more manual error-prone workarounds will be needed.

Inconsistent payroll practices (Priority 6)
Practices are inconsistent both within and between pay-centres resulting in inefficiencies and errors. The lack of automation in the existing DATAPAY/TM4 system makes it more difficult to increase consistency.

Sources

Nodes

Classifications

Sample quote as shown in shown in Nvivo 10, foot-note number:46

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_3rd party issues
D_Alesco
D_Communication Issues
D_Confidence on Nov
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D_Cost and quality issue
D_Culture team
D_Custom work milestone_D
D_Data Entry
D_Data issues_D
D_Datacom contract
D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
D_Evaluation of Tenders
D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
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D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue

Text Search Query - Results P Project_Initiation

[Click to edit](#)

Pro_Ini51 Nov-07 MoE Revised Stage2 Business Case
 Note that in August 2007 Cabinet rescinded the May 2005 decision for the ministry to own and operate the schools' payroll system and agreed that that the ministry could start the acquisition of a Business Process Outsourcing services vendor [CAB Min (07) 30/35 refers]

"Foot-note:47"

Pro_Ini52 Nov-07 MoE Revised Stage2 Business Case
Payroll Strategy for Schools

Loss of Ministry Intellectual Property and control of the payroll service
 The Ministry had lost its knowledge of payroll processes and its visibility/control of payroll risk. This reduced its ability to effectively manage the service, maximise quality, minimise risk, and manage cost.

Lack of contestability of the payroll service
 Lack of Ministry knowledge placed the incumbent vendor in a monopolist role, with the Ministry uncertain about whether it was getting value for money and whether it had an accurate view of service performance and risk.

Inconsistent processes and application of rules
 Payroll processes and collective interpretations varied across the pay centres.

Growing functional obsolescence of the payroll system
 The applications software used by the payroll service — DATAPAY/TM4 — was dated and inflexible. Any changes required expert services and were time consuming and costly. The system had limited automated rules functionality and was not able to support date-effective operations.

Sample quote as shown in shown in Nvivo 10, foot-note number:47

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_3rd party issues
D_Alesco
D_Communication Issues
D_Confidence on Nov
D_Configuration Management_D
D_Cost and quality issue
D_Culture team
D_Custom work milestone_D
D_Data Entry
D_Data issues_D
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D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
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D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue
D_OP_Stabalization Actions
D_OP_Suggestion to improve
D_OP_System issues
D_OP_Usability
D_OP_User experience

Text Search Query - Results P Project_Initiation Text Search Query - Results P Background_Novopay

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"Foot-note: 48"

Bak_Nov4 Jun-05 Cabinet
TheMinistry_NovopayProject_Background_Historical
CabinetDocuments_CABMin_05_20_2

Contestability risk — it is difficult for the Ministry to change providers because the software is bespoke, owned by the existing service provider, and working practices are undocumented.

Technical risk — the system is constructed using sunset technologies. Year on year, it is becoming more difficult to support and maintain the system. The risk of payroll failure is therefore increasing.

Compliance risk employment agreements are being interpreted manually in different pay centres, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements.

Accountability risk — while the Ministry is legally accountable for the correct payment of remuneration to employees and to the Inland Revenue Department for taxation, it is reliant on Datacom for application of the business rules resulting in correct payments. This creates a risk that employee employment conditions may not be met.

Customer satisfaction risk — the lack of timely access to HR/Payroll information means that schools are less than adequately supported in planning resourcing requirements, managing attestation, managing recruitment and performance management, as well as a number of other administrative activities.

Bak_Nov5 Jun-05 Cabinet
TheMinistry_NovopayProject_Background_Historical
CabinetDocuments_CABMin_05_20_2

To provide a low risk, efficiently operated, accurate and reliable payroll service that provides smarter services and improved access to payroll and human resources information. The

Sample quote as shown in shown in Nvivo 10, foot-note number:48

novopay_shared_iteration_9_merging_codes - Copy.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Compound Group Coding Comparison Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions

Nodes

Nodes Relationships Node Matrices

Nodes

Name

- D_3rd party issues
- D_Alesco
- D_Communication Issues
- D_Confidence on Nov
- D_Configuration Management_D
- D_Cost and quality issue
- D_Culture team
- D_Custom work milestone_D
- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue

Sources Nodes Classifications Collections

Background_Novopay Text Search Query - Results P Min_Inquiry

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"Foot-note: 49"

Min_Inq79 May-05 MoE Stage 2 Business Case

The lack of access for schools to the payroll system is hindering their ability to effectively manage their employees. Direct access to information would also lower the transaction cost involved with these inquiries, both for the central payroll operation and the schools making the inquiries.

Currently schools manage their own HR using a wide variety of systems. The central provision of a single HR system tailored for specific school requirements would assist schools with planning and management activities such as recruitment, position and performance management, and training.

Min_Inq80 May-05 MoE Stage 2 Business Case

In the processing of payroll data the manual nature of the current payroll service requires a considerable number of Pay Clerks to input data received from schools. The pay clerk function involves applying the correct business rules to the employee payment to ensure the correct entitlement is received. The Ministry provides interpretation of the employment agreements to the current provider. However the application of the business rules varies between the four pay centres, resulting in an inconsistent payment of entitlements. Manual processes are not sufficient to effectively manage this variance.

Min_Inq81 May-05 MoE Stage 2 Business Case

Four dimensions have been identified to enable the available options to be identified and consistently compared and evaluated. The four dimensions identified are:

Sample quote as shown in shown in Nvivo 10, foot-note number:49

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_3rd party issues
D_Alesco
D_Communication Issues
D_Confidence on Nov
D_Configuration Management_D
D_Cost and quality issue
D_Culture team
D_Custom work milestone_D
D_Data Entry
D_Data issues_D
D_Datacom contract
D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
D_Evaluation of Tenders
D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue
D_OP_Stabalization Actions
D_OP_Suggestion to improve

Text Search Query - Results P Min_Inquiry Text Search Query - Results P

[Click to edit](#)

"Foot-note: 50"

Min_Inq160	May-07	MoE	Memo Recommendations for Next Steps
<p>Extending the time required to run the existing systems raises the risk of some kind of public failure. This may be through a failure of the payroll itself so that significant number of staff are paid incorrectly or an inability to implement government policy (e. g. tax changes, superannuation). The payroll already suffers significant errors with a current error rate of 6.3% of all pavs in any one pav—run.</p> <p>Extending the time of operation on the existing TM4/DATAPAY system means that the ministry Will be the sole user of TM4/DATAPAY for an extended period of time. I Datacom is currently migrating its clients to JETPAY and expects to have completed this before June 2011. The ministry will therefore bear all costs and risks of a functionally and technically obsolete system.</p> <p>Given the existing problems, there will be significant operational and reputation risk to the ministry and to Government regarding keeping the payroll operating reliably and accurately, well before the June 2011 projected end date. The costs will certainly increase.</p>			
Min_Inq161	May-07	MoE	Memo Recommendations for Next Steps
<p>If the ministry chooses an option that breaches either, OAG requirements or Cabinet mandatory procurement guidelines, Cabinet permission must be sought for an exemption. However, this case would fall outside the criteria for exemptions in the mandatory guidelines. This creates significant risk that Cabinet will not support the ministry's preferred solution against their own procurement guidelines.</p>			

Sample quote as shown in shown in Nvivo 10, foot-note number:50

Appendix A 2 (ii)

In this sub-appendix, the sample list of quotes are shown how they were coded in NVivo 10. These are the same sample of quotes which are mentioned in the Appendix A 1.

Appendix A2 is divided in three parts, A2(ii) lists the quotes taken from section 4.3.1.

novopay_shared_iteration_9_merging_codes - Copy.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Query Wizard Text Search Word Frequency Coding Matrix Coding Compound Run Query Store Query Results Last Run Query Add to Stop Words List Other Actions

Nodes

Nodes Relationships Node Matrices

Nodes

Name

- D_3rd party issues
- D_Alesco
- D_Communication Issues
- D_Confidence on Nov
- D_Configuration Management_D
- D_Cost and quality issue
- D_Culture team
- D_Custom work milestone_D
- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue

Sources Nodes Classifications Collections

Text Search Query - Results P Project_Initiation

[Click to edit](#)

"Foot-note: 112"

Pro_Ini127 Nov-07 MoE Revised Stage2 Business Case

Risk Mitigation

The vendor management risk will be mitigated by a single vendor operating as prime contractor. The prime vendor will have confirmed its sub-contract arrangements before implementation. The success of the implementation would be dependent on the goodwill and cooperation of Datacom and its sub-contractors in the transition of processes and data from the Datacom system and service to the new system and service.

If Datacom is not chosen as the new prime vendor, their interests could be maintained by keeping Datacom and its subcontractors as the pay clerk service providers throughout implementation and during operation initially, under the management of the new prime vendor. This would obviously be at the discretion of the new prime vendor, but this approach would reduce their own risk and therefore the ministry's. The ministry would ensure that effective transition arrangements were in place as part of the RFP requirements as well as ensuring that prospective vendors' RFPs were evaluation on their response to this.

Present contractual provisions place an obligation on Datacom to actively support any transition of service to a new vendor.

Datacom is a leading vendor in the NZ market-place of outsourced payroll services. To maintain its reputation in the marketplace Datacom is very unlikely to engage in behaviour that could place the schools' payroll at risk during any transition.

School Support and Multi Serve currently are sub-contractors of Datacom, and operate the Christchurch and Auckland pay centres respectively, while Datacom directly operates the Wellington pay centre. It is unlikely that School Support and Multi Serve would resist a change in prime vendor in order to remain a part of the schools' payroll service.

Sample quote as shown in shown in Nvivo 10, foot-note number:112

The screenshot displays the NVivo 10 software interface. On the left, the 'Nodes' pane shows a hierarchical list of nodes, including 'D_3rd party issues', 'D_Alesco', 'D_Communication Issues', 'D_Confidence on Nov', 'D_Configuration Management_D', 'D_Cost and quality issue', 'D_Culture team', 'D_Custom work milestone_D', 'D_Data Entry', 'D_Data issues_D', 'D_Datacom contract', 'D_DC_TR_Risk Mitigation', 'D_Defects Status', 'D_Descope project', 'D_Difference btw T2 and Datacom', 'D_Documentation_D', 'D_Drivers for change', 'D_Evaluation of Tenders', 'D_Expectations new system', 'D_External Reviews', 'D_failed deliverables', 'D_History', 'D_Introduction Novopay', 'D_KPI', 'D_Missed milestone', 'D_Op_End user issues', 'D_Op_Extra work', 'D_OP_Functionality', 'D_OP_Generic issues', 'D_OP_Over Payments', 'D_OP_Post Go-Live Issues', 'D_OP_PRG feedback', and 'D_OP_Relief teachers issue'. The 'Nodes' pane is currently selected. On the right, the 'Text Search Query - Results P' pane shows a search result for 'Foot-note: 117'. The result is a quote from 'Dev_Nov189' dated 'Q4 2011' under the category 'Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)'. The quote discusses tactical planning and data issues. A yellow box highlights the quote, and another yellow box highlights the text 'Foot-note: 117'.

Sample quote as shown in shown in Nvivo 10, foot-note number:117

Sources

- D_Culture team
- D_Custom work milestone_D
- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality

Foot-note:121

Dev_Nov29 13-Jul-10 IQANZ Independent Quality Assurance Report
Rebaseline Health Check Review, July 2010

A significant risk area to the successful project transition is the need to balance ongoing business continuity with the requirement to stand up the new service centres prior to implementation. There is likely to be large overlap in resource requirement between the existing Datacom pay centres and the new Talent2 service centres which risks both sides suffering as a result. Commercial negotiations and sensitivities are also factors which complicate the transition planning at this point.

