IT project governance and stakeholder conflict resolution

by

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Abstract

IT projects have long been problematic, particularly as they have grown in size and complexity, frequently integrating several organisational functions, and often involving many stakeholders as a result. A common problem with large, complex IT projects is stakeholder conflict. Unless conflict is resolved effectively, there is a risk that the project will suffer delays and struggle to make progress.

The purpose of this study is to investigate the role that environmental factors, such as culture, power, and history, play in conflict resolution. This study also examines how IT project governance can moderate the negative effects of environmental factors, and facilitate more successful conflict resolution. A systems perspective is used to represent the research framework. A positivist, qualitative research method using three case studies is used to examine the nature of conflict resolution in IT projects, comparing and contrasting outcomes. IT project governance arrangements (policies, authority structures and mechanisms) are found to be critical to the way stakeholder conflict is resolved.

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1. Introduction

Organisations find it difficult to complete large, complex information technology (IT) projects within time, budget, and user expectations. A KPMG survey of more than 600 organisations across 22 countries undergoing large IT projects found that nearly half the respondents experienced at least one project failure over the previous year (KPMG, 2006). Furthermore, 86% of respondents reported losses of up to 25% of targeted benefits across their project portfolio.

To the non-IT professional this is often surprising. After all, resources frequently appear plentiful, there are a plethora of methodologies available to guide the conduct of a project, there are often experienced and knowledgeable IT personnel involved, and many current IT projects share common features with past IT projects. Perhaps the relative youth of IT, exacerbated by ever-changing information technologies that affect the way information systems are developed and the way work is done, makes it difficult to establish stable, universal approaches to IT projects.

To account for IT projects failures, the IT project process must come under scrutiny. If it were simply a matter of following a set of processes, then it should be enough to develop a business case, set a budget and timetable, allocate a project steering committee, a project manager and other IT professionals, create the project plan, design, build and implement the IT 'solution', and enjoy the newfound benefits. These steps are commonplace today. While they appear to be necessary, they are clearly not sufficient.

The KPMG industry survey report (KPMG, 2006) goes on to explain why it is still difficult to get IT projects right.

- The number of new projects had increased (for 81% organisations);
- The complexity of projects has increased (for 88% organisations);
- The total project budgets have increased (for 79% organisations).

KPMG observed: "Today's projects are often characterized by increased complexity and interdependencies. We have observed an increased volume of cross-divisional

initiatives requiring multi-disciplinary teams, aimed at customer-centric objectives.”(KPMG, 2006, p. 9) The report emphasised the importance of IT project governance.

The increase in large, complex projects is due, in part, to the general popularity of systems that seek to integrate operations across different parts of the organisation, including: Business Process Redesign (BPR), Enterprise Resource Planning (ERP), systems integration, and more recently, e-commerce and e-business initiatives.

Large, complex IT projects typically involve a variety of stakeholders, including several different user groups. With more stakeholders, the probability of conflict between stakeholders over the life of the project should also be greater. Stakeholder conflict has been highlighted many times as a potentially serious threat to IT projects (Barki & Hartwick, 2001). There is a consequent interest in providing more effective means of resolving conflict in IT project settings.

Stakeholder conflict is defined to be a dynamic process that occurs between IT project stakeholders as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals (Barki & Hartwick, 2004). This characterises conflict through the use of three dimensions of conflict: *disagreement* between stakeholders; *negative emotions* between stakeholders; and perceived *interference* with goal achievement between stakeholders. Conflict resolution is defined to be the reduction, elimination or termination of such conflict (M Rahim, 2000), and in this study is characterised by the reduction in the levels of disagreement, negative emotions and interference.

Human behaviour in organisational settings has long been recognised as complex and difficult to analyse and predict, and this has also been found to be true in IT projects. (Winter, Brown, & Checkland, 1995) The problem is how best to address conflict and resolve it effectively. One possibility is improved IT project governance.

Increasing attention has been paid to IT project governance as a way to facilitate project success and reduce or manage conflict. In this study, governance is defined to be the way strategies are set, monitored, and achieved, by employing

combinations of the following three arrangements: policies, authority structures and mechanisms.

- *Policies* are used to interpret strategy in such a way as to guide or constrain decision-making.
- *Authority structures* outline the responsibilities and allocation of decision-making rights.
- *Mechanisms*, including procedures, processes and methodologies, are tools the decision-maker can employ to help facilitate both decision-making and decision implementation.

Thus, IT project governance focuses on the strategies and objectives of the IT project, and the policies, authority structures and mechanisms employed to help realise them.

Compared to the rapid rise in academic interest in the governance of the IT function in organisations, research into IT *project* governance has been limited, with most studies appearing within the last decade. Some have focussed on IT project governance functions, such as: IT project selection, prioritisation, and approval (Morrison & Brown, 2004); IT project crisis management (Ivory & Alderman, 2005; Montealegre & Keil, 2000); and IT project risk management (Kappelman, McKeeman, & Zhang, 2006; Schmidt, Lyytinen, Keil, & Cule, 2001). Others have focussed on IT project governance arrangements, such as: IT project policies (Hill, 2004; Jiang, Klein, & Chen, 2001); authority structures such as the project manager (Sumner, Bock, & Giamartino, 2006), the project management office (Hill, 2004), and the project steering committee (Larsen, Pedersen, & Andersen, 2006); and mechanisms such as IT project lists and scoring tools (Knodel, 2004); situated action planning (Rosch, 2002); and implementation methodologies (Fichman & Moses, 1999).

However, few studies have taken a broader view. There is a need to develop a more integrated approach to framing and analysing what occurs in an IT project over time and why. Understanding the complexity of any system, and the impact of change on that system, requires consideration of a wide range of factors and their

interrelationships (Wollin, 1999). It has been suggested that there is a common “deep structure” to organisational systems.

“A key concept is the nested, multi-level organization of ‘deep structure’, the order in a system. This includes culture, technology, operating routines, control systems, organizational structure, resources and distribution of power.” (Wollin, 1999, p. 359)

In order to understand complex behaviours in organisational systems, we need to incorporate the many-faceted ‘deep structure’ of the organisation. In this research, it is argued that if IT project governance is to address the unpredictability of complexity, particularly in the form of stakeholder conflict, it needs to be framed by the characteristics that contribute to the situation’s complexity.

We note that in addition to factor such as technology and operating routines, the ‘deep structures’ of systems include human factors such as culture and power. Organisations typically see decision-making as a rational process, but human decision-making is not always rational, and can be influenced by a number of other, less tangible factors such as organisational culture and power (Pfeffer, 1992). These characteristics need to form part of the context for a holistic study of IT project governance.

That IT projects are getting larger, more expensive, and more complex, with the need for better project governance, seems reasonable. It also seems likely that human factors and conflict are important contributors to the complexity and unpredictability of project outcomes. However, it is unclear exactly what kind of project governance arrangements would work best in complex situations, and what approaches are most effective in managing conflict in IT projects. A better understanding of these inter-relationships will ensure that the more appropriate IT project governance arrangements could be coordinated, implemented, and monitored.

1.1. Research Overview

This study focuses specifically on interpersonal conflict between IT project stakeholders, and how specific governance arrangements can improve the effectiveness of conflict resolution.

Stakeholder conflict, as a manifest example of interactive human behaviour, is a genuine risk to the IT project. To examine stakeholder conflict through a broad, integrative framework, it is argued that a holistic perspective is necessary. Holism is based on "...the idea that the properties of a system cannot be determined or explained by the sum of its components alone." (Bellamy, Geyer, & Wilkinson, 2008, p. 462) In an IT project context, a traditional reductionist view would identify project phases, subprojects, tasks and milestones, whereas a holistic view would identify elements beyond project control that affect the way the IT project evolves.

"Holism has been around for a long time, but because of the apparent success of the traditional scientific method, has had to take second place to reductionism. Holism deserves to be reinstated as an equal and complimentary partner to reductionism. It encourages the use of transdisciplinary analogies, it gives attention to both structure and process, it provides a powerful basis for critique, and it enables us to link theory and practice in a learning cycle." (M. Jackson, 2006, p. 647)

Systems thinking is employed to develop a research framework that provides an holistic perspective of conflict in an IT project. Relevant constructs informed by the 'deep structure' of systems are identified from the literature and placed in the framework. As a result, a system model focussed on the management of conflict resolution is developed and used to frame the research. The research problem is expressed in the form of three research questions:

RQ1: In what way, and to what extent, do environmental factors affect the conflict resolution process and its outcomes?

RQ2: In what way, and to what extent, can governance design, monitor, and control the management of conflict resolution?

RQ3: In what way, and to what extent, can governance moderate negative effects of environmental elements on conflict resolution?

To address these questions, data was collected from three organisations that have been recently involved in large IT projects with a variety of stakeholders.

Employing a case study research methodology based primarily on interviews, each of the constructs, and their interrelationships, within the framework were examined, thus building up a set of observations and analytical explanations as to why conflict-

related events unfolded the way they did. These are discussed for each case, and then compared and contrasted across all three cases.

1.2. Structure of the thesis

In **Chapter 2** the literature is reviewed across a wide range of constructs that are relevant to IT project related interpersonal conflict and its resolution. The nature of IT projects are explored, including current thinking on what makes IT projects succeed or fail, why they are becoming increasingly complex, and how taking a holistic perspective can help frame and analyse this complexity. IT project stakeholders, both as groups and individuals, are considered. Interpersonal conflict, and its resolution, between stakeholders are defined and examined both in general, and more specifically within IT project settings. Each of the IT project context-based factors are also explored in the literature, including: stakeholder power, culture and history. These are discussed in terms of organisational behaviours and their effects on conflict resolution. Finally, the organisational governance literature was examined to establish the nature of corporate governance, IT governance, and most importantly of all, IT project governance.

In **Chapter 3**, systems thinking is employed to integrate the different factors identified in Chapter 2, establishing a research framework based on elementary systems concepts. The system is based around the conflict resolution process, receiving a conflict issue as input, and producing resolution outcomes as output. The system environment (incorporating those factors outside the system boundary) includes contextual factors like power, culture and history. The system control function includes both management decision-makers providing direct control, and governance providing indirect control (through management). A system framework has the dual advantages of providing for both holistic and reductionist perspectives of the system.

In **Chapter 4**, an appropriate research methodology is established to test how successfully the framework can be applied to an IT project context. A positivist approach is selected to reflect the past work of scholars who have identified and examined the relevant factors that will make up the major constructs of the research framework. A qualitative approach to data collection and analysis, based on case study research, is required to gain insights into the complex, interactive human

behaviours. The data collection is based on the critical incident method, where interviewees are asked to recall specific incidents of conflict that they may have encountered or observed over the progress of the project. A critical incident, in this study, becomes an incident of conflict, which is set to be the unit of analysis.