A significant risk area in the effective transition of the payroll service is how to balance business continuity until transition is complete with at the same time building the capability of the new service centres prior to transition. There is likely to be large overlap in resource requirement between the existing Datacom pay centres and the new Talent2 service centres which makes this transition more difficult. Review participants demonstrated a clear understanding of the risk, however there are mixed views on how best to mitigate it. While both Datacom and Talent2 recognise the risk, there are commercial sensitivities which also complicate their ability to be fully transparent and collaborative in developing mitigations. We are concerned that consequently there may not be a full appreciation of the magnitude of the risk or the implications of mitigations which address only one side of the risk.

Sample quote as shown in shown in Nvivo 10, foot-note number:121

Nodes
Relationships
Node Matrices

Sources
Nodes
Classifications
Collections
Queries
Reports
Models

Name

- D_3rd party issues
- D_Alesco
- D_Communication Issues
- D_Confidence on Nov
- D_Configuration Management_D
- D_Cost and quality issue
- D_Culture team
- D_Custom work milestone_D
- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Stabalization Actions
- D_OP_Suggestion to improve
- D_OP_System issues
- D_OP_Usability
- D OP User experience

Click to edit

reputation of the contract within the meaning of clause 10.2(c) of the agreement. It is correct, that would then entitle Talent2 to itself terminate immediately (if the Ministry did not withdraw its repudiation within 15 business days of written notice) and pursue the Ministry for damages.

"Foot-note: 125"

Bri_Cor68 19-Apr-12 MoE

Internal MoE [Communication]

Leanne Gibson (CIO) to Novopay Board Ministry Personnel Only (Anne Jackson and Lesley Longstone)

[Recommendations associated with the outcome of the Warning Letter]

Another option we considered was to investigate utilizing the best portions of the Talent2 and Datacom business continuity to deliver a Novo-Datapay solution (e.g. Talent2 service centre, Datacom Pay centres, Alesco Product, IAAS). Though this sounds promising both organizations have independently stated that they would not work with each other as business partners.

Sample quote as shown in shown in Nvivo 10, foot-note number:125

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Compound Coding Comparison Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions Actions

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_3rd party issues
D_Alesco
D_Communication Issues
D_Confidence on Nov
D_Configuration Management_D
D_Cost and quality issue
D_Culture team
D_Custom work milestone_D
D_Data Entry
D_Data issues_D
D_Datacom contract
D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
D_Evaluation of Tenders
D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PPG feedback

Sources

- Nodes
- Classifications

Developing Novopay Text Search Query - Results P Text Search Query - Results P Novopay_

[Click to edit](#)

"Foot-note: 130"

Dev_Nov36 Extrinsic Project Novopay Review Report, Jan 2010
The Ministry will outsource the business processes surrounding the schools' payroll, however, the Ministry remains responsible for setting the quality criteria within which the payroll will operate.

Dev_Nov36 Extrinsic Project Novopay Review Report, Jan 2010
Data conversion is a key dependency for other project activities. Data conversion influences the configuration of the payroll system, the system interfaces, payroll processes, pay centre training and end—user training. Any ongoing issues regarding payroll data have potential to affect the schools' usage of the online payroll system, with resulting impacts on the capacity of pay centres to manage the payroll accurately.

Dev_Nov36 Extrinsic Project Novopay Review Report, Jan 2010
As at 13 January 2010 there was a large amount of work outstanding. All indications are that the original transition dates are not achievable. We recommend that the transition dates be reviewed.

Dev_Nov37 Extrinsic Project Novopay Review Report, Jan 2010
The Ministry of Education operates the Schools' Payroll, which provides services for more than 110,000 teaching and non-teaching staff around New Zealand. The Education Service payroll is the largest payroll in New Zealand. Approximately NZ\$3.4b is disbursed annually to the employees of some 2,500 primary and secondary schools. Payments are made fortnightly with over 2 million individual pays being made in a year. Datacom currently provides the service, under contract, and has done so since 1996. The existing system is approaching end of its life, and it has functional, quality and technical issues.

Sample quote as shown in shown in Nvivo 10, foot-note number:130

The screenshot displays the NVivo 10 software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. The 'Analyze' tab is active, showing options like Matrix Coding, Coding Comparison, Compound, and Group. The 'Nodes' panel on the left lists various nodes, including 'D_Data Er', 'D_Data issues_D', 'D_Datacom contract', 'D_DC_TR_Risk Mitigation', 'D_Defects Status', 'D_Descope project', 'D_Difference btw T2 and Datacom', 'D_Documentation_D', 'D_Drivers for change', 'D_Evaluation of Tenders', 'D_Expectations new system', 'D_External Reviews', 'D_failed deliverables', 'D_History', 'D_Introduction Novopay', 'D_KPI', 'D_Missed milestone', 'D_Op_End user issues', 'D_Op_Extra work', 'D_OP_Functionality', 'D_OP_Generic issues', 'D_OP_Over Payments', 'D_OP_Post Go-Live Issues', and 'D_OP_PRG feedback'. The 'Matrix Coding' tooltip is visible over the 'D_Data Er' node. The main window shows a search query result for 'Pro_Ini2' with the following text:

Pro_Ini2 Aug-08 MoE and T2
Manage Service Delivery Service Schedule between MoE and Talent2
 (No date is mentioned, but I presume it was in 2008)
 The Supplier will provide to the Ministry no latter than 1 month prior to the date for the Transition Plan milestone titled "3.3 Conduct Lifecycle Testing: (a) a draft set of "Business Requirements

"Foot-note: 139"

The Ministry acknowledges that in order for the Supplier to meet its obligations (under clause 3.1: Business Requirements and Business Processes) the Ministry will need to make relevant Ministry personnel available in a reasonably timely fashion to answer queries from the Supplier on the Ministry's business requirements and those business processes of the Ministry that will interface with the Supplier business processes to be developed.

Sample quote as shown in shown in Nvivo 10, foot-note number:139

The screenshot displays the NVivo 10 software interface. On the left, the 'Nodes' pane shows a hierarchical list of nodes under the 'Name' column. The nodes include 'D_Data Entry', 'D_Data issues_D', 'D_Datacom contract', 'D_DC_TR_Risk Mitigation', 'D_Defects Status', 'D_Descope project', 'D_Difference btw T2 and Datacom', 'D_Documentation_D', 'D_Drivers for change', 'D_Evaluation of Tenders', 'D_Expectations new system', 'D_External Reviews', 'D_failed deliverables', 'D_History', 'D_Introduction Novopay', 'D_KPI', 'D_Missed milestone', 'D_Op_End user issues', 'D_Op_Extra work', 'D_OP_Functionality', 'D_OP_Generic issues', 'D_OP_Over Payments', 'D_OP_Post Go-Live Issues', 'D_OP_PRG feedback', and 'D OP Relief teachers issue'. On the right, the 'Text Search Query - Results P' pane shows a search result for 'Foot-note: 142'. The result is a quote from 'Min_Inq326' dated 'May-13' from 'MoE' titled 'Ministry Response To Inquiry'. The quote discusses business requirements for schools payroll and the challenges of finding SMEs with the necessary payroll knowledge. A yellow box highlights a specific sentence in the quote: 'The SME had often gained all their payroll knowledge at Datacom in the schools payroll. This meant that the SMEs sometimes expected that the new payroll would automate pre-existing manual processes rather than use the full capabilities of a modern payroll system with which they were; not familiar. Talent2 appeared keen to retain as much off the shelf functionality as possible and to minimise custom work.'

Sample quote as shown in shown in Nvivo 10, foot-note number:142

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_Data Entry
D_Data issues_D
D_Datacom contract
D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
D_Evaluation of Tenders
D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue
D_OP_Stabalization Actions
D_OP_Suggestion to improve
D_OP_System issues
D_OP_Usability
D_OP_User experience

Min_Inquiry

Text Search Query - Results P

Developing Novopay

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Dev_Nov146 Jun-11 Change Dynamics
Limited Assessment and Improvement of Culture
in the Novopay Project

It is recommended that the project consider:

a) Employing someone who is highly experienced in IT project management and with excellent relationship skills as the Programme Director for the project. The role should have relevant authority for decision making and holding people accountable.

b) The vendor employing a highly experienced project manager in a senior role.

"Foot-note: 144"

Dev_Nov147 Jun-11 Change Dynamics
Limited Assessment and Improvement of Culture
in the Novopay Project

There is a **lack of clarity around roles** and responsibilities and who owns what. I also heard about people leaving meetings thinking they had an agreement then having those agreements re-litigated. This is causing tension between people.

Many people were concerned that the vendor had no plan for transitioning into the change management phase, and setting up the service part of the contract with a "go live" date a year away. Lack of information and assumptions that there is no planning for this phase are causing real concern for many staff on the project.

Sample quote as shown in shown in Nvivo 10, foot-note number:144

novopay_shared_iteration_9_merging_codes - Copy.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Coding Comparison Compound Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions Actions

Nodes

Nodes Relationships Node Matrices

Nodes

Name

- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Stabalization Actions
- D_OP_Suggestion to improve
- D_OP_System issues
- D_OP_Usability

Text Search Query - Results P Developing Novopay Text Search Query - Results P

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with the Data Cleansing.

A question was raised with Rob on the timeliness of the Talent2 Weekly Update report. He responded that they were delayed as the Talent2 Project Manager was away from 18 Dec – 19 Jan. He indicated that he was following this up with his Project Manager.

"Foot-note: 146"

Dev_Nov314 21-Jan-09 Min Edu Novopay Board meeting minutes

It was noted that there was difficulty in getting consistent resources out of the MOE communications area. There are too many people involved with tasks being moved from one person to the next which causes delays in delivery. David is addressing this with Michael Pearson. This problem does not exist with the Talent2 communications resource.

All subsequent IQA reports will be around stage gates which are every 3 mths. This will be reviewed at each stage to ensure there is a requirement to continue a quarterly report. The next IQA report is due in March.

Dev_Nov315 19-Feb-09 Min Edu Novopay Board meeting minutes

A discussion was held around the proposed upgrade of Alesco from v11 to v12 in the middle of the project. It is anticipated that the upgrade will occur between the end of development and prior to acceptance testing. RF said the move to v12 is only an upgrade and not a release of new technology. V12 will be in production by October 2009. All UAT would take place on v12. Alesco v12 would be supported until October 2013.

Sample quote as shown in shown in Nvivo 10, foot-note number:146

Appendix A 2 (iii)

In this sub-appendix, the sample list of quotes are shown how they were coded in NVivo 10. These are the same sample of quotes which are mentioned in the Appendix A 1.

Appendix A2 is divided in three parts, A2(iii) lists the quotes taken from section 4.4.6.

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Compound Group Coding Comparison Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions

Nodes

Nodes Relationships Node Matrices

Nodes

Name

- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Stabalization Actions
- D_OP_Suggestion to improve
- D_OP_System issues
- D_OP_Usability
- D_OP_User experience
- D_OP_User Feedback Post
- D_Relationship_D
- D_Replacement options

Sources Nodes Classifications Collections

Developing Novopay Text Search Query - Results P Text Search Query - Results P

[Click to edit](#)

Dev_Nov215 Q3 2012 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)

1. We are mitigating this risk through targeted webinar training to staff use the online system more effectively. Some of the current defects in the system that are hindering usability are also being resolved in October and December releases of the online software
2. We are mitigating this risk by working closely with T2 to manage a performance improvement plan with milestones over the next three fortnightly pay periods and into the new-year
3. We are mitigating this risk by ensuring that all issues are comprehensively addressed by our team of case managers, as well as working closely with T2 [0 resolve the root issues. We are maintaining close contact with the sector through the Payroll Reference Group and proactively addressing all media issues

"Foot-note: 431"

Dev_Nov216 Q3 2012 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)

1. The Novopay service desk has been performing poorly. Schools have experienced long wail times (upwards of nine minutes) with many schools abandoning attempts to get through (typically 30% to 50%).
2. T2 has not been able in process the forms received by schools in a timely manner. "Downstream" teams such as ACC, overpayments, salary assessment, and retrospective transactions have not been able to cope with the volume of work. The Ministry is at risk of the overpayments debt ballooning.
3. Schools have found the online system difficult to use and many have reverted to using manual forms to convey their payroll instructions. This increases the load on the service centre.

Sample quote as shown in shown in Nvivo 10, foot-note number:431

Nodes

- Nodes
- Relationships
- Node Matrices

Nodes

Name
D_Data Entry
D_Data issues_D
D_Datacom contract
D_DC_TR_Risk Mitigation
D_Defects Status
D_Descope project
D_Difference btw T2 and Datacom
D_Documentation_D
D_Drivers for change
D_Evaluation of Tenders
D_Expectations new system
D_External Reviews
D_failed deliverables
D_History
D_Introduction Novopay
D_KPI
D_Missed milestone
D_Op_End user issues
D_Op_Extra work
D_OP_Functionality
D_OP_Generic issues
D_OP_Over Payments
D_OP_Post Go-Live Issues
D_OP_PRG feedback
D_OP_Relief teachers issue
D_OP_Stabalization Actions
D_OP_Suggestion to improve
D_OP_System issues
D_OP_Usability
D_OP_User experience
D_OP_User Feedback Post
D_Relationship_D
D_Replacement options
D_Resistant Factors
D_Resource Constraints_D
D_risks and issues
D_Scope

Text Search Query - Results P Text Search Query - Results P Remedial [Click to edit](#)

Rem_Pro134 2013 PwC

Appendix D: Initiative B4 - Assess School Payroll Process Improvement Opportunities

User experience to date with contacting Novopay is leading to inefficient practices at schools

The channel preferred by users for contacting the Service Centre for resolving issues is the phone channel with 86% of the schools visited choosing this channel. Many schools have not had a satisfactory experience to date when dealing with the Service Centre. When asked to rate the customer experience on a scale of 1 to 5 where 1 = poor, 5: good, the average user ratings were:

Customer service ethos - 3
Level of technical knowledge - 2
Timeliness of response - 1

"Foot-note: 433"

Users generally felt they had to wait a long time to get through to the Service Desk. When they got through, they felt that service agents were not able to help them without either having to put them on hold (to seek advice from a supervisor) or transferring them to another agent.

This was seen to be frustrating, as the users had to explain the issues from the beginning, repeatedly.

Due to these unsatisfactory experiences with the service, we found that many users have stopped contacting the Service Centre with their issues and instead chose to resolve them internally within the schools. This in some situations could be detrimental to the accuracy of their payroll processing.

Some schools wait until they have a number of issues to resolve before contacting the Service Centre so that they can avoid long wait times. When they do receive good service, the users had resorted to follow the same IVR options to ensure same level of experience can be received. In many instances, this was with the hope of contacting the same person as before. These findings provide context to the unanimous request from all schools visited to provide a dedicated service agent for their school at the Service Centre.

Sample quote as shown in shown in Nvivo 10, foot-note number:433

novopay_shared_iteration_9_merging_codes - Copy.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Coding Comparison Compound Group Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions

Nodes

Nodes Relationships Node Matrices

Nodes

Name

- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Stabalization Actions
- D_OP_Suggestion to improve
- D_OP_System issues
- D_OP_Usability

Developing Novopay Text Search Query - Results P Text Search Query - Results P Text Search G

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Dev_Nov378 Oct-12 Min Edu Novopay Board meeting minutes

There also seems to be confusion regarding what the formal escalation path is, with some users being told they should complain to the Ministry, rather than being referred to the Service Centre Team Leader. Duncan Boennic advised that there is no active policy in place to refer complainants to the Ministry. [] manages complaints to the Service Centre while complaints on the Ministry side are managed by []. However, he was concerned that the Ministry seems to be receiving more complaints than Talent2 do.

"Foot-note: 435"

Dev_Nov378 Oct-12 Min Edu Novopay Board meeting minutes

Leanne visited some schools and found that while there are some training and competency issues, a vicious cycle is created due to the lack of a responsive and helpful Service Centre: Administrators try to use the system, they encounter an issue and call or email the Service Centre; when they don't receive a helpful response and the payroll deadline approaches, they escalate their problems to all channels that are available to them, which includes ESP, Deputy Secretaries, Lesley Longstone and the Minister. Some Administrators are currently printing every transaction on paper in order to have a paper trail – enough to fill one folder per staff member – which they then need to reconcile with their Transaction or SUE Reports. The number of complaints that the Ministry is currently receiving could be reduced if the responsiveness of the Service Centre is improved.

Sample quote as shown in shown in Nvivo 10, foot-note number:435

The screenshot displays the NVivo 10 software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. Below the menu is a toolbar with icons for Advanced Find, Query Wizard, Text Search, Word Frequency, Coding, Matrix Coding, Group, Last Run Query, Add to Stop Words List, Run Query, Store Query Results, and Other Actions.

The left sidebar shows a tree view of nodes under the 'Nodes' tab. The main pane lists the following nodes:

- D_Data Entry
- D_Data issues_D
- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
- D_failed deliverables
- D_History
- D_Introduction Novopay
- D_KPI
- D_Missed milestone
- D_Op_End user issues
- D_Op_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Stabalization Actions
- D_OP_Suggestion to improve
- D_OP_System issues
- D_OP_Usability
- D_OP_User experience
- D_OP_User Feedback Post
- D_Relationship_D
- D_Replacement options

The right pane shows a text search result for 'Text Search Query - Results P'. The search results include a quote from 'Dev_Nov373' dated 'Sep-12' from 'Min Edu' titled 'Novopay Board meeting minutes'. The quote is highlighted in yellow and reads: 'She noted that Payroll Administrators' experience of Novopay Online was that there was some kind of error every day. While many of these errors have been remedied, there is still the impression of continuing errors, which taints the experience. Key issues have been categorised – i.e. process, reporting, service, training, and usability – and assigned a timeframe against them regarding how soon they need to be fixed. Appendix A lists the changes that have already submitted to the formal Change Request process, Appendix B has been provided to the Novopay team by an experienced EO and gives an insight into the issues experienced by schools.'

A yellow box highlights the text: "Foot-note: 436".

Sample quote as shown in shown in Nvivo 10, foot-note number:436

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Find Query Wizard Text Search Word Frequency Coding Matrix Coding Compound Last Run Query Add to Stop Words List Run Query Store Query Results Other Actions

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the ability to add or change messages if the phones are overloaded. It is expected that more people will be doing outbound calling than those receiving inbound calls.

"Foot-note: 437"

Dev_Nov371 Sep-12 Min Edu Novopay Board meeting minutes Update from Talent2

Mary Sue Rogers quoted from a presentation that she had prepared, but hadn't been able to circulate before the meeting. She advised that the Service Centre has received 154,000 payroll instructions over the past 14 days, which is significantly more than had been expected. The team is currently clearing the backlog, which is expected to be done by tomorrow. About 5000 people were underpaid in yesterday's pay-run. These were staff on timesheets, especially relievers; staff on auto-payments were not affected. There were also 15 people who were not paid at all. Both, the underpaid staff and those who didn't get paid will be paid through an out-of-cycle pay today, so the money will be deposited into their bank accounts after midnight tonight (i.e. Friday morning). As the out-of-cycle pay is part of Pay Period 2513 from a fiscal perspective, there won't be a SUE Report for it, but there will be a full transaction report. The Ministry will also receive a report which summarises all pay codes to ensure the reporting matches the actual bank transactions.

Dev_Nov372 Sep-12 Min Edu Novopay Board meeting minutes

Vaughan Crouch enquired what the reasons for the under and overpayments were. Mary Sue Rogers responded that while not all reasons were clear, some reasons were: (i) some transactions missed the cut-off, (ii) Pay Centre staff training issues (the Retro time sheets are being processed by the team in Christchurch, which is still relatively new and inexperienced), (iii) confusion regarding the units for the mileage allowance. These errors were all operator

Sample quote as shown in shown in Nvivo 10, foot-note number:437

novopay_shared_iteration_9_merging_codes - Copy.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Advanced Find Query Wizard Text Search Word Frequency Coding Matrix Coding Compound Group

Run Query Store Query Results Last Run Query Add to Stop Words List Other Actions

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Nodes Relationships Node Matrices

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- D_Data Entry
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- D_Datacom contract
- D_DC_TR_Risk Mitigation
- D_Defects Status
- D_Descope project
- D_Difference btw T2 and Datacom
- D_Documentation_D
- D_Drivers for change
- D_Evaluation of Tenders
- D_Expectations new system
- D_External Reviews
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- D_KPI
- D_Missed milestone
- D_OP_End user issues
- D_OP_Extra work
- D_OP_Functionality
- D_OP_Generic issues
- D_OP_Over Payments
- D_OP_Post Go-Live Issues
- D_OP_PRG feedback
- D_OP_Relief teachers issue
- D_OP_Stabalization Actions
- D_OP_Suggestion to improve
- D_OP_System issues

Min_Inquiry Text Search Query - Results P Developing Novopay Text Search Query - Results P

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Min_Inq357 Feb-13 MoE "Foot-note: 441"

Post Go-Live PID Remediation Programme

A5 Reinstate Online Chat for the school administrators — provide another channel for communication with the service centre

This initiative aims to reinstate the online chat facility on the Novopay website by adding additional resources. This will ensure users can contact the service centre at times that suit them, without having to wait on hold or wait for a call back that may come when they are no longer available. This activity will need to be carefully analysed and assessed to ensure it does not have a detrimental effect on the on-going service.

Please note: While this work will have a short term focus on addressing immediate sector communications requirements, the long-term initiatives will be assessed and identified through work relating to initiatives B6 and B8 outlined below. It is important that the resource for this initiative is not at the expense of processing.

Min_Inq358 Feb-13 MoE

Post Go-Live PID Remediation Programme

A6 Improve service centre communications — initiative to improve visibility of progress of service centre requests and response communications

Sample quote as shown in shown in Nvivo 10, foot-note number:441

Appendix A 3 (i)

In this appendix, the sample list of quotes are shown, with how they were categorized in a spreadsheet. These are the same sample of quotes which are mentioned in the Appendix A 1.

Appendix A3 is divided in three parts: Appendix A3(i), Appendix A3(ii) and Appendix A3(iii).

Appendix A3(i) lists the quotes taken from section 4.2.1.

Appendix A3(ii) lists the quotes taken from section 4.3.1.

Appendix A3(iii) lists the quotes taken from section 4.4.6.