Each of **Chapters 5, 6 and 7** begin with a description of a case organisation, the IT projects under scrutiny, and the stakeholders involved. Interviewees for each case comprised people in key positions, or representing key stakeholder groups, including the project manager, user groups, the IT function, management, external vendors and contractors. The interviews, focussing on recall of conflict incidents within the project, were transcribed and analysed.

Finally, **Chapter 8** compares and contrasts the research outcomes from each of the three cases. A series of more generalised findings are presented and discussed, culminating in five major emergent themes. The chapter finishes with a brief consideration of research limitations, future research opportunities, and research contributions.

2. Literature Review

Recent trends in practitioner publishing suggest good governance practices – particularly IT and project governance – should make a significant difference to the way IT projects are controlled. It is argued here that governance practices can make a significant difference to the way IT project conflict can be resolved. To test this, it is necessary to know more about conflict itself, what factors affect its resolution, and how well they can be controlled to increase the likelihood of a positive outcome.

This chapter begins with a brief examination of significant IT projects in medium to large organisations, how complex they are, and the usefulness of a holistic perspective to highlight project context. The nature of IT project stakeholders is considered, with a particular focus on stakeholder conflict and its resolution. Contextual effects, such as power and culture, are examined in both general IT project-related terms, and with a specific focus on studies linking these effects with conflict. Finally, project control, with an emphasis on governance, is considered, including the ways organisations can reduce the negative effects of conflict.

2.1. IT Project Success and Failure

For the purposes of this study, an IT project is defined to be any project that has a significant IT component, typically requiring some IT expertise.

Both practitioner and academic writers have invoked worrying statistics on IT project failure in their introductory paragraphs. Typically, many express concern about the continued lack of maturity in handling IT projects (P. Kelly & Stalnaker, 2002; Laidlaw, Ross, Threlfall, & Manwani, 2004).

“We see similar recriminating data year after year reminding us that about 20 percent of IT projects are cancelled before completion and less than a third are finished on time and within budget with expected functionality.” (Kappelman, et al., 2006, p. 31).

However, there is a need to be cautious with such statements. Much depends on the definitions used for such polarising terms as *success* and *failure*. Beyond the obvious outcome of project abandonment, there is subjectivity in evaluation – one person’s

failure, may be another person's success (Lyytinen & Hirschheim, 1987). Another difficulty is the timing of evaluation – what may seem successful today, could be regarded as a failure tomorrow (Heeks, 2002), and success at one point in time may only be loosely related to success at another point in time (Markus, Axline, Petrie, & Tanis, 2000).

Nor is the domain clear. For example, the success of the project itself is often confused with the successful realisation of benefits post-project (Aladwani, 2002). It has been proposed that 'project success' should consist of three success components: project selection success; project management success; and project deliverable success (Morrison & Brown, 2004). Regardless of the qualifiers applied to project success or failure, the concepts of reducing failure and increasing success still apply. In the next section, the contribution of complexity in IT projects to project 'failure' is examined.

2.2. IT Project Complexity

Complexity can be defined as "the effort required to understand and cope with something" (from Backlund, 2002, p. 30). Large complex systems are characterised by:

"... growing organizational and economic scale, increasingly intensive knowledge requirements, tightening patterns of functional interdependence within major production or service segments, and expanding networks of cooperation and control." (La Porte, 1994, pp. 269-270).

Project-oriented change may derail rational approaches in complex settings.

"... because of adverse contingent circumstances, change cannot be based on plans and projections, but rather on understanding the complexities of situations and weighing different options available." (Stroh & Jaatinen, 2001, p. 162)

It has been suggested that complexity was related to the trend for offering a greater variety of functions, applications and approaches, with correspondingly increased complexity in information flows (Backlund, 2002). Instead, Backlund suggested a simpler approach, with greater limitations on application variety.

"There is a certain connection between information loss and the complexity of an information system. It is also argued that organisations and information systems can benefit from being simple, even if that would mean a decrease in variety." (Backlund, 2002, p. 30)

But if complexity cannot be reduced, the need to manage it is still an issue.

“Complexity must be accepted as a part of the systems development world for the future. ... A project that affects the entire enterprise will increase complexity. Only when complexity is accepted can it be possible to come to grips with managing that complexity.” (H. Ryan, 1999, p. 91)

It has been shown that large, complex IT projects are affected by a changing environment, leading to unpredictable results (Andres & Zmud, 2002; Pich, Loch, & Meyer, 2002).

“... complexity itself is experienced as difficult-to-manage non-linearity, in that inputs lead to unexpected outputs, ... As a result, complex systems do not reach equilibrium states, and can be tipped by small events in unanticipated directions.” (Ivory & Alderman, 2005, p. 6)

Flexible approaches to project planning and management, as a response to a dynamic environment, have been proposed (Andres & Zmud, 2002; Fioravanti, 2006; Newman & Robey, 1992). Some have suggested that uncertainty should be embraced, with a focus on dynamic improvisation leading to emergent benefits (Orlikowski, 1996; Orlikowski & Hofman, 1997).

“[Organisations are] turning increasingly away from patterns of stability, bureaucracy, and control to those of flexibility, self-organising, and learning.” (Orlikowski, 1996, p. 63)

Large IT projects are typically complex, and complexity, in concert with a changing environment, can generate uncertainty and lead to unexpected outcomes – sometimes disastrous ones. Therefore, the focus shifts to an examination of the project and its environment. The next section examines past research on meeting the challenges of IT project complexity by adopting a holistic perspective.

2.3. A Holistic Perspective on IT Projects

While much has been published about IT projects, few have embraced the complexity inherent in many large IT projects. For example, it was found that both project and change methodologies influenced, but did not always predict, decisions and actions taken (Goulielmos, 2004). The approach used to control project progress overall was drawn from a complex web of factors, both internal and external to the project, and internal and external to each of the stakeholders (though the author focused mainly on the project team and the clients). This suggests a need to consider broader aspects of the IT project, and its context, than is provided by traditional methodologies.

It appears our ability to learn about developing and implementing IT initiatives may struggle to compete with their burgeoning complexity, cost, and likely impact on a range of business processes.

“Preconceived, top-down IS designs will always disappoint in the long term, as they do not allow internal complexity to evolve in line with the imposing resources, limitations, competitors, tensions, and complexity of their environments.” (Benbya & McKelvey, 2006, p. 14)

This idea of evolving complexity goes some way to explaining the variability of research outcomes when focussed on causality in IT projects. Recently it was argued that evolving complexity can only be addressed effectively by employing a combination of: a reductionist approach, a holistic approach, and a dynamic (time-based) approach, referred to as *complex holism*. (Dongping, 2007) Applying complex holism to IT project-related phenomena suggests investigation through project deconstruction (identifying the project subsystems, phases, tasks or other components), project context (identifying the human and organisational factors in which the project is situated) and project time (identifying the way the project and its context evolves).

There has been plenty of support for taking a holistic perspective of large, complex IT projects (Hepworth, Vidgen, Griffen, & Woodward, 1992; W. King & Pollalis, 2001; Petkova & Petkov, 2003). When implementing enterprise-level, radical change such as business process redesign (BPR), a systemic view, incorporating the entire business environment, is seen as essential (R. Galliers, 1997). This applies to other large-scale, IT-based change systems, such as enterprise resource planning (ERP), customer relationship management (CRM) and supply chain management (Huang, Yen, Chou, & Xu, 2003).

“[These] have brought with them complex technical, organisational, cultural, political, and legal issues that have made the integration process a very challenging task.” (Huang, et al., 2003, p. 137)

The organisational, cultural and political issues referred to highlight the fact that most large, complex IT projects revolve around groups of people (stakeholders) who have an interest in the project or its outcomes. The next section examines the role project stakeholders play in IT project success and failure.

2.4. IT Project Stakeholders

There are many definitions of an IT project stakeholder available in the literature.

For example,

“[Stakeholders are] individuals, groups or organisations, or a subset of a clearly identifiable group of individuals, whom have a contractual, financial, ethical or political interest in the decisions or actions of the specific organisation.”
(Solomon, 2001, p. 257)

Thus ‘stakeholders’ can be seen to include an individual, an identifiable collective of people (stakeholder group), and a subset of a stakeholder group designated to represent the group’s interests.

This study employs a simpler definition.

“[An IT project stakeholder is] any group or individual who can affect, or is affected by, the achievement of the IT project’s objectives.” (Mitchell, Agle, & Wood, 1997)

The more stakeholder groups participate in an IT project, the more likely the need for oversight of how they will interact, including organisational responses to conflict between stakeholder groups (K. Meyer, 2004). This is a recurrent theme throughout this study.

“[Recent research] has identified stakeholder influences as the key challenge of corporate governance. ... Where diverse stakeholders have substantial influence on management, ‘the critical governance tasks ... are to ensure effective negotiations, coordination, cooperation, and conflict resolution to maximize and distribute the joint gains among multiple parties of interest’ (Kochan & Rubinstein, 2000, p. 370)”, quoted within (K. Meyer, 2004, p. 236).

Many researchers have elevated stakeholder involvement in the project processes to be an IT project critical success factor.

“[Organisations should] convey consistent openness and commitment to gaining global stakeholder input. You cannot have true ownership of the change without providing the stakeholders ways to influence the outcome.” (Roberts, Cheney, & Sweeney, 2002, p. 72)

For these reasons, it is increasingly common to see *stakeholder analysis* as a requirement in both project management and change management methodologies. Its purpose is to first, identify the stakeholders and their backgrounds (organisational, technical, political, social, historical, cultural, educational, etc.), and then use this knowledge to predict likely behaviours and actions with respect to the IT project (Castle & Sir, 2001). The analysis can be broad and formal, including assessments of

each stakeholder group's change readiness, commitment to change, and likely areas of resistance (Benjamin & Levinson, 1993). The analysis can also look at individual stakeholder representatives, including some useful facts about them as people, their level of influence on the project, and suggestions on managing their relationship (Schwalbe, 2004).

This study focuses on the challenges brought on by increasing stakeholder involvement in an IT project, and the greater likelihood of conflict as a result. The next section investigates the nature of conflict among project stakeholders.

2.5. IT Project Stakeholder Conflict

Stakeholder conflict within IT projects is common because "...independent people must work together to achieve multiple objectives in an environment of flux, ambiguity, and scarce resources." (Hammer, 1997, p. 165) Thus conflict must be resolved within an IT project setting.

2.5.1. Organisational Conflict

Organisational conflict has long been scrutinised by organisational behaviourists. Since conflict is based on human behaviour, definitions and perspectives vary considerably throughout the academic literature. This lack of consensus is summed up in the following passage.