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	A	B	C	D	E	F	G	H	I	J	K	L
1	ID	Source		Dat	Issue Categ	Textual Description	Possible Dilemn	Stakehold	Inductive Theme		SDLC	Memo
6	dv_6	Min_Inq29 Aug 04 Equinox Datacom Payroll Application Sustainability Review	Equinox Datacom Payroll Application Sustainability Review			<p>The two major sustainability issues identified in this report are the unsupported versions of the TeacherManager Server operating system and database currently used. The Microsoft Windows NT 3.51 operating system used has been unsupported by Microsoft since September 2002, and version 7.2.x of the Oracle Database has been unsupported since October 2000.</p> <p>The risks associated with remaining on unsupported products include little likelihood that the vendors will provide any assistance if an issue does arise, new generation hardware are not having the device drivers required to run the Windows NT 3.51 operating system, and the inability to undertake enhancements due to the risk associated with making changes to an unsupported environment. These risks increase the longer the environment is left in its vendor unsupported state.</p>	"Foot-note: 42"		Drivers for change: Technical sustainability			
7	dv_7	Min_Inq64 May 05 MoE Stage 2 Business Case	Stage 2 Business Case			<p>The contractual arrangement with Datacom is due to expire in June 2005 but the Ministry has signalled its intention to renew the contracts for a further two years until June 2007. The expiration of the contractual arrangements with Datacom means that it is an appropriate time for the Ministry to review the business outputs required of an HR/Payroll service and the strategy for service provision. To that end, the Ministry has developed an HR/Payroll Business Strategy and initiated a project to replace the existing payroll and implement the new HR/Payroll Business Strategy.</p> <p>Functional Obsolescence: The current payroll service does not provide the range of functionality required of a modern payroll service. Examples of this include: Limited date functionality only the information relating to the current pay period can be modified without programming effort. For example, to implement back pay requires specific programming.</p> <p>Lead time for pay run — the payrun is closed off 3 days prior to pay day; any required changes must be made before this close-off time. On line access is not available H online access is not available to schools or the Ministry for data entry or enquiry. Limited leave management functionality — leave generally has to be taken account of by manual calculations. Linking of salaries to pay grades — the linking of salaries to pay grades currently has to be done manually using an Excel spreadsheet.</p>			Drivers for change: Implementation of HR Functionality			

Sample quote as shown in shown in spreadsheet, foot-note number: 42

ID	Source		Date	Issue Category	Textual Description	Possible Dilemma	Stakeholder	Inductive Theme		SDLC	Memo
dv_39	Bak_Nov2 Jun-05 Cabinet TheMinistry_NovopayProject_Background_Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Lack of information and access – there is no Human Resources (HR) information held in the current system and schools do not have access to the payroll information held in the system and necessary for inquiries, analysis and decision-making. This hinders their ability to effectively manage their employees. The system is also unable to support the more complex information and research needs of the Ministry.			Drivers for change: Lack of information			
dv_40	Bak_Nov2 Jun-05 Cabinet TheMinistry_NovopayProject_Background_Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Lack of control – the Ministry has gradually lost visibility and knowledge of the operation and application of the Payroll service as the operational information is largely held by the existing service provider. This has increased the risk associated with delivering accurate and timely payments to teachers.			Drivers for change: Loss of control			
dv_41	Bak_Nov4 Jun-05 Cabinet TheMinistry_NovopayProject_Background_Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Contestability risk – it is difficult for the Ministry to change providers because the software is bespoke, owned by the existing service provider, and working practices are undocumented. Technical risk – the system is constructed using sunset technologies. Year on year, it is becoming more difficult to support and maintain the system. The risk of payroll failure is therefore increasing.			Drivers for change: risk			
dv_42	Bak_Nov4 Jun-05 Cabinet TheMinistry_NovopayProject_Background_Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Compliance risk – employment agreements are being interpreted manually in different pay centres, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements. Accountability risk – while the Ministry is legally accountable for the correct payment of remuneration to employees and to the Inland Revenue Department for taxation, it is reliant on Datacom for application of the business rules resulting in correct payments. This creates a risk that employee employment conditions may not be met. Customer satisfaction risk – the lack of timely access to HR/Payroll information means that schools are less than adequately supported in planning resourcing requirements, managing attestation, managing recruitment and performance management, as well as a number of other administrative activities.	"Foot-note:43"		Drivers for change: risk			
Options for Change											

Sample quote as shown in shown in spreadsheet, foot-note number: 43

ID	Source		Date	Issue Category	Textual Description	Possible Dilemma	Stakeholder	Inductive Theme		SDLC	Memo
dv_39	Bak_Nov2 Jun-05 Cabinet TheMinistry_N ovopayProject _Background_ Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Lack of information and access – there is no Human Resources (HR) information held in the current system and schools do not have access to the payroll information held in the system and necessary for inquiries, analysis and decision-making. This hinders their ability to effectively manage their employees. The system is also unable to support the more complex information and research needs of the Ministry.			Drivers for change: Lack of information			
dv_40	Bak_Nov2 Jun-05 Cabinet TheMinistry_N ovopayProject _Background_ Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Lack of control – the Ministry has gradually lost visibility and knowledge of the operation and application of the Payroll service as the operational information is largely held by the existing service provider. This has increased the risk associated with delivering accurate and timely payments to teachers.			Drivers for change: Loss of control			
dv_41	Bak_Nov4 Jun-05 Cabinet TheMinistry_N ovopayProject _Background_ Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Contestability risk – it is difficult for the Ministry to change providers because the software is bespoke, owned by the existing service provider, and working practices are undocumented. Technical risk – the system is constructed using sunset technologies. Year on year, it is becoming more difficult to support and maintain the system. The risk of payroll failure is therefore increasing.			Drivers for change: risk			
dv_42	Bak_Nov4 Jun-05 Cabinet TheMinistry_N ovopayProject _Background_ Historical CabinetDocuments_CABMin_05_20_2	CABMin_05_20_2			Compliance risk – employment agreements are being interpreted manually in different pay centres, resulting in increased risk of business rule inconsistencies and incorrect application of entitlements. Accountability risk – while the Ministry is legally accountable for the correct payment of remuneration to employees and to the Inland Revenue Department for taxation, it is reliant on Datacom for application of the business rules resulting in correct payments. This creates a risk that employee employment conditions may not be met. Customer satisfaction risk – the lack of timely access to HR/Payroll information means that schools are less than adequately supported in planning resourcing requirements, managing attestation, managing recruitment and performance management, as well as a number of other administrative activities.			Drivers for change: risk			

"Foot-note: 44"

Sample quote as shown in shown in spreadsheet, foot-note number: 44

A	B	C	D	E	F	G	H	I	J	K	L
ID	Source		Date	Issue Category	Textual Description	Possible Dilemma	Stakeholder	Inductive Theme		SDLC	Measures
dv_13	Min_Inq160 May-07 MoE Memo Recommendations for Next Steps	Internal Memo			<p>Extending the time required to run the existing systems raises the risk of some kind of public failure. This may be through a failure of the payroll itself so that significant number of staff are paid incorrectly or an inability to implement government policy (e. g. tax changes, superannuation). The payroll already suffers significant errors with a current error rate of 6.3% of all pays in any one pay run.</p> <p>Extending the time of operation on the existing TM4/DATAPAY system means that the ministry will be the sole user of TM4/DATAPAY for an extended period of time. Datacom is currently migrating its clients to JETPAY and expects to have completed this before June 2011. The ministry will therefore bear all costs and risks of a functionally and technically obsolete system.</p> <p>Given the existing problems, there will be significant operational and reputation risk to the ministry and to Government regarding keeping the payroll operating reliably and accurately, well before the June 2011 projected end date. The costs will certainly increase.</p>			Drivers for change: Commercial Obsolescence of System			
dv_14	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Technical sustainability (Priority 1)</p> <p>2012 (an extension from the previously notified date of 2011) is the effective end date for support of the current TM4/DATAPAY system as vendor support for some key components is projected to finish at this point. While it would be possible to keep the system operating after this date, the risk to the ministry would be significant.</p>			Drivers for change: Technical sustainability			
dv_15	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Payroll accuracy (Priority 2)</p> <p>While the payroll is currently assessed as being 99% accurate by aggregate dollar value, overpayment and underpayment errors largely offset each other. The error rate is therefore hidden and the accuracy cannot be improved without a modern payroll system.</p>			Drivers for change: Payroll Accuracy			
dv_16	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Commercial obsolescence (Priority 3)</p> <p>Datacom has already started transferring its other payroll customers from the obsolete TM4/DATAPAY base to its new JETPAY system and expects this to be complete by the end of April 2008. The ministry will therefore carry the full costs and risks of maintaining an aging payroll system from this point.</p>			Drivers for change: Commercial Obsolescence			
dv_17	Pro_Ini45 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Loss of ministry Intellectual Property (IP)/control (Priority 4)</p> <p>The ministry's management of the outsourced payroll service provider led to substantial loss of ministry visibility and knowledge of payroll processes, systems, and performance. This reduced the ability of the ministry to effectively manage the payroll service provider.</p>			Drivers for change: Loss of Ministry IP/Control			

"foot-note: 45"

Sample quote as shown in shown in spreadsheet, foot-note number: 45

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	ID	Source		Dat	Issue Categ	Textual Description	Possible Dilemn	Stakehold	Inductive Theme		SDLC	Memo
14	dv_14	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			Technical sustainability (Priority 1) 2012 (an extension from the previously notified date of 2011) is the effective end date for support of the current TM4/DATAPAY system as vendor support for some key components is projected to finish at this point. While it would be possible to keep the system operating after this date, the risk to the ministry would be significant.			Drivers for change: Technical sustainability			
15	dv_15	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			Payroll accuracy (Priority 2) While the payroll is currently assessed as being 99% accurate by aggregate dollar value, overpayment and underpayment errors largely offset each other. The error rate is therefore hidden and the accuracy cannot be improved without a modern payroll system.			Drivers for change: Payroll Accuracy			
16	dv_16	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			Commercial obsolescence (Priority 3) Datacom has already started transferring its other payroll customers from the obsolete TM4/DATAPAY base to its new JETPAY system and expects this to be complete by the end of April 2008. The ministry will therefore carry the full costs and risks of maintaining an aging payroll system from this point.			Drivers for change: Commercial Obsolescence			
17	dv_17	Pro_Ini45 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			Loss of ministry Intellectual Property (IP)/control (Priority 4) The ministry's management of the outsourced payroll service provider led to substantial loss of ministry visibility and knowledge of payroll processes, systems, and performance. This reduced the ability of the ministry to effectively manage the payroll service provider.	"Foot-note: 46"		Drivers for change: Loss of Ministry IP/Control			
18	dv_18	Pro_Ini45 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			Functional obsolescence of System (Priority 5) The present TM4/DATAPAY payroll system is a legacy system that does not offer the efficiency and quality improvement features of a modern payroll system. As payroll requirements continue to change (e.g. KiwiSaver, Holidays Act), more and more manual error-prone workarounds will be needed.			Drivers for change: Functional Obsolescence			

Sample quote as shown in shown in spreadsheet, foot-note number: 46

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1	ID	Source		Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Theme		SDL
23	dv_23	Pro_Ini52 Nov-07 MoE Revised Stage2 Business Case Payroll Strategy for	Revised - Stage 2 Business Case			Loss of Ministry Intellectual Property and control of the payroll service The Ministry had lost its knowledge of payroll processes and its visibility/control of payroll risk. This reduced its ability to effectively manage the service, maximise quality, minimise risk, and manage cost.			Drivers for change: Loss of Ministry IP		
24	dv_24	Pro_Ini52 Nov-07 MoE Revised Stage2 Business Case Payroll Strategy for	Revised - Stage 2 Business Case			Lack of contestability of the payroll service Lack of Ministry knowledge placed the incumbent vendor in a monopolist role, with the Ministry uncertain about whether it was getting value for money and whether it had an accurate view of service performance and risk	"foot-note: 47"		Drivers for change: Lack of Contestability		
25	dv_25	Pro_Ini52 Nov-07 MoE Revised Stage2 Business Case Payroll Strategy for	Revised - Stage 2 Business Case			Inconsistent processes and application of rules Payroll processes and collective interpretations varied across the pay centres.			Drivers for change: Inconsistent Payroll Practices		
26	dv_26	Pro_Ini52 Nov-07 MoE Revised Stage2 Business Case Payroll Strategy for	Revised - Stage 2 Business Case			Growing functional obsolescence of the payroll system The applications software used by the payroll service – DATAPAY/ITM4 – was dated and inflexible. Any changes required expert services and were time consuming and costly. The system had limited automated rules functionality and was not able to support date-effective operations.			Drivers for change: Functional Obsolescence		
27	dv_27	Pro_Ini53 Nov-07 MoE Revised Stage2 Business Case	Revised - Stage 2 Business Case			Growing technical obsolescence of the payroll system Several key technical components of the payroll system were soon to be no longer to be supported by third party vendors calling into question the sustainability of the schools' payroll service.			Drivers for change: Technical Sustainability		

Sample quote as shown in shown in spreadsheet, foot-note number: 47

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Sample quote as shown in shown in spreadsheet, foot-note number: 48

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Sample quote as shown in shown in spreadsheet, foot-note number: 49

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	ID	Source		Date	Issue Category	Textual Description	Possible Dilemma	Stakeholder	Inductive Theme		SDLC	Memo
13	dv_13	Min_Inq160 May-07 MoE Memo Recommendations for Next Steps	Internal Momo			<p>Extending the time required to run the existing systems raises the risk of some kind of public failure. This may be through a failure of the payroll itself so that significant number of staff are paid incorrectly or an inability to implement government policy (e. g. tax changes, superannuation). The payroll already suffers significant errors with a current error rate of 6.3% of all pays in any one pay-run.</p> <p>Extending the time of operation on the existing TM4/DATAPAY system means that the ministry will be the sole user of TM4/DATAPAY for an extended period of time. Datacom is currently migrating its clients to JETPAY and expects to have completed this before June 2011. The ministry will therefore bear all costs and risks of a functionally and technically obsolete system.</p> <p>Given the existing problems, there will be significant operational and reputation risk to the ministry and to Government regarding keeping the payroll operating reliably and accurately, well before the June 2011 projected end date. The costs will certainly increase.</p>	"Foot-note: 50"		Drivers for change: Commercial Obsolescence of System			
14	dv_14	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Technical sustainability (Priority 1)</p> <p>2012 (an extension from the previously notified date of 2011) is the effective end date for support of the current TM4/DATAPAY system as vendor support for some key components is projected to finish at this point. While it would be possible to keep the system operating after this date, the risk to the ministry would be significant.</p>			Drivers for change: Technical sustainability			
15	dv_15	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Payroll accuracy (Priority 2)</p> <p>While the payroll is currently assessed as being 99% accurate by aggregate dollar value, overpayment and underpayment errors largely offset each other. The error rate is therefore hidden and the accuracy cannot be improved without a modern payroll system.</p>			Drivers for change: Payroll Accuracy			
16	dv_16	Pro_Ini44 Nov-07 MoE Revised Stage2 Business Case	Stage 2 Business Case			<p>Commercial obsolescence (Priority 3)</p> <p>Datacom has already started transferring its other payroll customers from the obsolete TM4/DATAPAY base to its new JETPAY system and expects this to be complete by the end of April 2008. The ministry will therefore carry the full costs and risks of maintaining an aging payroll system from this point.</p>			Drivers for change: Commercial Obsolescence			

Categorization Spreadsheet 50

Appendix A 3 (ii)

In this sub-appendix, the sample list of quotes are shown, with how they were categorized in a spreadsheet. These are the same sample of quotes which are mentioned in the Appendix A 1.

Appendix A3 is divided in three parts, A3(ii) lists the quotes taken from section 4.3.1.

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1	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes		SDLC	Memo
8		Pro_Ini127 Nov-07 MoE Revised Stage2 Business Case Risk Mitigation			<p>Datacom is a leading vendor in the NZ market-place of outsourced payroll services. To maintain its reputation in the marketplace Datacom is very unlikely to engage in behaviour that could place the schools' payroll at risk during any transition.</p> <p>School Support and Multi Serve currently are sub-contractors of Datacom, and operate the Christchurch and Auckland pay centres respectively, while Datacom directly operates the Wellington pay centre. It is unlikely that School Support and Multi Serve would resist a change in prime vendor in order to remain a part of the schools' payroll service</p>	"Foot-note: 112"					
9		Pro_Ini128 Nov-07 MoE Revised Stage2 Business Case			<p>The contractual regime will be critical to ensuring that the new service produces effective outcomes. This is borne out by the current environment where an inputs based contract does not allow the ministry to effectively control the quality of the outputs.</p> <p>A poorly constructed contractual regime can result in higher than anticipated costs or less than optimal quality of output. This risk has been rated by the Project Board as "high" and so will have ongoing focus at that level.</p>						
					<p>Risk Mitigation</p> <p>The project will mitigate contract risk in the following key ways:</p> <ul style="list-style-type: none">- early engagement of wider ministry contract experience and resource- involvement of contractual expertise early in the RFP development process- clear understanding of the ministry outcomes and the development of a contractual framework that directly supports these- structuring the contract as a master agreement with supporting service schedules that are- consulting with other government agencies to ensure that lessons learned in wider government are applied to the contract			contract related			

Sample quote as shown in shown in spreadsheet, foot-note number: 112

ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes
13	Dev_Nov185 Q4 2011 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)*	Nov-11	Argumentative	Datacom's response to requests for data, technical information and meetings has been tardy and risks impacting downstream work and completion dates. The Novopay Board was so concerned about this that they wrote to the Datacom Chief Executive in December seeking an improvement in their support to the project.	"Foot-note: 117"	Ministry, T2 and Datacom	Data related
14	Dev_Nov189 Q4 2011 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)*	Nov-11	Argumentative	Whilst Datacom have been responsive in providing a fallback option, they have been less responsive to requests for necessary assistance to understand the data in their current system. There has been a number of delays to urgent requests for assistance. Independent resource has been acquired with expertise with the data in the Datacom system, but more capacity is highly desirable. This issue is being escalated to the Datacom Chief Executive		Ministry, T2 and Datacom	Data related
6	Fal_Alt4 Jun-10 Maven Novopay Fallback Plan	Jun-10	Decision	The Ministry has experienced major difficulties with the Novopay project since it was initiated in 2008 and a challenging relationship with the new system developer and future service operator Talent2. Collectively, these have endangered the viability of the project and the contract with Talent2. In late 2009, these issues precipitated a substantial status review and acknowledgement of the urgent need for deep-seated changes in how both the Ministry and Talent2 have been operating. Both parties have committed at the highest level to make these changes and to work together to deliver the project successfully. As part of this, a new plan schedule has been developed and a variation to the contract is being negotiated which extends the delivery date and draws on some contingency funding. The major historical problems with the Novopay project mean that key Ministry decision-makers face a difficult on-going choice about whether to continue with the project if problems persist. This section sets out a framework to support decision-makers in applying consistent, strategic and defensible thinking to this choice.	Whether to continue with the project or not	Between Client (Ministry) & New Vendor	Continuity of the project
8	Bri_Cor20 19-Apr-12 MoE Internal Briefing for CEO - Meeting with T2 Board Chair After warning letter and Issuance of a Material Breach	Apr-12	Decision	Both organizations [T2 and Datacomm] have independently stated that they will not work with each other	Possible dilemmas can be inferred if we analyze why were they not interested in working with each other. Commercial sensitivity, IP, competition for business	Between new and old vendors	Cooperation between the vendor

Sample quote as shown in shown in spreadsheet, foot-note number: 117

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ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes		SDLC	Memo
10	Dev_Nov29 13-Jul-10 IQANZ Independent Quality Assurance Report Rebaseline Health Check Review, July 2010	Jul-10	Negotiation	<p>ongoing business continuity with the requirement to stand up the new service centres prior to implementation. There is likely to be large overlap in resource requirement between the existing Datacom pay centres and the new Talent2 service centres which risks both sides suffering as a result. Commercial negotiations and sensitivities are also factors which complicate the transition planning at this point.</p> <p>A significant risk area in the effective transition of the payroll service is how to balance business continuity until transition is complete with at the same time building the capability of the new service centres prior to transition.</p> <p>There is likely to be large overlap in resource requirement between the existing Datacom pay centres and the new Talent2 service centres which makes this transition more difficult. Review participants demonstrated a clear understanding of the risk, however there are mixed views on how best to mitigate it. While both Datacom and Talent2 recognise the risk, there are commercial sensitivities which also complicate their ability to be fully transparent and collaborative in developing mitigations. We are concerned that consequently there may not be a full appreciation of the magnitude of the risk or the implications of mitigations which address only one side of the risk.</p>	Balancing between the ongoing BAU and setting up new service centers	Between new and old vendors and possibly third party service providers	Transition of resources			
2	Dev_Nov243 Aug-11 Min Edu Novopay project risk register - collated	Aug-11	Decision	There is an issue that changes are made in TM4 in the pay period prior to go-live without prior warning to the project or change control		Between new and old vendors	Change Control Management			<p>Dependency on the outgoing vendor</p> <p>TM4 is the legacy system. T2 requires that any changes to TM4 should be under formal change control process.</p>
3	Dev_Nov322 20-Aug-09 Min Edu Novopay Board meeting minutes	Aug-09	Negotiation	<p>Discussion around the VPN line issue. Datacom does not agree that the connection issues are their fault.</p> <p>JG - says there is no one involved from T2 side to discuss the technical issues. RF said he would check to ensure someone is following up at the T2</p> <p>BK said that the T2 Project manager and (Datacom) have been working on this together and that there were two focus areas:</p> <ul style="list-style-type: none"> • Technical issues with transmissions • Requirement of 10mb line not yet implemented 		Between new and old vendors	Data related			

Sample quote as shown in shown in spreadsheet, foot-note number: 121

	A	B	C	D	E	F	G	H	
1	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes	
		Bri_Cor68 19-Apr-12 MoE Internal MoE [Communication] Leanne Gibson (CIO) to Novopay Board Ministry Personnel Only (Anne Jackson and Lesley Longstone) [Recommendations associated with the outcome of the Warning Letter]			Another option we considered was to investigate utilizing the best portions of the Talent2 and Datacom business continuity to deliver a Novo-Datapay solution (e.g. Talent2 service centre, Datacom Pay centres, Alesco Product, IAAS). Though this sounds promising both organizations have independently stated that they would not work with each other as business partners.	"Foot-note: 125"			
L5	9		Apr-12	Negotiation			Between new and old vendors	Cooperation between the vendors	
L6	11	Dev_Nov40 Extrinsic Project Novopay Review Report, Jan 2010	Jan-10	Negotiation	Talent2 need to utilise Datacom, Subject Matter Experts, and the ESP Unit expertise to resolve data conversion problems. Developers based at Fronde need to understand the root cause of any defects identified in testing in order to modify the customisation of the system	Cooperation and competition between the different vendors	Between Multiple vendors	Cooperation between the vendors	
L7	4	Dev_Nov334 Sep-10 Min Edu Novopay Board meeting minutes	Sep-10	Negotiation	Multiserve was unable to accept the commercial proposition presented to them by Talent2. Talent2 has terminated the Heads of Agreement between the parties and has subsequently been pursuing Plan B. This includes potentially setting up the secondary pay centre in Wellington instead of Auckland		New and third party vendor	Cooperation between the vendors	
L8	5	Dev_Nov355 Feb-12 Min Edu Novopay Board meeting minutes	Feb-12	Argumentative	areas of concern created by the Ministry. Asparona made the observation that sometimes it is not obvious that everyone is working as part of the same team. The Business Owner advised that the Programme Director and she have been made aware of some instances of behaviour recently and requested that any situations of inappropriate behaviour be escalated for resolution. Talent2 agreed there needs to be absolute dedication through to delivery.		Between Multiple vendors	Cooperation between the vendors	
L9	16	Dev_Nov65 Extrinsic Memorandum, 18 Feb 2010	Feb-10	Argumentative	There are often trade-offs in a project of time, quality, and cost. Other dimensions in the trade-offs are team morale, professional reputations, and stakeholder confidence. There is a perception that commercial pressures (i.e. cost and time) have driven decisions and behaviours that are less than optimal from an ongoing relationship perspective. This will need careful ongoing management.	Tradeoffs between time, cost, quality and team morale, reputation and confidence	Generic	Poor morale of resources	