"While a vast conflict literature exists in different fields (e.g. psychology, communication, ... and marketing), much of this work has focused on conflict management and resolution, to the detriment of studying the meaning, measurement, and impact of interpersonal conflict per se. This has resulted in a literature that lacks an agreed-upon conceptualization or definition of interpersonal conflict. Validated measures of interpersonal conflict are also lacking. Further, researchers assessing interpersonal conflict have tended to use measures that are both limited in focus (with most assessing a single dimension) and biased toward a particular dimension (disagreement)." (Barki & Hartwick, 2001, p. 219)

Some definitions are based on the differences between the conflicting parties.

"[Conflict occurs] when two or more people working within the same organisation perceive differences in beliefs, values or goals which impact their ability to work together and/or affect the work environment." (Jameson, 1999, p. 270)

Other definitions emphasise the resulting behaviours.

“A conflict occurs when one or both parties express hostility and interfere with each other’s efforts to accomplish objectives.”(Yukl, 1998, p. 111)

Frequently, conflict has been represented as an organisational process.

“[This process] begins when one party perceives that the other has negatively affected, or is about to negatively affect, something that he or she cares about.” (Thomas, 1992)

Henri Barki and Jon Hartwick provided some of the few studies in the IS domain that canvassed the more general organisational conflict literature (Barki & Hartwick, 1994a, 1994b, 2001, 2004; Hartwick & Barki, 1994a, 1994b). They provided a useful definition that encompassed several important perspectives.

“[Conflict is] a dynamic process that occurs between parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals.” (Barki & Hartwick, 2004, p. 234)

This definition is based on what Barki and Hartwick refer to as the three “fundamental properties of interpersonal conflict”: disagreement, interference, and negative emotion. These are defined as:

Disagreement: incompatible differences of opinion between stakeholders

Negative emotions: “a condition in which [stakeholders] have interpersonal clashes characterised by anger, frustration, and other negative feelings.” (Barki & Hartwick, 2004, p. 219)

Interference: “one party perceives that its interests are being opposed or negatively affected by another party” (Barki & Hartwick, 2004, p. 219)

Barki and Hartwick note that most recent conflict studies in the literature characterise conflict as possessing elements of all three dimensions. However, this study is based on the assumption that the presence of any of the three dimensions, individually or in combination, has the potential to damage IT projects. Therefore, this study broadens Barki & Hartwick’s definition and adapts it to the IT project context.

Conflict: A dynamic process that occurs between IT project stakeholders as they experience any of negative emotional reactions to perceived disagreements or interference with the attainment of their goals.

The effects of conflict on organisational activities has been frequently investigated, including the effects of conflict on: top management teams involved in strategic decision making (Amason, 1996; Amason & Mooney, 1999); cross-functional teams and innovation (Lovelace, Shapiro, & Weingart, 2001); and leadership and job performance (M Rahim, Antonioni, & Psenicka, 2001).

Organisational conflict can be categorised into three types (Jehn & Mannix, 2001):

- *Relationship conflict* – “an awareness of interpersonal incompatibilities ... [This] involves personal issues, such as dislike among group members and feelings such as annoyance, frustration, and irritation.” [p.238] It is also known as *affective conflict*.
- *Task conflict* – “an awareness of differences in viewpoints and opinions pertaining to a group task ... [This] pertains to conflict about ideas and differences of opinion about the task.” [p.238]
- *Process conflict* – “an awareness of controversies about aspects of *how* task accomplishment will proceed ... [This] pertains to issues of view and resource delegation, such as who should do what and how much responsibility different people should get.” [p.239]

Most studies have focussed on task conflict. Yet, relationship conflict is “...is detrimental to individual and group performance, member satisfaction, and the likelihood a group will work together in the future.” (Jehn & Mannix, 2001, p. 239) Process conflict caused uncertainty (Jehn, 1992), interfered with task content quality (Jehn, 1997), and ultimately rendered the team unable to effectively perform their work (Jehn, Northcraft, & Neale, 1999).

Central to most of Jehn’s published work is the representation of conflict as a dynamic process. The frequency of incidents of conflict, their type, level of intensity, and the membership involved, may all vary over time. For example, it was common for relationship conflict to have an increasingly negative effect as the project drew closer to implementation.

The concept of the *target* of conflict being any of: relationship based, task content based, or task process based, will be used to categorise conflict in this study.

2.5.2. Conflict Resolution

Conflict resolution is the reduction, elimination or termination of conflict (M Rahim, 2000).

Actions that **reduce conflict** involve reducing the magnitude of any of the three dimensions of conflict, such that the negative impact that might have occurred, had no action been taken, is lessened. For example, if relationship conflict is causing serious project delays, it may be possible to get the relevant parties to put their differences aside (reducing negative emotion) and work together (reducing interference). This is a pragmatic approach which does not guarantee that the conflict will not resurface, but at least the project is no longer stalled.

Actions that **eliminate conflict** imply the removal of all three dimensions of conflict. Elimination of only one dimension of conflict (e.g. disagreement) would be considered partial elimination of conflict.

Actions that **terminate conflict** imply the formal cessation of resolution-related behaviours. This may happen with or without agreement of the stakeholders involved. A decision is made that no further effort will be made to resolve the conflict.

The literature has given considerable attention to conflict resolution within an organisational setting. Examples include: seeking conflict resolution best practice (Yukl, 1998); creating a typology of approaches to conflict resolution (Lord & Maher, 1993); measuring the quality of conflict resolution outcomes in IS development projects (Barki & Hartwick, 2001); resolving conflict in interorganisational systems (Kumar & van Dissel, 1996); and resolving conflict in cross-functional information systems (Cook & Eining, 1993). Specifically, IT project-related conflict “has a pervasive negative impact on outcomes.” (Barki & Hartwick, 2001, p. 220)

Barki and Hartwick also found that satisfactory conflict resolution had a significant, positive impact on ISD-related performance. Satisfactory resolution may mean either a reduction or an elimination of conflict. Their findings emerged from the use of structural equation modelling, but the weakness of this quantitative approach is that, having identified important links between the data, it cannot tell us much about

how they work. These IT project-specific conclusions act as a starting point for a more concentrated focus on conflict management within this context. The causal links are there, but there is a need to know more about the circumstances behind them.

Several studies have established different ways to measure successful conflict resolution. Examples include: win/loss, compromise, or consensus (Conlon & Sullivan, 1999; Dove, 1998); the degree stakeholders comply with the resolution decision (Conlon & Sullivan, 1999); and competition, collaboration, avoidance, accommodation or compromise between either assertive or cooperative stakeholders (M Rahim, 2000; Thomas, 1992).

In this study, resolution outcomes are evaluated by comparing the levels of conflict both before and after resolution decisions were made. Establishing the level of conflict will involve evaluating levels of disagreement, negative emotions and goal interference. The before-and-after comparison leads to five possible outcomes for conflict resolution, where conflict has: escalated, reduced, been eliminated, or remained unchanged.

2.5.3. Conflict in IT Projects

Research in IT project-related conflict has been strongest in the area of developer/user conflict – particularly with respect to system design and implementation. For example, in one study, experienced consultants noted the frequency of isolation, even vilification, of the IT Department (Russell & Muskett, 1993).

It is these user/developer tensions that led to moves to improve ISD methodologies to encourage user participation. However, it was not clear to what degree user participation really mattered. Many have sought to link user participation to user satisfaction, incorporating a bewildering array of moderating factors (McKeen & Guimaraes, 1997). However, only a small handful of studies examined the intervening processes of conflict and its resolution. Conclusions include:

- user involvement led to greater conflict over the evolution of the project (Robey & Farrow, 1982).
- the exercise of influence with user involvement created opportunities for conflict resolution (Robey, Farrow, & Franz, 1989).
- User involvement, influence, conflict and conflict resolution were seen as components of a process over the evolution of the project, and both involvement and influence varied over time (Robey, et al., 1989).
- The more influence is applied, the more conflict will arise, and the greater the need to be able to resolve it; conflict resolution is a major contributor to project success; and participation doesn't appear, in itself, to be a strong contributor to project success (Robey, Smith, & Vijayasarathy, 1993).
- User participation can be represented by three dimensions: responsibility, hands-on activities, and the user/IT relationship (Barki & Hartwick, 1994a).
- The term conflict should be represented by two constructs: *disagreement* and *conflict* (Barki & Hartwick, 1994b). This was later challenged in a research essay (Robey, 1994).
- While effective conflict resolution did have some positive effects on project outcomes, once conflict ensued, there was no substantial reduction in the

negative effects of the conflict itself (Barki & Hartwick, 2001). As another commentator on this paper noted,

“The bottom line of this result is that it is better to avoid interpersonal conflict in the first place, than to rely on project leadership to mitigate it.” (Olson, 2004, p. 27)

- User participation is an antecedent to conflict (Hartwick & Barki, 1994a, 1994b; Hunton & Beeler, 1997; Jordon & Collins, 1997)

One case study highlighted the lack of guidance on resolving conflict provided by IS development methodologies, and the subsequent coercive influence applied by some stakeholders:

“...the ISD method has little to say when groups are locked into...conflict. This blindness towards conflict may be a serious contingency problem, because the prevalence and possibility of conflict is large in many organizations.” (Chiasson & Dexter, 2001, p. 98)

Considering conflict as a ‘serious contingency problem’ suggests conflict can be formally assessed as an IT project risk. Further, in anticipation of conflict, actions can be taken to mitigate or even prevent eventual conflict. The idea that anticipating conflict can be a part of risk management becomes an important theme in this research.

The next section examines the role that politics, through the related concepts of power and influence, plays in terms of conflict resolution in IT projects.

2.6. IT Project Stakeholder Politics

Within an organisational context, ‘politics’ is a term that almost everyone understands, yet few can define it. Academic writers tend to use the term in their introductions and abstracts, but then abandon it in favour of related terms such as *power* and *influence* once the analysis begins. In fact, work on organisational politics is generally referred to as the ‘power’ literature (Jasperson, Carte, Saunders, & Butler, 2002).

A cursory review of the power literature reveals an array of confusing and contradictory definitions of power and influence. Many authors use the same terms to mean different things, while others use different terms for the same concepts. Some differences stem from the different background disciplines of the authors (for

example, management, organisational behaviour, sociology, psychology, or anthropology). Others appear to formulate new definitions to suit their research methodology. A recent review of the power literature provided conceptualisations of power based on five common power ‘themes’ (including authority and influence), but noted that “the various concepts of power are frequently mentioned together and often intertwined.” (Jasperson, et al., 2002, p. 399)

2.6.1. Power

An early perspective on organisational power highlighted dominance:

“A has power over B to the extent that he can get B to do something B would not otherwise do.”(Dahl, 1957, pp. 202-203)

This was later expanded to include an explanatory adjunct to the power relationship based on power dependencies.