Sample quote as shown in shown in spreadsheet, foot-note number: 125

	A	B	C	D	E	F	G	H
	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Ther
6		Dev_Nov3 May-09 IQANZ Independent Quality Assurance Review, Stage 2 Health Check, May 2009		Argumentation	The strategy assigns ownership of erroneous data to the Ministry and Datacom while devolving Talent 2 from any responsibility. While we understand the reasoning behind this decision (Talent 2 does not have the ability to make decision with regards to the correctness of the data) we would recommend that Talent 2 remains responsible for managing the resolution of any data issues that may occur to ensure control over the projects timeline is maintained.			
7		Dev_Nov11 13-Aug-09 IQANZ Independent Quality Assurance Summary Report, Stage 4 Interim Review, Aug 2009		Argumentation, Negotiation	The data cleansing stream is a point of contention for the project, with Talent2 expressing concern that they do not have a clear view of what is planned and the threshold for cleaned data. We acknowledge Talent2's concern in as much as they cannot control the level of data cleansing and the subsequent unknown impact that any remaining dirty data would have on dependent activities (such as testing). However, in our view the Ministry is sharing the information it can with Talent2, via its regular reporting mechanisms and team meetings. A contingency plan for correcting any remaining data defects during testing and at implementation has been developed with Talent2 input.			
8		Dev_Nov36 Extrinsic Project Novopay Review Report, Jan 2010		Fact	Data conversion is a key dependency for other project activities. Data conversion influences the configuration of the payroll system, the system interfaces, payroll processes, pay centre training and end-user training. Any ongoing issues regarding payroll data have potential to affect the schools' usage of the online payroll system, with resulting impacts on the capacity of pay centres to manage the payroll accurately.	"Foot-note: 130"		
					The ALESCO system is configured to process the data that has been converted from the Datacom system. There are dependencies between data conversion, data cleansing, system configuration, system customisation, and process development. Changes made as a result of data conversion must be correctly reflected in the system operation and the business processes. When a change is made in one component, then all of the system dependencies must be taken into account to ensure that the data, the system and the processes continue to interact as expected, and that no unforeseen errors are introduced into the pay system.			

1	A	B	C	D	E	F	G	H	I	J	K
	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholder	Inductive Themes		SDLC	Memo
40		Min_Inq326 May-13 MoE Ministry Response To Inquiry			<p>During phase two many business requirements were developed and agreed within the original project plan timeframes. However, there were difficulties completing some of the business requirements specific to the schools payroll to a final acceptable standard from which tech requirements could be successfully developed. A number of factors led to these difficulties.</p> <p>SMEs tended, necessarily, to be drawn from the Datacom payroll environment (either Datacom or its sub-contractors for the education payroll). As the requirements grew more complex it was difficult to find sufficient additional SMEs with the education payroll knowledge required.</p> <p>The SME had often gained all their payroll knowledge at Datacom in the schools payroll. This meant that the SMEs sometimes expected that the new payroll would automate pre-existing manual processes rather than use the full capabilities of a modern payroll system with which they were not familiar. Talent2 appeared keen to retain as much off the shelf functionality as possible and to minimise custom work.</p>	"Foot-note: 142"					
41		Pro_Ini2 Aug-08 MoE and T2 Manage Service Delivery Service Schedule between MoE and Talent2 (No date is mentioned, but I presume it was in 2008)			The Ministry acknowledges that in order for the Supplier to meet its obligations (under clause 3.1: Business Requirements and Business Processes) the Ministry will need to make relevant Ministry personnel available in a reasonably timely fashion to answer queries from the Supplier on the Ministry's business requirements and those business processes of the Ministry that will interface with the Supplier business processes to be developed						
42		Dev_Nov227 Apr-10 Min Edu Novopay project risk register - collated			<p>We anticipate discovering further scope requirements during testing which will result in more task and effort</p> <p>MOE resources may not be available in other units when required. Result is a delay in solution design sign off or other deliverables. Matrix management of project resources is difficult to control and could result in delays to project deliverables.</p>						
					11. Project is delayed beyond June 2011. Cannot extend						

Sample quote as shown in shown in spreadsheet, foot-note number: 142

	A	B	C	D	E	F	G	H
1	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes
15		Pro_Ini107 Nov-07 MoE Revised Stage2 Business Case			While Datacom would be potentially displaced by a new vendor (if it is not selected to continue providing the service), it would continue to have a significant interest in the payroll service both during transition and potentially in subsequent operation, as the owner of the Wellington pay centre. Equally, as the incumbent prime vendor it is in Datacom's own commercial interests to ensure a smooth transition as any adverse publicity relating to a failed or problematic transition would affect Datacom's reputation as much as that of the ministry and the new vendor.			Datacom reputation
16		Pro_Ini33 Dec-07 MoE RFP: Provision of Fully Outsourced Payroll Services for the Schools' Sector IT Systems			Datapay and TeacherManager are the current payroll IT systems that support Datacom managing the Education Service Payroll. Datacom stores all payroll information that relates to current employees and employees that have left employment for the past 11 years. The ministry has concerns about the quality of the data.			Quality of datacom data
17	Communications							
18		Dev_Nov40 Extrinsic Project Novopay Review Report, Jan 2010			The structure of the Novopay project, where each organisation is responsible for specific deliverables, with limited interaction and visibility across the work-streams, has constrained the ability of the teams to work collectively to understand the wider implications of decisions made during the development of any one deliverable. We are aware of multiple opinions across the project teams regarding barriers to communication within the project and hence a lack of a common understanding of the challenges being faced.			Lack of communication
19		Dev_Nov147 Jun-11 Change Dynamics Limited Assessment and Improvement of Culture in the Novopay			There is a lack of clarity around roles and responsibilities and who owns what. I also heard about people leaving meetings thinking they had an agreement then having those agreements re-litigated. This is causing tension between people. Many people were concerned that the vendor had no plan for transitioning into the change management phase, and setting up the service part of the contract with a "go live" date a year away. Lack of information and assumptions that there is no planning for this phase are causing real concern for many staff on the project.	"Foot-note: 144"		Lack of communication

Sample quote as shown in shown in spreadsheet, foot-note number: 144

Appendix A 3 (iii)

In this sub-appendix, the sample list of quotes are shown, with how they were categorized in a spreadsheet. These are the same sample of quotes which are mentioned in the Appendix A 1.

Appendix A3 is divided in three parts, A3(iii) lists the quotes taken from section 4.4.6.

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1	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes	I	J
560		Dev_Nov211 Q3 2012 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)'			The new. Novopay service went live on 20 August 2012. Novopay is now part way through its third fortnightly pay period having paid 89,000 staff in each of the first two pay periods. Underpayments, non-payments and overpayments are reducing in each successive pay period and the vendor is catching up on the backlog of payroll instructions received from schools. Where staff have not been paid as expected T2 has initiated an out of cycle pay to ensure they receive their correct pay as soon as possible. Where it has taken time to get new joiners into the system, schools have worked with the Ministry to ensure they receive pay advances. The staff who have been most impacted by the transition are staff on timesheets (up to 15,000), new joiners (up to 400 and staff leaving the Education payroll (up to 400).			Underpayments, non-payments and overpayments are reducing in each successive pay period		
561		Dev_Nov216 Q3 2012 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)'			1. The Novopay service desk has been performing poorly. Schools have experienced long wait times (upwards of nine minutes) with many schools abandoning attempts to get through (typically 30% to 50%). 2. T2 has not been able in process the forms received by schools in a timely manner. "Downstream" teams such as ACC, overpayments, salary assessment, and retrospective transactions have not been able to cope with the volume of work. The Ministry is at risk of the overpayments debt ballooning. 3. Schools have found the online system difficult to use and many have reverted to using manual forms to convey their payroll instructions. This increases the load on the service centre.	"Foot-note: 431"		service desk, unable to process forms and finding online system difficult to cope with		
562		Dev_Nov372 Sep-12 Min Edu Novopay Board meeting minutes			Vaughan Crouch enquired what the reasons for the under and overpayments were. Mary Sue Rogers responded that while not all reasons were clear, some reasons were: (i) some transactions missed the cut-off, (ii) Pay Centre staff training issues (the Retro time sheets are being processed by the team in Christchurch, which is still relatively new and inexperienced), (iii) confusion regarding the units for the mileage allowance. These errors were all operator errors, not errors due to system failure. Other than the errors in the SUE Reports and the Banking/Staffing Reports, there was no systematic system failure. Mary Sue Rogers advised that it would be helpful if the Ministry could issue some instructions to users with examples of best and worst practise. It was noted that some schools seem to struggle more than others – one school sent almost 1000 enquiries.			some of the reasons for under and over payments		

Sample quote as shown in shown in spreadsheet, foot-note number: 431

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ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes	
1	Rem_Pro85 May-13 PwC Appendix A_Initiative B1 - Schools Engagement Service Delivery			<p>- Schools do not like to have to repeat themselves as they did not have to do this with Datacom and see themselves as very time poor.</p> <p>- There are gaps in the service compared to user expectations between what they have now and what they had with Datacom.</p> <p>- Without NSDA to see Where their query is at, Schools struggle to know where their request is at due to the numerous service request numbers and ambiguous emails received from the Service Centre</p>			Schools wanting a dedicated pay clerk	
2	Rem_Pro100 May-13 PwC Appendix B: Initiative B2 - Improve User Experience			<p>- Schools seek out only the information they need on an 'as-needed' basis and want the shortest and quickest way to get that information. They generally do this by calling the Service Centre directly with their specific question when they need an answer, although some larger schools with dedicated payroll administrators or executive officers tend to be more able or willing to self-serve</p>			schools want the shortest way to get answers	
3	Rem_Pro134 2013 PwC Appendix D: Initiative B4 - Assess School Payroll Process Improvement Opportunities			<p>The channel preferred by users for contacting the Service Centre for resolving issues is the phone channel with 86% of the schools visited choosing this channel. Many schools have not had a satisfactory experience to date when dealing with the Service Centre. When asked to rate the customer experience on a scale of 1 to 5 where 1 = poor, 5: good, the average user ratings were:</p> <p>Customer service ethos - 3</p> <p>Level of technical knowledge - 2</p> <p>Timeliness of response - 1</p> <p>Users generally felt they had to wait a long time to get through to the Service Desk. When they got through, they felt that service agents were not able to help them without either having to put them on hold (to seek advice from a supervisor) or transferring them to another agent. This was seen to be frustrating, as the users had to explain the issues from the beginning, repeatedly.</p>	"Foot-note: 433"		User experience to date with contacting Novopay is leading to inefficient practices at schools	

Sample quote as shown in shown in spreadsheet, foot-note number: 433

E511										
	A	B	C	D	E	F	G	H	I	J
1	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes		SDLC
111		Dev_Nov378 Oct-12 Min Edu Novopay Board meeting minutes			<p>Leanne visited some schools and found that while there are some training and competency issues, a vicious cycle is created due to the lack of a responsive and helpful Service Centre: Administrators try to use the system, they encounter an issue and call or email the Service Centre; when they don't receive a helpful response and the payroll deadline approaches, they escalate their problems to all channels that are available to them, which includes ESP, Deputy Secretaries, Lesley Longstone and the Minister. Some Administrators are currently printing every transaction on paper in order to have a paper trail – enough to fill one folder per staff member – which they then need to reconcile with their Transaction or SUE Reports. The number of complaints that the Ministry is currently receiving could be reduced if the responsiveness of the Service Centre is improved.</p>			Vicious cycle is created due to the lack of responsiveness		
112		Min_Inq319 May-13 MoE Ministry Response To Inquiry			<p>- Instead of having their own pay clerk (with Variable expertise and availability) schools would have direct access to experts in a help desk.</p> <p>- The failure of the service and pay centres to cope with the volume of calls and transactions meant that this low level of business change was not achieved.</p>			business change was not achieved		
113		Min_Inq349 Feb-13 MoE Post Go-Live PID Remediation Programm			The Novopay service went live on 20th August 2012 with a first pay date of 5th September 2012. Post go-live, the service has faced issues relating to the reliability and accuracy of the pay runs, as well as service delivery issues. The inability to stabilise these issues has resulted in sector frustration and a negative public perception. Key stakeholders are dissatisfied with, and lack confidence in, the Novopay service to meet their needs. The Ministry and Talent2 have agreed to remedial action to fix issues that have arisen in relation to Novopay to deliver to the required customer needs and expectations			high level description of the service failure		
114		Dev_Nov379 Oct-12 Min Edu Novopay Board meeting minutes			Brian advised that there were two Production issues in this pay cycle. One was due to human error in regards to defining the extent of the pay cycle, which resulted in a set of transactions not being included in the SUE Report, but they were processed for the pay-run. This has generated a lot of calls to the Service Desk. Measures have been put in place to ensure this error does not reoccur.			reason for SUE report issue		
115		Dev_Nov379 Oct-12 Min Edu Novopay Board meeting minutes			The other issue was that there was an error in the calculation of holiday pay, which resulted in 124 staff receiving two days more holiday pay than they were supposed to. This issue was due to a defect in the formula how to calculate holiday pay.			wrong formula for cal of Holiday pay		

"Foot-note: 435"

Sample quote as shown in shown in spreadsheet, foot-note number: 435

ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes
	Dev_Nov216 Q3 2012 Min Edu High Risk Projects - Quarterly meeting reports (2010 to 2012)			<p>1. The Novopay service desk has been performing poorly. Schools have experienced long wait times (upwards of nine minutes) with many schools abandoning attempts to get through (typically 30% to 50%).</p> <p>2. T2 has not been able in process the forms received by schools in a timely manner. "Downstream" teams such as ACC, overpayments, salary assessment, and retrospective transactions have not been able to cope with the volume of work. The Ministry is at risk of the overpayments debt ballooning.</p> <p>3. Schools have found the online system difficult to use and many have reverted to using manual forms to convey their payroll instructions. This increases the load on the service centre.</p>			service desk, unable to process forms and finding online system difficult to cope with
	Dev_Nov372 Sep-12 Min Edu Novopay Board meeting minutes			<p>Vaughan Crouch enquired what the reasons for the under and overpayments were. Mary Sue Rogers responded that while not all reasons were clear, some reasons were: (i) some transactions missed the cut-off, (ii) Pay Centre staff training issues (the Retro time sheets are being processed by the team in Christchurch, which is still relatively new and inexperienced), (iii) confusion regarding the units for the mileage allowance. These errors were all operator errors, not errors due to system failure. Other than the errors in the SUE Reports and the Banking/Staffing Reports, there was no systematic system failure.</p> <p>Mary Sue Rogers advised that it would be helpful if the Ministry could issue some instructions to users with examples of best and worst practise. It was noted that some schools seem to struggle more than others – one school sent almost 1000 enquiries.</p>			some of the reasons for under and over payments
	Dev_Nov373 Sep-12 Min Edu Novopay Board meeting minutes			<p>She noted that Payroll Administrators' experience of Novopay Online was that there was some kind of error every day. While many of these errors have been remedied, there is still the impression of continuing errors, which taints the experience. Key issues have been categorised – i.e. process, reporting, service, training, and usability – and assigned a timeframe against them regarding how soon they need to be fixed. Appendix A lists the changes that have already submitted to the formal Change Request process, Appendix B has been provided to the Novopay team by an experienced EO and gives an insight into the issues experienced by schools.</p> <p>Mary Sue Rogers was asked whether it is standard practice to close tickets after 48 hours. She advised that there is no process that automatically closes service tickets within 48 hours, but there were a number of historic tickets where the team asked whether they could be closed and did close them if they didn't receive a response. However, Leanne Gibson advised that she has been made aware of instances where tickets were closed because there was no reply within 48 hours.</p>			experience of NOL

"Foot-note: 435"

Sample quote as shown in shown in spreadsheet, foot-note number: 436

	A	B	C	D	E	F	G	H
	ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes
23		Dev_Nov371 Sep-12 Min Edu Novopay Board meeting minutes Update from Talent2			<p>She [Mary Sue Rogers] advised that the Service Centre has received 154,000 payroll instructions over the past 14 days, which is significantly more than had been expected. The team is currently clearing the backlog, which is expected to be done by tomorrow. About 5000 people were underpaid in yesterday's pay-run. These were staff on timesheets, especially relievers; staff on auto-payments were not affected. There were also 15 people who were not paid at all. Both, the underpaid staff and those who didn't get paid will be paid through an out-of-cycle pay today, so the money will be deposited into their bank accounts after midnight tonight (i.e. Friday morning). As the out-of-cycle pay is part of Pay Period 2513 from a fiscal perspective, there won't be a SUE Report for it, but there will be a full transaction report. The Ministry will also receive a report which summarises all pay codes to ensure the reporting matches the actual bank transactions.</p>	"Foot-note: 437"		very large no of payroll instructions were received
24		Dev_Nov391 Jul-12 Min Edu Novopay Project Status Report Weekly			The Service Desk had a high number of contacts from users this week, with a number of issues around passwords and accessing training modules. A large number of these were caused by users having incompatible browsers or a needing to upgrade their flash player to run the modules. The solution for many users was time consuming in that they need to be talked through how to install upgrades, however the Service Desk have now effectively reduced the number of outstanding queries, ending the week with 92 open requests, down from over 600 at the beginning of the week.			kind of queries from the service desk
25		Min_Adv138 Jul-12 MoE Education Report: Novopay Project Service Readiness			Service Centre volumes have significantly increased following the end of the schools holidays. There has been a noticeable increase in the number of queries about NovopayBeta reflecting increased use of the practice environment.			service centre vol have significantly increased
26		Min_Adv150 Aug-12 MoE Education Report: Communications Plan for Novopay Go-Live			<ul style="list-style-type: none"> -When Novopay goes live authorised administrators will be issued a new password. -Our experience to date informs us that this will lead to increased mistakes with passwords in the early days of go live. For example, almost 50% of people trying to access Novopay training have been locked out of the system because they used the wrong password or ID. -This could result in a very high volume of calls and-emails to the Novopay service centre, and therefore less—than—ideal response and service times. 			issue of password may result in higher no of calls

Sample quote as shown in shown in spreadsheet, foot-note number: 437

ID	Source	Date	Issue Category	Textual Description	Possible Dilemma	Stakeholders	Inductive Themes
1	Min_Inq354 Feb-13 MoE Post Go-Live PID Remediation Programme			<p>There is a perception that there is a backlog of transactions from previous pay periods. Some of these are related to delays in processing, others require a response from the school for further information. This results in confusion and dissatisfaction in the sector as users are unsure of the status of their instruction, if and when it will be processed. This has also resulted in an overflow of queries and requests direct to the Ministry where users are unable to contact or receive the clarity they require from the service centre.</p> <p>In order to ensure accuracy in the payroll and improve user confidence it is imperative these backlogs are addressed as soon as possible. This initiative will assign a core team of resources to work through the backlogs to ensure all outstanding transactions are processed and avoid potential subsequent errors resulting from unprocessed instructions. Developing communication channels back to schools over completed backlog changes or remaining actions will be vital to ensuring the schools understand the impact of the historical transactions on affected staff and enable them to provide updates as to progress or how to resolve queries that are remaining.</p>			Address backlogs
2	Min_Inq357 Feb-13 MoE Post Go-Live PID Remediation Programme			<p>This initiative aims to reinstate the online chat facility on the Novopay website by adding additional resources. This will ensure users can contact the service centre at times that suit them, without having to wait on hold or wait for a call back that may come when they are no longer available. This activity will need to be carefully analysed and assessed to ensure it does not have a detrimental effect on the on-going service. Please note: While this work will have a short term focus on addressing immediate sector communications requirements, the long-term initiatives will be assessed and identified through work relating to initiatives B6 and B8 outlined below. It is important that the resource for this initiative is not at the expense of processing.</p>	"Foot-note: 441"		Reinstate Online Chat for the school administrators — provide another channel for communication with the service centre
				<p>This is an initiative to improve the content of emails sent from the Novopay Service Desk Application (NSDA) service centre to ensure the message is clear as to what action is required, what action is being taken and the status of their issue. It also aims to ensure that only one ticket number is allocated per request (even if it changes queues).</p> <p>This will enable users to understand what email relates to what query, avoid confusion created with numerous email responses and to track progress of their</p>			

Appendix A 4

This appendix lists a screen shot of an email from a notable contact who did PhD in IT Sourcing Strategies. Excerpt from this email is used as a foot-note 22

Appendix A 5

This appendix lists some screen shots of Mendeley which lists down data folders and sample data files. Mendely was used as a first stage to store and analyze data.