“It would appear that the power to control or influence the other resides in control over the things he values...”. (Emerson, 1962, p. 32)

Periodically, attempts have been made to bring different perspectives into line. For example, one author suggests

“...most of the treatises dealing with the concept [of power] are in general agreement that it has to do with relationships between two or more actors, in which the behaviour of one is affected by the other.” (Hall, 1987, p. 127)

He went on to say that “Power is an act; it is something that is used or exercised.” (Hall, 1987, p. 127) This definition is symptomatic of the confusion surrounding these concepts – within the same short sentence, ‘power’ is represented both as a verb (“an act”) and as a noun (“something that is used”).

So power is an abstract concept that can be difficult to standardise. In common usage, it is often used in a relative way (‘A is more powerful than B’), but power does not lend itself to quantitative metrics. Power can be modelled as a zero-sum game, where it is seen as a fixed quantity, so that if one person gains power, someone else must have lost power. This has been applied to IT project contexts (Sillince & Mouakket, 1997, 1998).

There is no single widely accepted conceptualisation of organisational power. However, some patterns of thought can be discerned. The early concept of power as a capacity to act has been reinforced by several noted writers on organisational

power. Jeffrey Pfeffer referred to power as a potential force (Pfeffer, 1992). He went on to define organisational politics to be the *exercise* of power. George Yukl referred to power as a capacity to influence (Yukl, 1998).

“Power is not a thing or an act, but rather a resource, a capacity, a potential; and it does not have to be used.” (Yukl, 1998, p. 28)

It is this conceptualisation that will be used in this study – *power* is a capacity to influence, a potential force that can “...overcome resistance in achieving a desired objective or result.” (Pfeffer, 1981, p. 2)

2.6.2. Influence

Many authors use the terms power and influence interchangeably (Pfeffer, 1992). Others sought to make a distinction, with varying degrees of success. In this study, influence is defined to be the exercise of power (Bloomfield & Coombs, 1992), where power represents the capacity, and influence represents the use of that capacity.

Influence can also be seen as a process that seeks to alter a decision-maker’s perception of the problem and its context (Beeman & Sharkey, 1987). Beeman and Sharkey propose two types of influence are available to those with power: coercion and persuasion. **Persuasion** occurs when those with power seek to convince the decision-maker through the use of logic and reason. **Coercion** occurs when those with power seek to force the decision-maker through the use of demands and threats. The authors argued that persuasion was a positive approach that generally reduced conflict, whereas coercion was capable of escalating conflict (Beeman & Sharkey, 1987).

2.6.3. IT, Power and Influence

Many practitioner publications have included articles focussing on the risks of power and influence to IT projects, some with salutary lessons based on grim examples of what can go wrong (Cloud, 1990; Inmon, 1992; J. King, 1994; Koenig, 2000; McDonald, 1997; N. D. Meyer & Gardner, 1992; A. Ryan, 1990; Schrage, 1993, 1997; Winsberg & Richards, 1992).

Until the early 1980s, the examination of power and IT only sporadically appeared in the IT literature (Bariff & Galbraith, 1978; Kling, 1980; Markus, 1981; Pettigrew,

1973). However, since then – perhaps responding to increased political activity as projects grew in size and complexity – it has remained a topical subset of the IT literature. M. Lynne Markus' watershed paper on the need to examine user resistance to IS implementation within a political (as opposed to rational) framework was highly instrumental in igniting this broader interest (Markus, 1983).

Academics have provided many case studies where power and influence adversely affected ISD projects (Bjorn-Andersen & Pedersen, 1980; Drummond, 1996; Knights & Murray, 1992; Marx, 1995; McGrath, Dampney, & More, 1994). Some writers unequivocally state that politics is inevitable when it comes to large IT projects. Because rationality is bounded by time, available information, and differences in stakeholder interests, exercising power may be seen ultimately as a more efficient way of getting things done (Berghout, Nijland, & Grant, 2005; Pfeffer, 1992). User resistance to IT projects, as an exercise of power, has become one of the more topical issues in the literature since (Adams, Berner, & Wyatt, 2004; Cavaye & Christiansen, 1996; Doolin, 2004; Drummond, 1996; Krovi, 1993; Markus & Bjorn-Andersen, 1987; Markus & Pfeffer, 1983).

2.6.4. Conflict and Power

Political activity can both generate and exacerbate conflict, leading to negative outcomes with serious impacts on the IT project (Bjorn-Andersen & Pedersen, 1980; de Laat, 1994; Drummond, 1996; Knights & Murray, 1992). Consequently, there have been calls for more effective political analysis of the existing power structure in an organisation – to help guide the selection and implementation of appropriate conflict management strategies (Drory & Ritov, 1997). Some argue that by actively engaging in political analysis, decision-makers will discover new, and possibly more effective approaches to conflict resolution (Berghout, et al., 2005).

This research explores what effects power and influence can have on conflict and its resolution, including the application of persuasion and coercion, and under what circumstances they may occur.

The next section examines the role that organisational culture, and corresponding subcultures, play in terms of conflict resolution in IT projects.

2.7. Culture and IT Projects

Peters & Waterman's book *In Search of Excellence* popularised the ideas that: organisations, being collections of people who spend a lot of time together, *had* cultures; that these cultures could affect organisational performance; and that cultures could be changed to fit organisational need and improve performance (Peters & Waterman, 1982).

However, changing organisational culture has not proven quite so simple in practice, despite considerable attention since the early 1980s. The following examines the nature of organisational culture and subcultures, and how they affect conflict within IT projects.

2.7.1. Organisational Culture & Subcultures

It has been two decades since it was claimed organisational culture could be manipulated (Peters & Waterman, 1982) and "...people have been trying to define organisational culture, to understand its nature and gauge its influence on organisational effectiveness ever since." (Lewis, 1998, p. 251)

To highlight this difficulty, Lewis quotes from an early assessment of organisational culture, and suggested little has changed since:

"Some see the term 'organisational culture' as a metaphor ... Others see [it] as a thing ... There is disagreement as to where the organisational culture originates, whether the unconscious mind plays a role, whether there is a single organisational culture or many cultures, whether an organisation's culture or cultures can be managed, whether organisations have cultures or are places to study cultures, whether and how organisational cultures can be studied and whether they should be studied at all." (Frost, 1985, p. 18)

There have been many attempts to assess cultural dimensions, including how employees cope with conflict (Pascale, Millemann, & Gioja, 1997). Others have focused on cultural typologies and their effects on change (Pearce & Osmond, 1996). Several typologies of culture have appeared in the literature, and one review of these proposed a summative framework based on four culture types (Andersen, 2003): *power* (centred on a single source of power); *role* (rational bureaucracy); *task* (network of expertise); and *person* (focus on people and collectives).

Cultural dimensions such as attitudes, beliefs, values, and behaviours figure prominently in many cultural studies (Henderson, 2004; Lewis, 1992). One review of organisational culture defines culture as

“Basic assumptions that people in an organization hold and share about that organization. Those assumptions are implied in their shared feelings, beliefs and values, and embodied in symbols, processes, forms and some aspects of patterned group behaviour.” (Lewis, 1992, p. 48)

Lewis’ definition is adapted, for the purposes of this study, to a multiple-culture environment that focuses on a narrower range of dimensions:

Organisational culture: Basic assumptions that people in an organisation, or in a subset of that organisation, hold and share about the group of which they are a member. Those assumptions are implied in their attitudes, beliefs and values, and embodied in aspects of patterned group behaviour.

This research focuses on the four dimensions of culture identified in this definition:

Beliefs: the guiding philosophy of the group;

Values: what is and isn’t important to the group;

Attitudes: collective feelings about something; and

Behaviours: group member actions shaped by their cultural membership.

While the concept of subcultures had been subject to debate as well, it is now generally accepted that large organisations are comprised of overlapping subcultures (Lewis, 2001).

2.7.2. IT Project Stakeholder Cultures

Culture assumes particular importance in IT projects, because they require different stakeholder cultures to interact. The importance of culture to IT project success has been well-documented. (recent examples include Anumba, Dainty, Ison, & Sargeant, 2006; Callen, Braithewaite, & Westbrook, 2007; Ifinedo, 2007).

The IT project manager faces two challenges. They need to build a positive, productive culture within the project team, while recognising and working with the different external cultures brought to the project team (Elmes & Wilemon, 1988).

When comparing a project culture with the organisation’s ‘base’ culture, marked differences have been recorded (Andersen, 2003); most projects were found to develop task cultures, where achievement of outcomes is paramount. Establishing a

project culture that is different from the existing organisational culture was hard to establish, especially if the existing culture was poorly understood.

Cultural differences between stakeholder groups may lead to ‘culture clashes’ as the project progresses, with the attendant risk of conflict (Robey & Azevedo, 1994).

There is a need to manage that risk through early identification and mitigation (Romm, Pliskin, Weber, & Lee, 1991), because the risk can lead to project failure (Pliskin, Romm, Lee, & Weber, 1993). Where culture clashes have led to conflict within an IT project, resistance to the IT-related changes is a likely manifestation (Cooper, 1994).

A review of the literature examining the interactions of culture with, in turn, the IS development process, the characteristics of the IS being developed, and the way the IS is used post-implementation, found (Kappos & Rivard, 2008):

- Culture influences the ISD process.
- Culture moderates the relationship between the ISD process and the characteristics of the IS.
- Culture moderates the relationship between the characteristics of the IS and acceptance or resistance.

2.7.3. Culture and Conflict

It has been observed that

“Organisational culture influences IT decision-makers’ perceptions of the factors and priorities to be considered when making an acquisition decision, as well as outcomes of whether an IT is successfully implemented.” (S. Ryan, Harrison, & Schkade, 2002, p. 94)

By extension, conflict-related decisions within IT projects will be equally susceptible to the intensity and/or variety of cultural perceptions that could be involved. The introduction of IT-based change can mean different things to different groups, which can provoke conflict (Orlikowski & Gash, 1994). This is the basis for research into stakeholder cultural differences and their contributions to conflict within IT projects.

“... cultural analysis has also proven adaptable to the study of conflict and contradiction within organisations” (Robey & Boudreau, 1999, p. 175).

Cultural analysis can also be applied to organisational subcultures. Within IT projects, stakeholder groups may engage in conflict due to the cultural differences.

The next section examines elements of IT project control, including management and governance, and its relevance to conflict resolution.

2.8. Governance

In its broadest organisational sense, governance is concerned with control. Whereas management involves making and implementing decisions, governance is concerned with guiding and constraining these actions (Pound, 1995).

First, the three major components of governance arrangements are introduced and described, leading to a definition of governance. The extensive research covering both corporate and IT governance is briefly examined, followed by a more detailed assessment of the literature focussed on IT project governance.

2.8.1. A Framework for Governance Arrangements

Henry Mintzberg describes three types of managerial control, through the use of: systems, structures and directives. *Systems* use established processes “to control people's behaviours” (Mintzberg, 1994, p. 16). *Structures* “establish responsibilities and define hierarchical authority” [p.17]. *Directives* “transmit information so people can act” [p.17]. These three types of governance arrangements are adapted for this study, by defining governance in terms of policy, authority structures and mechanisms.

Policy is defined as “a principle or set of principles on which to base decisions.”(Chambers, 1998) It provides an explicit link between strategy and decision-making, whereby those that determine strategy, are also in a position to set policy reflecting that strategy (Allen & Wilson, 1996). Policy can be used to either guide or constrain management decision-making. Typically policies set standards, establish formal rules, and specify outputs, goals and targets (Peterson, 2004). Policy, as a concept in this research, is seen as the equivalent of Mintzberg's ‘directives’.

Authority structures are defined to be either individual positions or bodies that establish responsibilities and define hierarchical authority. This describes Mintzberg's ‘structures’.

Mechanisms are defined, in the context of this research, to be the processes, procedures, methodologies and other tactical methods that help decision-makers both make and implement decisions. Mechanisms can be formal or informal, permanent or temporary, planned or ad hoc, and prescriptive, guiding or constraining, in the way that they support management decision-making and implementation. Mechanisms are seen here as the equivalent of Mintzberg's 'systems', though mechanisms incorporate more than just processes.

In this way, governance can be seen as a set of arrangements, organised by those who have oversight responsibility, that provide some control over delegated decision-making. These arrangements outline *who* will be responsible for making and carrying out those decisions, in terms of both position and appointment (authority). They explain *why* some decisions are more appropriate than others, so that they are better aligned with strategy (policy). And finally, they outline *how*, *where* and *when* these decisions should be made and carried out (mechanisms). This model of governance and its three components is summarised in Figure 2.1.

Governance can be defined in terms of its ultimate purpose, providing the link between control and strategy.

"...governance refers to the way the organization goes about ensuring that strategies are set, monitored, and achieved." (Rau, 2004, p. 35)

Expanding Rau's definition to include the three components leads to the following definition:

Governance: the way the organisation goes about ensuring that strategies are set, monitored, and achieved, by employing combinations of the following three arrangements. *Policies* are used to interpret strategy in such a way as to guide or constrain decision-making. *Authority structures* outline the responsibilities and allocation of decision-making rights. *Mechanisms*, including procedures, processes and methodologies, are tools the decision-maker can employ to help facilitate both decision-making and decision implementation.

Figure 2.1: *How governance facilitates the transformation of strategy into strategic outcomes, by employing the three types of governance arrangements*

This model of governance arrangements is used to frame the project governance literature (see subsection 2.8.4), and forms the basis for analysis of governance arrangements in this study.

2.8.2. Corporate Governance

Articles over the last decade suggest corporate governance has assumed renewed, unprecedented importance. This resurgent interest stems from several corporate trends over the past decade, including *self-regulation* – to curb recent corporate excesses (N. Jackson & Carter, 1995; Tapsell, 1999); *opportunity* – frequent restructuring enabled governance overhauls (Wright & Chiplin, 1999); and *increasing size & complexity* – reacting to the increasing global marketplace by growing larger (Wright & Chiplin, 1999).

Traditionally, complete delegation of decision-making led to what was called the *managed corporation* (Pound, 1995). Thus,

“the role of the governance system was to put the right managers in place, monitor their progress, and replace them when they failed ...”. [p.90]

Pound goes on to suggest there may be times when a governing body must get involved in management decision-making, such as when a crisis looms, creating what he calls a *governed corporation*. The move from the managed corporation to the governed corporation must be done at the right time, *before* a crisis, when the organisation is doing well (Pound, 1995, p. 96).

The idea that governance arrangements should be put in place before problems occur is important to this study. Applying Pound’s ideas to the domain of an IT project,

the suggestion becomes: The move from a *managed IT project* (complete delegation of decision-making) to a *governed IT project* (occasional involvement of governing body in decision-making) should have project governance arrangements in place before the project begins.

2.8.3. IT Governance

IT governance can be viewed as a subset of corporate governance. That is, it is concerned with decision-making structures, mechanisms and policy – but with a focus on IT-related issues¹.

By the late 1990s, an increasing number of publications on IT governance appeared, though there was still uncertainty as to what IT governance meant. For example, Thomas Davenport, in his book *Information Ecology*, dedicated an entire chapter to this topic without explicitly defining it, though he was clearly focused on the decision-making structures with respect to ‘information control’. Other definitions have variously focussed on: the levels of decentralisation of IT responsibilities (Brown, 1997); the scope of authority decision-making across IT infrastructure, IT use, and project management (Sambamurthy & Zmud, 1999, p. 261); and the means by which authority make decisions, based on context, policy and mechanisms (Sambamurthy & Zmud, 1999, p. 261).

Establishing the best authority structure for the IT function, and the corresponding debate over the degree of centralisation that was necessary, has been a major topic in the IT literature even before the phrase ‘IT governance’ was employed (Davenport, Eccles, & Prusak, 1992; Edwards, Earl, & Feeny, 1994; Russell & Muskett, 1993; Sambamurthy & Zmud, 1999).

A review of the literature linking organisational context with IT authority structures found that within many organisations, different local business units had varying degrees of decentralised authority – the *hybrid* IT governance structure (Brown, 1997). The implications for this study are that while the organisational context is

¹ Here the acronym ‘IT’ is used in its broadest sense, and includes issues related to data, information and information systems. Some authors have referred to ‘IS governance’ and others to ‘information governance’. While it can be argued that these are different, only rarely have authors explicitly differentiated them in their writing. Therefore, *IT governance* will be used as a generic phrase in this study, encompassing all these variations.

important, local IT-related contexts are important too, including the way IT is perceived.

2.8.4. IT Project Governance

The concept of putting governance arrangements in place specifically for IT projects became commonplace only over the last decade. This rise in popularity coincides with that of project risk management. There is an increasing belief that IT project governance can provide an essential framework to manage risk (Kappelman, et al., 2006; Schmidt, et al., 2001; Wallace & Keil, 2004; Young & Jordan, 2003).

Risk management with respect to IT projects is defined to be:

“The process of identifying, evaluating, and controlling what might go wrong in a project before it becomes a threat to the successful completion of the project or implementation of the information system.” (Whitten & Bentley, 2008, p. 41)

Risk management typically involves following six steps, categorised by the two risk management stages: risk assessment and risk control (Whitten & Bentley, 2008).

- *Risk Assessment:*
 - Risk identification (*including factors involved & possible outcomes*)
 - Risk analysis (*estimating likelihood & magnitude*)
 - Risk prioritisation (*based on likelihood & magnitude estimates*)
- *Risk Control:*
 - Risk management planning
 - Risk resolution (*actions taken to reduce or eliminate risk*)
 - Risk monitoring (*re-assessing risk as the project progresses*)

That conflict is a risk that needs to be managed is not new. For example, stakeholder conflict, along with other more specific risks such as culture clashes, are included in some checklists of IT project risks (Schmidt, et al., 2001). However, being aware that stakeholder conflict is a potential risk is only a start. As noted in Chapter 1, much less has been said about what happens next. Exactly how the risk of conflict can be addressed is an important part of this study, and will be revisited in Chapter 8.

In a seminal paper on control in ISD projects, Laurie Kirsch viewed control in a broad sense, with an equal focus on social as well as technical aspects (Kirsch, 1997). At that stage the literature had focussed mostly on authority structures and project management, and she saw that as limiting.

"While individuals need a certain amount of autonomy to produce parts of the solution, all pieces must eventually be integrated into a deliverable system."
[p.216]

While Kirsch supported the holistic perspective provided by a systems view, she also noted that practitioners tended to focus on project control from a more constrained cybernetic perspective.

"This view assumes that outcomes are known, standards can be set, and corrective action is possible. However, desired outcomes, standards, and corrective actions are not always obvious in an ISD environment, ...". [p.216]

It is not that cybernetics is not useful here, but it is limiting if employed in a strictly engineering sense, downplaying or ignoring human issues.

Kirsch went on to distinguish between *formal* control and *informal* control, where formal control is "...viewed by organizational and agency theorists as a performance evaluation strategy..." and informal control is "...based on social or people strategies." [p.217]

Formal modes of control were based on policies, in conjunction with corresponding mechanisms used to carry them out, citing an ISD methodology as an example. Articulated objectives corresponded with a reward system based on meeting those objectives. By contrast, informal modes of control focused on behaviours.

"Because formal controls tend to present a mechanistic view of the control process, they ignore interpersonal or self-regulating dynamics that also govern behaviour. [These] are typically undocumented and differ in terms of level of aggregation." [p.217]

Focussing on informal modes of control, her conclusions included:

- The ISD process is dynamic, and needs to be recognised as such. Even outcome-based measures (milestones, deliverables, budgets, etc.) will be fluid over time, requiring renegotiation on occasion.
- Those who control typically employ both formal and informal modes of control, including a variety of associated mechanisms. Some mechanisms,

such as the project plan, can be used to control both outcomes and behaviours.

- Formal controls were regularly used to control task behaviours & outcomes, whereas informal controls were typically focused on stakeholder relationships.
- Those with authority will conduct formal controls, and these will be documented and legitimised. It is less likely that informal controls, from both those in authority and, in particular, those who are not in authority, will be so readily identified. These will include both peer-to-peer and hierarchical relationships.

These results combine to reinforce many of the issues raised earlier in this chapter: incorporating a holistic view to include both formal and informal controls, the need for treating complex project processes as dynamic with unpredictable outcomes, the fact that we know more about formal modes of control than informal modes of control, and that we know even less about how they all interact.

Finally, Kirsch warned about the risks of looking at control from a narrow perspective.

“... extant literature tends to view control as goal-oriented and purposive, emphasizing its role in coordinating and monitoring tasks. This view is consistent with the practitioner literature’s depiction of control as a cybernetic process. While coordinating task-related activities is important ... individuals also exercise control to foster relationships in order to engender cooperation and elicit individual contributions. Thus, conceptualizations of control must take into account the varied reasons for implementing control.” [p.236]

The importance of governing project stakeholder relationships, as well as tasks, is a critical theme in this research.

Magnus Mähring published a monograph entitled *IT Project Governance*. Based on his doctoral thesis, a single case study is examined in considerable depth to investigate “how executives engage in information technology projects and how organizational control of IT projects forms and evolves over time.” (Mähring, 2002, p. back cover). Expanding upon Kirsch’s work, Mähring elevated context as the primary research interest, noting that IT projects incorporated contextual challenges to the way IT project governance worked.