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Authors	Title	Year	Published In	Added
{done} Ernst & Young	Review Transfer Education Service Payroll, Oct 96	1996		5/08/13
{done} Equinox	Datacom Payroll Application Sustainability Review Aug '04	2004		5/08/13
{done} TBD	Stage 2 Business Case, May 05	2005		5/08/13
Duplicate	Cabinet: Minute of Decision CABMin (05) 20/2 - June 2005	2005		5/08/13
Ministry of Education	Background on Novopay	2005		5/08/13
NA	Selection of Preferred Supplier For the Replacement of the System, Feb 05	2005		5/08/13
	Cabinet, Minute of Decision, Cab Min (05) 20/2	2005		5/08/13
NA	Issues Arising Draft Business Case, Aug 06	2006		5/08/13
Thomas, Prasanth; Nandakum...	Switching Vendors , An Outsourcing Reality. Cognizant Technology Solutions.	2006		19/08/13
{done}	Project History to 1 March 2007	2007		5/08/13
{done}	Memo Recommendations for Next Steps, May 07	2007		5/08/13
done direct select : Ministry of ...	Request for Proposal. Supporting Document. High Level Business Processes for the Education Service Payroll, Dec 2007	2007		5/08/13
done Ministry of Education	RFP: Provision of Fully Outsourced Payroll Services for the Schools ' Sector, Dec 2007	2007		5/08/13
done Ministry of Education	Revised Stage2 Business Case, Nov 2007 (Combined)	2007		5/08/13
done NA Ministry of Education	RFP Approval Memo: Schools Payroll Request For Approval, Dec 2007	2007		5/08/13
Duplicate	Cabinet: Minute of Decision CABMin (07) 43/2 - Dec 2007	2007		5/08/13
NA	Memo: Final Sign-Off of Payroll ROI Evaluation and Short Listed Vendors, Oct 07	2007		5/08/13
	Cabinet, Minute of Decision, CAB Min (07) 43/2	2007		5/08/13
	Cabinet, Minute of Decision, CAB Min (07) 30/3B	2007		5/08/13
{done}	Memo: Notes for Briefings to Leadership Team, May 08	2008		5/08/13
done Ministry of Education	Memo To Anne Jackson: Approval of Recommended Vendor, May 2008	2008		5/08/13
done MoE and Talent2	Education Service Pavroll Outsourcing Agreement	2008		5/08/13

Details Notes Contents

These details need reviewing. You can mark them as correct, or search the Mendeley catalog.

Details are Correct Search

Type: Generic

BriefingsCorrespondence_EduF

Authors: Authors

View research catalog entry for this paper

Year:

Pages:

Abstract:

Tags:

Author Keywords:

City:

Publisher:

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☆	{done}	Replacement of Schools' Payroll -Report Back, Jul 09	2009		5/08/13
☆	{done}	Education Report: SSC Report on School's Payroll, Dec 09	2009		5/08/13
☆	{done} MAVEN	Novopay Fallback Plan, Jun 2010	2010		5/08/13
☆	Beulen, Erik; Tiwari, Vinay	Parallel Transitions in IT Outsourcing : Making It Happen	2010		26/08/13
☆	done MoE and Talent2	Project Initiation Contract Part4 Variation Agreement	2010		5/08/13
☆	Extrinsic	Novopay Project Review Report by Extrinsic	2010		5/08/13
☆	Extrinsic	Project Novopay Review Report, Jan 2010	2010		5/08/13
☆	Pwc	Educational Services Payroll Project - Intervention Review, 14 Dec 2010	2010		5/08/13
☆	Pwc	Educational Services Payroll Project Review, 19 Nov 2010	2010		5/08/13
☆	{done}	Project Board Minutes, Dec 11	2011		5/08/13
☆	{done} Datacom NA	Executive Summary Datacom Proposal, Dec 2011	2011		5/08/13
☆	{done} MAVEN (NA min)	Payroll Market Scan Report, Nov 2011	2011		5/08/13
☆	{done} Ministry of Education	Payroll Business Continuity Option - Procurement Plan, Aug 2011	2011		5/08/13
☆	{done} Ministry of Education	Change Impact Assessment, Dec 11	2011		5/08/13
☆	{done} Ministry of Education	Memo: Payroll Business Continuity Option - Decision-making Framework, Sep 2011	2011		5/08/13
☆	{done} Ministry of Education	Payroll Business Continuity Option. Procurement Determination, Nov 11	2011		5/08/13
☆	{done} Ministry of Education	Memo: Principles For Draft Payroll Business Continuity Option Contract, Nov 2011	2011		5/08/13
☆	{done} Ministry of Education	Memo: Initial Assessment of Datacom Proposal for a Payroll Business Continuity Option, Dec 2011	2011		5/08/13
☆	{done} Ministry of Education	Memo: Payroll Business Continuity Option Project Team, Aug 2011	2011		5/08/13
☆	{done} Ministry of Education (...)	Memo: Datacom SoW Submission, Dec 2011	2011		5/08/13
☆	{done} Ministry of Education (...)	Memo:Datacom SoW Submission, Oct 2011	2011		5/08/13

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☆	•	📄	Olzmann, Matthias; Wynn, Mar...	Switching IT Outsourcing Providers – a Conceptual Framework and Initial Assessment of Critical Success Factors	2011		20/03/13
☆	•	📄	Pwc	Fallback Option Timeline View, 1 June 2011	2011		5/08/13
☆	•	📄	Pwc	Education Service Payroll Project, Mid-point Milestone Review, June 2011	2011		5/08/13
☆	•	📄		School's Payroll Reference Group Minutes	2011		5/08/13
☆	•	📄	{done}	Final Go-Live Readiness Checklist, Aug 12	2012		5/08/13
☆	•	📄	{done}	Update on Confidence Point One, Apr 12	2012		5/08/13
☆	•	📄	{done}	Post Go-Live: Email Training Overview, Nov 12	2012		5/08/13
☆	•	📄	{done}	Novopay Controls Assurance. Internal Audit Report May 12	2012		5/08/13
☆	•	📄	{done}	Project Board Minutes, Nov 12	2012		5/08/13
☆	•	📄	{done} Assurity	UAT 32 Pay Period Test Plan- Feb 2012	2012		6/08/13
☆	•	📄	{done} Assurity	Service Centre Readiness Summary Report - Aug 2012	2012		6/08/13
☆	•	📄	{done} Assurity	Test Summary Report, SIT - May 2012	2012		6/08/13
☆	•	📄	{done} Assurity	32 Pay Period Test Summary Report - Aug 2012	2012		6/08/13
☆	•	📄	{done} Assurity	Third Party End to End Test Summary Report - Aug 2012	2012		6/08/13
☆	•	📄	{done} Assurity	Service Centre Readiness Summary Report, Aug 2012	2012		5/08/13
☆	•	📄	{done} Datacom (NA Min)	MoE Schools Payroll Contingency Option Quick Wins Phase 1, Data Migration Analysis & Design, May 2012	2012		5/08/13
☆	•	📄	{done} Datacom NA	MOE Schools Payroll Contingency Option Quick Wins Phase 1, i-paydata End of Year , May 2012	2012		5/08/13
☆	•	📄	{done} Datacom NA	MOE Schools Payroll Contingency Option Quick Wins Phase 1, i-paydata Bulk Timesheets, May 2012	2012		5/08/13
☆	•	📄	{done} Datacom NA	MOE Schools Payroll Contingency Option Quick Wins Phase 1, i-paydata Start of Year, Jun 2012	2012		5/08/13
☆	•	📄	{done} Ministry of Education	Memo: Contract for a Schools Payroll Business Continuity Option, May 2012	2012		5/08/13
☆	•	📄	{done} Ministry of Education	Memo: Assessment of Datacom Proposal for a Payroll Business Continuity Option, Feb 2012	2012		5/08/13

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☆	•	📄	NA	Memo: Change Request 98: Project Plan Updates BCM - Dec 2012	2012		6/08/13
☆	•	📄	NA	Project Milestone Acceptance Criteria - July 2012	2012		6/08/13
☆	•	📄	NA	Tracking data of training process for Novopay users , actions and interventions	2012		5/08/13
☆	•	📄	NA	Milestone 9.8 - All Business Processes Finalised - Aug 2012	2012		6/08/13
☆	•	📄	NA	Milestone 7.04 And 7.05 - May 2012	2012		6/08/13
☆	•	📄	NA min	Novopay Project Weekly Report as at Tuesday 10 January 2012	2012		5/08/13
☆	•	📄	NA min	No Title	2012		7/08/13
☆	•	📄	NA min	Project Weekly Report for Wednesday 7 March 2012	2012		5/08/13
☆	•	📄	NA min	Programme status report, Novopay Program - July, Feb, Jan 2012	2012		5/08/13
☆	•	📄	NA min	Project Weekly Report for Wednesday 2 May 2012	2012		5/08/13
☆	•	📄	NA Ministry of Education	Novopay Change Readiness and Engagement Survey #2 , Aug 2012	2012		5/08/13
☆	•	📄	Pwc	Quality Assurance of re-Baselined Plan, Feb 2012	2012		5/08/13
☆	•	📄	Rogers, Mary Sue	No Title	2012		6/08/13
☆	•	📄	Work 1	Project Novopay Board Meeting - Part(1)	2012		5/08/13
☆	•	📄	Work 2	Project Novopay Board Meeting - Part(2)	2012		5/08/13
☆	•	📄		School's Payroll Reference Group Minutes	2012		5/08/13
☆	•	📄		NovoTimes, Weekly internal project news letter	2012		5/08/13
☆	•	📄	{done}	Ministry Responses To Inquiry, May 13	2013		5/08/13
☆	•	📄	{done}	Ministry Response To Inquiry, May 13	2013		5/08/13
☆	•	📄	{done} Assurity	SIT 2 Test Summary Report - Jan 2013	2013		6/08/13
☆	•	📄	{done} Assurity	SIT 1 Test Summary Report - Jan 2013	2013		6/08/13
☆	•	📄	{done} Assurity	Test Strategy (Draft Submitted) - Jan 2013	2013		6/08/13

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Appendix A 6

Link between Dilemmas and Narratives

Dilemmas	Corresponding Narratives
5.2 Shifting to a new version of a system	4.2.1.3 Recognizing the need for transition: Vendor Related & 4.2.1.4 Client Related
5.3 Management of Intellectual Property Rights	4.3.1 Dependencies on Outgoing Vendor
5.4 Core and Non-Core Activities	4.3.2 Dependencies on Client
5.5 Acquiring a new system	4.3.3 Customizations of Base Product
5.6 Managing Incoming and Outgoing Vendors	4.3.1 Dependencies on Outgoing Vendor
5.7 End of an Outsourcing Contract	4.2.2 Considering the Different Dimensions of Transition
5.8 Procurement Strategies	4.2.4 Revised transition approach – Alternatives and options
5.9 Contingency Planning	4.3.6 Establishing of Fallback Plan
5.10 Sending a Material Breach Notice	4.3.7 Contemplating the Use of Material Breach
5.11 Toll-gates for Advancing a Project	4.3.5 Lowering of Quality Criteria
5.12 Service Delivery Model	4.3.9.4 Changes in service delivery model & 4.3.9.7 Increase in effort and workload
5.13 Roll-out Strategies	4.3.5.3 Choosing single-phase rollout & and 4.3.5.4 Eliminating pilot-testing
5.14 Training of end-users	4.3.8 Training and Preparedness of End-users
5.15 Consideration about re-transition	4.4.6 Performance in service centres

Appendix A 7

Link between Recommendations and Narratives

Recommendations	Corresponding Narratives
1. Transition initiation is not under the control of clients....	4.2.1 Recognizing the need for transition
2. When vendors are being switched (as part of transition)....	4.3.8 Training and Preparedness of End-users & 4.3.9 Impact of Transition on End-users...
3. In a vendor lock-in situation, new vendors should be....	4.3.3 Customizations of Base Product
4. Data migration requires knowledge about the incumbent....	4.3.1 Dependencies on Outgoing Vendor
5. End-users of public sector projects are diverse....	4.3.8 Training and preparedness of End-users
6. In public sector projects, end-users have varying....	4.3.8 Training and preparedness of End-users
7. It is onerous to determine all the external dependencies....	4.3.5.3 Choosing single-phase rollout & 4.3.5.4 Eliminating pilot-testing
8. If a new system and/or service delivery model is expected....	4.3.9 Impact of Training on End-users...
9. COTS based systems may become bespoke-like....	4.2.2.3 Core Technology Options & 4.3.3 Customizations of Base Product
10. Delays in a transition project require clients to....	4.3.6 Establishing of Fallback Plan