“... central characteristics of work tasks in IT projects stack the deck against controllers, particularly non-IT controllers. Specifically, these task characteristics, including abstractness, technological complexity, duration, non-repetitiveness, and low degrees of observability, measurability and programmability render both output control and behaviour control largely impracticable.

Further, the common lack of domain knowledge among non-IT controllers and the high threshold in learning about IT and IT work practices, together with the often reported distance in views and perspectives between IT professionals and non-IT controllers, adds further complexity to the control setting. In addition, values and norms of the IT profession are enacted in the control relationship, in which mutual influence and evolving trust are central characteristics.” [pp. 289-90]

Nor was it always possible to recognise the influence wielded by the IT function, both directly and indirectly.

“... controllers are apt to accept pre-existing control procedures and control forms, which are in turn likely to be extensively influenced by the IT department. They are also likely to accept that IS development methodologies, procedures and actresses, including reporting procedures, are within the professional jurisdiction of the IT professionals. Further, the project manager and people working in a project are likely to have extensive influence over goal-setting. ...[and] what is reported is quite subjective, open to judgement and influence by the controllee and highly difficult for controllers to verify.” [p.290]

This disconnect in formal controls, complicated by the interactions between stakeholder-based environmental effects, illustrates how difficult it can be to put into practice such simple, yet ubiquitous, ideals as ‘strong top management support’. Add to this the fact that projects evolve dynamically, where the basis of decision-making may change over time, and it is clear governance should be more than simply ensuring the right structures and mechanisms are in place.

For these reasons, Mähring finished with a recommendation that risk management should include “risks and problems related to ‘strong top management support’” (Mähring, 2002, p. 291). There was a need to understand “the considerable differences in perspectives between executives (potentially ‘providing support’) and project managers and other actors (demanding attention and priority).” (Mähring, 2002, p. 292) Much depends on the degree parties recognise their co-dependence, and that different parties may need to be involved in control at different times.

The range of policies, authority structures, and mechanisms used in IT project governance is broad. This is illustrated in Table 2.1, providing a summary of recent published research on the governance arrangements in use.

Authority structures tend to dominate the IT project governance literature, as they have consistently done in the IT governance literature as well. Of particular importance are the oversight roles played at the project programme level, the IT project steering level, and the IT project management level.

The Project Management Office (PMO) typically provides broad oversight of all significant organisational projects, with a focus on administrative processes. These include: setting IT project policies, including standards, providing training and support for project managers, and coordinating resources across different organisational projects, including IT projects (Hill, 2004; O'Donnell, 2003). While it has been suggested that the PMO could play a role in detecting potential stakeholder conflict (O'Donnell, 2003), this does not appear to have been followed up in the literature.

The project sponsor is normally a senior manager or executive who provides both personal support, at the senior levels, for the project from its inception, and sufficient authority to help clear organisational obstacles (Feeny & McMullen, 1999). Practitioners generally regard project sponsors as an essential element of IT project success (see, for example, Wyllie, 2004).

As a decision-making authority for the project team, the project manager plays a role in IT project governance as well. They may well set policy and set up mechanisms for the project team – with, or without, the involvement of the PSC (Sumner, et al., 2006). However, this role may be (possibly inadvertently) expanded beyond the project team to include the management of project stakeholders. The IT project manager is often left accountable for issues like user conflict when they do not have authority over the user community (Schmidt, et al., 2001; Wallace & Keil, 2004).

Perhaps of most interest to those conducting research into IT project governance is the role of the PSC. Some see the governance of IT projects as being subsumed into a higher level body like the IT steering committee, comprising both business and IT executives (Bowen, Cheung, & Rohde, 2007; Maizlish & Handler, 2005). However,

both academics and practitioners have come to realise the importance of representative steering committees dedicated to individual IT projects (Englund & Bucero, 2006; Lechler & Cohen, 2009).

The popularity of PSCs stems from the fact they offer many advantages in terms of IT project governance. For example,

- Although responsible for project governance, the PSC also represents the highest level of decision-making for escalated problems (Jiang, et al., 2001; Nidumolu, 1995);
- The PSC provides genuine stakeholder participation in both project governance and management decision-making (Vadapalli & Mone, 2000); and
- PSC involvement provides a clear indication of top management support for the project in general, and the project manager in particular (Vadapalli & Mone, 2000).

However, PSC characteristics such as the composition, responsibilities, meeting frequency, policy-making, and processes employed may vary not only across different organisations, but even across different projects within the same organisation. Furthermore, there are other IT project-related governance authorities involved, as noted above. Examining the critical role of user participation, Vadapalli & Mone suggest IT project governance works best with

“...an integrated user participation structure composed of a combination of steering committees, cross-functional teams and project champions performing different functions and supporting each other during the course of project implementation.” (Vadapalli & Mone, 2000, abstract)

It has long been recognised that the PSC should have the authority to resolve conflicts in IT projects (Drury, 1985), but few studies have since focussed specifically on this role (Nidumolu, 1995). This appears to be symptomatic of a broader area of neglect:

“It was surprising to find a general lack of research on the role of committees in the implementation of projects.” (Lechler & Cohen, 2009, p. 51)

This chapter established a range of constructs from the academic literature that need to be included in the research framework for this study. The focus is on conflict and its resolution, but important contextual factors (such as power, culture, and history) and control factors (governance, management, and feedback) have also been identified.

In the next chapter, these constructs are assembled into the research framework by employing systems thinking to improve construct integration.

Table 2.1: *Recent IT Project Governance literature, with an emphasis on common IT project governance policies, authority structures, and mechanisms*

Process	Policies	Authority Structures	Mechanisms
IT project selection, prioritisation & approval	(Morrison & Brown, 2004) – selection success based on: (i) visibility of product/service to be delivered; (ii) feasibility of project execution; (iii) feasibility of project management targets		(Morrison & Brown, 2004) – increasing focus on project portfolio management to achieve long term success
IT project crisis management	(Aiyer, Rajkumar, & Havelka, 2005) – policy on de-escalation of commitment (Ivory & Alderman, 2005) – policy of dynamic, interventionist control; systems perspective (Keil, Moxon, Saarinen, & Tuunainen, 1995) – debate over sunk costs and escalating commitment affected by cultural diversity	(Jiang, et al., 2001) – in spite of decision right allocation, governing body may need to intervene in crisis management	(Aiyer, et al., 2005) – project recovery framework (Ivory & Alderman, 2005) – contract renegotiation; ad hoc problem-solving groups (Montealegre & Keil, 2000) –escalation of commitment due to challenges of IT project progress measurement & dynamic nature of project (e.g. freq. scope change & volatile requirements)
IT project risk management	(Aladwani, 2002) – holistic perspective (integrating technical and social) (Averett, 2001) – IT change: the more jobs change, the more serious risk gets (Fowler & Gilfillan, 2003) – ERP case: project policy vacuum, filled in by ad hoc operational decisions (Kappelman, et al., 2006) – warning signs of risk problems, each requiring a policy solution (B. Lee & Miller, 2004) – effects of policies on projects: e.g. hiring delays, staff turnover, resource availability, reward schemes	(Fowler & Gilfillan, 2003) – university ERP case; failure to understand culture, power, approach to decision-making (Schmidt, et al., 2001) – software project risk mitigation often left to proj. managers, who lack the authority (Wallace & Keil, 2004) – present 2x2 framework (risk importance vs. project manager control); reinforces idea that control beyond project manager critical	(Fowler & Gilfillan, 2003) – systems perspective, with governance as control function; stakeholder mapping; power/interest matrix (B. Lee & Miller, 2004) – employs project scenario planning (via simulation based systems dynamics model) to evaluate potential effects of: events, policies, theories & strategies (Schmidt, et al., 2001) – too much emphasis on estimation of IT project risk impact, not enough on likelihood

Process	Policies	Authority Structures	Mechanisms
General IT project governance	<p>(Hill, 2004) – project management maturity model, increasing importance of policy</p> <p>(Jiang, et al., 2001) – need for implementation policies (selecting ISD methodology; design approach, requirement changes, training provision, getting user support & management commitment, promoting changes, etc.)</p> <p>(Knodel, 2004) – employs holistic perspective to set policies based on strategic road map</p> <p>(Petkova & Petkov, 2003) – outsourced ISD and the lack of attention given to post-contract relationships</p>	<p>(Brynjolfsson & Hitt, 2000) – radical IT change requires radical org. change (economic focus – human factor ignored)</p> <p>(Feeny & McMullen, 1999) – need proj. champion & broad proj. gov. to include stakeholders</p> <p>(Hill, 2004) – project management maturity model (1.project office, 2.basic PMO, 3.standard PMO, 4.advanced PMO, 5. centre of excellence)</p> <p>(Hoffman, 2004) – tight PMO oversight can cause conflict with proj. management</p> <p>(Larsen, et al., 2006) – clarify responsibilities, deliverables, and relationships between: proj. manager, PMO and proj. steering committee.</p> <p>(O'Donnell, 2003) – PMO centralising standards, coordinating project plans, and detecting stakeholder conflict</p> <p>(Sauer, Gemino, & Reich, 2007) – levels of volatility (project target & governance) seen as measures of IT project success</p> <p>(Sauer & Willcocks, 2002) – IT project governance role to bring executives (have vision, but no IT) together in dialogue with IT (don't understand vision)</p> <p>(Sumner, et al., 2006) – leadership capabilities of project managers just as critical to project success as PM skills</p> <p>(Wyllie, 2004) – practitioner piece promoting executive sponsorship & project steering committee</p>	<p>(Fichman & Moses, 1999) – Results Driven Incremental (RDI) implementation methodology</p> <p>(Koch, 2004) – project governance through contingency planning</p> <p>(Knodel, 2004) – project lists; portfolio-based prioritisation, monitoring and idea generation; project scoring tool</p> <p>(Rosch, 2002) – compares situated action planning with predefined planning, and both often required with long, complex IT projects (e.g. conflict resolution)</p> <p>(Wyllie, 2004) – practitioner piece promoting strong communication & reporting channels as a necessity</p>

3. Research Framework

In the previous chapter, large IT projects were viewed as complex systems that were at risk of suffering significant setbacks. These setbacks were more likely to be caused by either organisational or human factors, than technical problems. These projects, particularly those based in larger organisations, promoted the integration of business processes, were facilitated by a corresponding integration of the information systems that supported them. The integration of both business processes and information systems often had a significant effect on a wide range of stakeholders. With greater stakeholder involvement in the IT project processes came increased risks of conflict between stakeholder groups.

The literature revealed many human behaviours were relevant to an examination of conflict in this context, including organisational politics (power and influence), culture (and subcultures), history (past interactions between stakeholders) and governance (policies, authority structure, and mechanisms). Consequently, many authors had argued for a more holistic approach to studying IT project-related phenomena. Research had often been conducted on a subset of factors, leading to conclusions that may not have represented a complete picture of what is happening. A narrower research domain risks missing three important scenarios:

- There may be important factors outside the research domain;
- There may be important relationships between factors inside and outside the research domain; or
- Some factors may be more dominant than others.

Consequently, there is a strong argument that a holistic approach to examining the nature of IT project-related conflict is both appropriate and necessary. By broadening the research domain, the factors affecting conflict resolution raised in the previous chapter can be incorporated into this study.

This chapter sets out to frame the research domain based on the process of conflict resolution in IT projects. It begins with a brief outline of systems thinking, including a description of a system's primary components, and why it can be applied to a wide range of problem types. Conflict resolution is considered from a systems

perspective, where it is regarded as a subsystem of an IT project system. Based on general system components, a systems model of conflict resolution is developed, drawing on the different factors identified in the literature (Chapter 2), and representing them as constructs in the model. This systems model becomes the research framework for this study. Finally research questions are developed that focus on the constructs and their relationships delineated in the framework.

3.1. Systems Thinking

The systems movement emerged in the 1940s, advanced considerably by the works of biologist Ludwig von Bertalanffy, founder of General Systems Theory, including the generic rules of system behaviour (von Bertalanffy, 1968), and Norbert Wiener, founder of cybernetics, which focuses on system control processes (Wiener, 1948).

In a broader sense, a system can be defined as:

“...a set of interdependent components (sub entities) that create a whole entity. The components are dynamically linked.” (Ahituv & Neumann, 1990, p. 74)

There are two principles embedded within this definition. First, a system can be modelled by representing it as a set of components that are dynamically related to each other. Second, not only can we model the system’s interactive components, but we can model the environment (or context) that the system performs within. Based on the idea that ‘the whole may be more than the sum of the parts’, systems thinking encourages analysis through both decomposition (how does the system work?) and holism (how well does the system perform within its environment?).

Systems thinking involves the application of seven fundamental systems concepts to a complex system: input, process, output, environment, boundary, feedback, control, and subsystem. By identifying specific components, along with the relationships between them, a diagrammatic framework can be created and employed as an aid to analyse an existing system or design a new one.

The basic components can be described as follows, adapted from (Ahituv & Neumann, 1990, p. 75):

- **Inputs** – system resources entering the system and ready to be processed (e.g. capital, information, personnel, materials);

- **Process** – a set of activities, or procedures, within a system component, that consumes system resources in order to transform system inputs into system outputs;
- **Outputs** – the transformed inputs that leave the system for purposeful use elsewhere;
- **Environment** – the factors that may interact with the system but remain outside the system boundary;
- **Boundary** – separates the system from its environment;
- **Feedback** – information output specifically focussed on process performance, which is normally relayed back to the control function for checking;
- **Control function** – compares measures of achieved outcomes (feedback) with desired outcome measures and adjusts the system accordingly; and
- **Subsystem** – A system component that represents a system in its own right (NB. Not all system components may be subsystems).

These components can be linked through inter-component relationships to produce a diagrammatic representation of a system and its environment (Figure 3.1).

Figure 3.1: A general systems framework

The **relationships** in Figure 3.1 can be explained as follows. The arrows with solid heads represent the flow of materials, and together with the three components, describe the purpose of the system. **Inputs** located in the system environment cross the system boundary (as unprocessed materials) and are accepted by the system for processing. When the **process** is complete, the resulting **outputs** cross the system boundary (as processed materials) back into the environment. This outlines the normal system processing as it was intended to function, its 'business as usual'.

The arrows with unfilled heads represent changes or effects that alter the way the process functions. This can happen in two ways. The control function may decide to alter the process. This is regarded as a controlled change – that is, the organisation has control over how the process functions. The other type of process changes may occur due to environmental, or contextual, effects. Because these effects are sourced outside the system boundary, they are regarded as uncontrolled changes – that is, the organisation has no control over these environmental factors because they are outside the system.

Finally, the dotted line represents an information flow. This is additional output from the process that provides **feedback** about process performance. Process performance would normally be based on efficiency and effectiveness. Process efficiency is focused on input, seeking to minimise resource use. Process effectiveness is focused on output, seeking to maximise how well the system meets its objectives. To assess process performance, predetermined measures reflecting performance can be implemented as part of the process.

The **control function** is a special adjunct system that prevents, detects, or corrects unlawful, or undesirable, events (Weber, 1999). The control function will assess feedback received and make changes to the system process if necessary. These changes may be temporary for a special case, or may be permanent for overall process improvement. Even the system objectives may be changed. The control function lies outside the system boundary, but nevertheless has a strong relationship with the system process. If changes have been made to the process, performance data continues to be collected and evaluated. Known as a control-feedback loop, it

provides the capacity for those controlling the system to monitor and adjust system performance on a continuous basis.

Establishing a **system boundary** is frequently a challenging exercise. When a system is designed to achieve a set of objectives (its *purpose*), the boundary is set with two aims in mind. In an introductory textbook on information systems, these aims were expressed in terms of an IT project scoping exercise.

"Do the boundaries constitute a self-contained entity? Is the entity controllable by the system within the boundaries?" (Ahituv & Neumann, 1990, p. 82)

First, those factors seen as outside the control of the system control function are cast outside the system boundary, and into the **system environment**. These environmental factors may have an impact on the system, but they are not subject to alteration by the control function. Secondly, the collection of system of components within the boundary must make up a complete system, so that it achieves the objectives it was designed to.

Systems thinking can be applied to both 'hard' and 'soft' areas. Hard disciplines include science and engineering, where scientific laws, mathematical models, variables that are well-defined, quantifiable and measurable, can be used to design and build effective systems to perform functions such as manufacturing, traffic management, electricity distribution, and bridge construction. Hard system design is based on what has been called *mechanical thinking*, which combines a positivist belief with a reductionist approach² (Chapman, 2002). Mechanical thinking involves breaking a problem area up into smaller components. Each of these may be broken down further, until the components are small enough that they lend themselves to simple solutions. Then, the solutions are systematically joined together into increasingly larger solutions until the complete solution is achieved. System modelling reflects this approach by representing each of these components as a subsystem. System decomposition becomes the reductionist approach of mechanical thinking for hard systems. Therefore, to understand the system, one only has to understand the subsystems that comprise the system.

² A 'reductionist approach' involves attempts to reduce process complexity by breaking it down into component sub-processes. Many of these processes are, in turn, broken down further, until the level of detail is such that the problem can be isolated and fixed. This approach is also known as decomposition or deconstruction.

Soft disciplines include those found in the social sciences, including anthropology, education, health, management, and social services. However, these application areas typically involve significant human involvement, and are more likely to lead to what Chapman calls 'messy' situations, where the nature of, and solution to, problems are either uncertain or disputed (Chapman, 2002). Chapman suggests messy situations require holistic thinking. That is, rather than only attempting the traditional, reductionist approach, by successively reducing levels of model abstraction, it would be appropriate to *raise* the level of abstraction so that wider issues outside the system boundary can be taken into account.

Chapman goes on to say that mechanical thinking and holistic thinking are complementary, not competitive. This supports the use of systems thinking in soft application areas, as it provides for both mechanical and holistic analysis.

3.2. Systems Thinking in IT Project Research

Given the name of the discipline, information *systems*, it should not be surprising that systems thinking has been employed in IS research. Some have applied general systems theory to frame the entire field of information systems (Alter, 1999; Bacon & Fitzgerald, 1999; Hallikainen & Chen, 2005; McLeod, 1995). Others have applied systems thinking to specific functions within the IS domain, such as business planning for network services (Dutta, 2001).

Many of the applications of systems thinking to IS research focus on IT projects. Examples include: the implementation of a total quality management (TQM) system (Bennett & Kerr, 1996); describing how analyst-programmers see information systems development (Butterfield, 1998); and predicting both the intended and unintended consequences of implementing packaged software in small businesses (Binbasioglu & Winston, 2004).

There are several more specialised, systems-based approaches that have been applied to IT project systems. Examples include: the ISD methodology Soft Systems Methodology (SSM) (Checkland, 1981; Holwell, 2000), critical system thinking (M. Jackson, 2006; Panagiotidis & Edwards, 2001), and cybernetics, including the Viable System Model (VSM) (Ahmad & Yusoff, 2006; Beer, 1985; Kawalek & Wastell, 1999).

Broad characteristics of IT projects have emerged with systems thinking applications. Complex relationships between project processes and their operational environment meant that the application of system decomposition could be difficult (Hornung & Adilova, 1997). Complexity also meant IT projects had to adapt to changing conditions and events (Goulielmos, 2004; Honkela, 2005).

“Currently, most information systems are developed as ‘trivial machines’ to be predictable and controllable. However, the static nature of the information systems makes them also prone to be incompatible with the reality”. (Honkela, 2005, p. 49)

However, despite many introductory text books on IT project management promoting the idea that IT projects can usefully be seen as systems, surprisingly few studies in this area make full use of systems thinking (Ivanov, 2001). This includes IT-related conflict resolution, though at least two publications came close.

Smyth represented conflict resolution as a system, noting that structure-oriented conflict (as opposed to issue-based conflict) may represent positive feedback (in a cybernetic sense) where entrenched power is strengthened (Smyth, 2002). However an IT-specific context was not considered.

Barki & Hartwick presented a semi-systemic view with their general framework of interpersonal conflict in ISD development teams (Barki & Hartwick, 2001). The framework (simplified in Figure 3.2) considered conflict and conflict management as interactive processes, with the antecedents to conflict represented as input, and conflict outcomes represented as output. However, while a loop structure is represented by noting that conflict outcomes will have an impact on antecedents to future conflict, the control function is embedded within the processes, and there is no differentiation between genuine process input and environmental factors.

The following sections outline how conflict resolution will be modelled, creating the basis for the research framework in this study. Based on the generic model presented in Figure 3.1, framework constructs are drawn from the literature review (Chapter 2).

Figure 3.2: A rudimentary system model of conflict within an ISD team context; a simplified version of the model presented in (Barki & Hartwick, 2001)

3.3. The Conflict Resolution System and Holistic Analysis

As conflict is seen as a major risk factor in many IT projects, the conflict resolution process can be represented as an important sub-system of the IT project system. However, as explained in Chapter 2, conflict resolution involves stakeholder interaction and human decision-making. The resolution process may vary for different conflicts, and will be susceptible to the effects of contextual factors such as stakeholder culture, power and interactive history. Complex, ‘messy’ situations (as Chapman called them) such as this require, as noted by the authors in the previous section, a focus on holistic investigation – particularly as decomposition may prove difficult. Seeing the conflict resolution process as dynamic and adaptive over time adds another dimension to the investigation.

This study emphasises holistic analysis, as it examines the resolution process within its context. System decomposition, where possible, is employed to observe relative changes to the resolution process over time – a form of dynamic analysis.

Holistic analysis will include the application of a mode of *holistic enquiry*³ to environmental factors relevant to the resolution process, based on three perspectives: completeness, interactivity, and comparative effects. These are outlined as follows.

The **completeness perspective** refers to the enquiry over the addition of new environmental factors, not previously identified in the literature review, particularly

³ The term ‘holistic enquiry’ is used for this study as a matter of convenience.

where they have independently had a significant impact on the resolution process. The **interactive perspective** refers to the enquiry over interactivity between environmental factors, and what impacts these interactions have on conflict resolution. The **comparative perspective** refers to the enquiry over the different impacts each of the environmental factors has on conflict resolution, and which are more dominant than others.

3.4. The Research Framework

The constructs in the research framework for this study are made up of those factors identified in the previous chapter as having an impact on conflict resolution (Table 3.1). The following briefly outlines how the system components were derived, using Figure 3.1 as a diagrammatic template.

Table 3.1: *Definitions of framework constructs from the Literature Review (Chapter 2)*

Constructs	Definitions from Chapter 2
Conflict	A phenomenon that occurs between IT project stakeholders as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals
Conflict Resolution	A process devised with the intention to reduce, eliminate or terminate conflict
Conflict Resolution Outcome	The degree to which conflict has been reduced, eliminated or terminated
Culture	A set of basic assumptions that people in an organization hold and share about that organization. Those assumptions are implied in their shared feelings, beliefs and values, and embodied in symbols, processes, forms and some aspects of patterned group behaviour
Power	A potential force that can overcome resistance in achieving a desired objective or result (a capacity to influence)
Influence	A process designed to alter the decision-maker's perception of the issue and its context (the exercise of power)
History	Events in the past that have an impact on conflict resolution in the present (typically prior conflict that either makes some stakeholders wary or may still be unresolved)
Management	The decision-makers in the conflict resolution process (may be an individual or group)
Governance	The way the organisation goes about ensuring that strategies are set, monitored, and achieved, by employing combinations of the following three arrangements to guide/constrain decision-making: policies, authority structure, and mechanisms

Basic System Structure

The fundamental characteristic of any system is the input-process-output relationship that achieves the system's main purpose. In this study, the main purpose of the conflict resolution system is to reduce, eliminate or terminate conflict. The system **input** is represented as the construct *conflict*, which reflects manifest conflict as outlined in the previous chapter (Section 2.8). The main system **process** responds to conflict and seeks to transform it into resolved conflict, and is represented by the construct *conflict resolution*.

The primary **output** of the conflict resolution process is represented by the construct **resolution outcome**, reflecting the changed level of conflict post-resolution. There are five possible outcomes, where the original conflict is: reduced, eliminated, terminated, elevated or unchanged. Note that the resolution process does not necessarily have to be completed for an interim resolution outcome to be assessed.

Environmental Factors

A strength of systems modelling is the emphasis placed on relationships between the system process and its context. This holistic perspective enables the basic framework to expand, taking into account the three contextual elements that had been identified in the previous chapter: culture, power, and history.

In the literature review, organisational **culture**, and its subcultures, was found to be capable of considerable impact on human activities, including decision-making with respect to conflict resolution (Section 2.10). However culture does not readily lend itself to manipulation, at least not in the short term. That culture can have an impact on the resolution process, but resists overt control, places the *culture* construct in the system environment.

Power was differentiated from authority in the literature review (Section 2.9), representing capabilities to informally **influence** decisions, and formally make decisions, respectively. Power was found to be a significant factor affecting decision-making in conflict situations. There are many sources of power, but its distribution, and the decision to exercise it, is normally outside formal organisational control. The construct *power* is placed in the system environment. The *influence* construct represents the exercise of power designed to affect decision-making on specific occasions. Influence was found to be a dynamic process (varies over time), and is placed within the system boundary as an adjunct to the decision-making process embedded within the resolution process, which means it may be (at least partially) subject to organisational control.

While not considered explicitly in the literature review⁴, many studies cited listed historical events (typically past incidents of conflict) as an important factor in some cases of present conflict. This factor is represented by the construct **history**.

Finally, while the impacts of these three factors on the conflict resolution process have been highlighted in the literature, it would seem unlikely that these would be the only environmental factors to have an impact on conflict resolution. These factors are collectively represented by the construct *other factors*.

⁴ This omission was primarily due to a lack of published studies that have focussed on the impact historical events can have on current conflict. Instead, it is frequently listed among a range of other important factors, as noted on several occasions in Chapter 2.

Control

Another advantage of systems modelling is the explicit identification of a control function, with the intention of ensuring the objectives are met. A key part of control with a conflict resolution system is the **management** role of decision-making. At one or more points in the resolution process, there will be an individual or body with the authority to make decisions. The decision-making function is represented by the construct *management*. While this function resides outside the system, the decision itself becomes part of the system process, reflecting the strong relationship between management and the process they have authority over.

Management intervention with the conflict process will depend on the **feedback** they receive. Generated by the resolution process, updates and issues with respect to conflict resolution are passed on to management for evaluation. Management would then decide if action is required, what that action might be, and how it should be implemented. The resolution process feedback is an information flow describing system performance, and is represented as the construct *feedback* in the framework.

Where management is concerned with direct control, **governance** is concerned with indirect control. The role of setting up IT project governance arrangements (policies, authority structures, and mechanisms) to control management decision-making, and ensure they are variously promulgated, monitored, and where necessary enforced, falls to the governance function. This construct is represented in the framework as *governance*.

Figure 3.3: *The complete research framework represented as a system model of the conflict resolution process within an IT project context*

The **relationships** between the constructs are of three types. First, the Conflict Resolution Process is set up to receive a conflict incident (input) and produce a conflict resolution outcome (output). These flows are represented in Figure 3.3 as solid, black-headed arrows.

Second, the Conflict Resolution Process is subject to change, and both environmental effects and control effects may cause these changes. Control involves both direct responsibility for how the resolution process is carried out, and indirect responsibility in terms of how governance controls management. Environmental effects are generally regarded as outside formal control, but will still have an impact on the resolution process. Power is the one environmental factor that affects the resolution process indirectly when exercised through a dynamic influence process. Influence is a process conducted in direct response to events over the conduct of the resolution

process, and as included within the system boundary. Environmental and control effects on the Conflict Resolution Process are represented in Figure 3.3 as solid, white-headed arrows.

Finally, the Conflict Resolution Process is designed to produce resolution performance information as a feedback mechanism that is relayed back to Management, so that they can make adjustments to the resolution process if required. This information flow is represented in Figure 3.3 as a dotted, black-headed arrow.

3.5. Research Questions

The research framework in Figure 3.3 partitions the conflict resolution phenomena into components that represent the fundamental elements of a system. These components are represented by constructs drawn from the literature (Chapter 2).

This study is focussed on three specific areas:

1. The nature of the uncontrollable environmental factors, and their effects on conflict resolution;
2. The nature of the controllable factors (governance and management decision-making) and their effects on conflict resolution; and
3. In what way governance can moderate negative effects from environmental factors on conflict resolution.

The following explores each of these areas of enquiry, and develops a corresponding research question.

Environmental Factors

As noted in the literature review (see Sections 2.8 - 2.10), there have been a small number of studies carried out linking an environmental factor, such as culture, power or history, to the conflict resolution process. These studies provided insights into the nature of the relationship between the environmental factor and the resolution process. Earlier in this chapter, it was argued that a holistic examination of the resolution system would yield more than just the sum of knowledge from each study. A more complete picture would emerge if holistic enquiry could be applied as well, recognising that:

- some factors outside culture, power and history may also be significant (testing for *completeness*);
- two (or more) factors may interact in such a way as to produce different effects from those that would have occurred from either in isolation (testing for *interactivity*); and
- the effects on conflict resolution from each factor can be gauged on a comparative basis to establish relative significance (testing for *comparative dominance*).

This leads to the first research question:

RQ1: In what way, and to what extent, do environmental factors affect the conflict resolution process and its outcomes?

To address this question, each of the factors are first considered in isolation, and then become subject to holistic enquiry. The first part of the question focuses on how the environmental factors (both in isolation and in combination) affect the way the resolution process operates. The second part of the question focuses on the most significant effects, and their effects on resolution outcomes. Different stakeholders, it should be noted, may see these effects, and the corresponding outcomes, in a positive or negative light, depending on their perspective over the conflict.

Governance and management decision-making

As recorded in the literature review (see Section 2.11), while management have ultimate responsibility for making and implementing the decisions over conflict resolution, they are guided and constrained by governance. Governance arrangements consist of three components: policies, authority structures, and mechanisms. Those involved in different levels of IT project governance will be responsible for designing, implementing, promulgating and monitoring different governance arrangements for their areas of responsibilities. The focus of this study is on the effects governance has on management decision-making as part of the resolution process. This leads to the second research question:

RQ2: In what way, and to what extent, can governance design, monitor, and control the management of conflict resolution?

To address this question, each of the three governance components are examined for their effects on resolution decision-making. The first part of the question focuses on how policies, authority structures, and mechanisms affect the way the resolution process operates. The second part of the question focuses on the most significant effects, and their effects on resolution outcomes. Note that there are typically many different levels of authority structures involved with a large project, (at a corporate level, IT level, programme level, project level, team level, etc.). This means that a specific authority structure may simultaneously have a management role at one level, and a governance role at another.

Governance and environmental effects

Both governance arrangements and environmental factors are capable of producing any of: positive, nil, or negative effects on conflict resolution, depending on how levels of conflict changed post-resolution. Many examples from the literature of the negative effects of culture, power and history on conflict resolution were provided. But, in this study, it is generally assumed that environmental factors are uncontrollable – that is, their nature within a particular organisation is unlikely to change over the duration of the project (though exceptions undoubtedly occur), despite organisational efforts to the contrary.

However, while the environmental factors themselves may lie outside the system boundary, their effects on conflict resolution do not. This raises the question over the role of governance with respect to environmental effects, which becomes the third area of investigation. This leads to the third research question:

RQ3: In what way, and to what extent, can governance moderate negative effects of the environmental elements on conflict resolution?

To address this question, each of the three governance components are examined for their effects on the way environmental factors affect conflict resolution. The first part of the question focuses on how policies, authority structures, and mechanisms affect the way environmental factors, in turn, affect resolution operation. The second

part of the question focuses on the most significant examples of governance control over environmental effects, particularly negative effects.

The next chapter determines and describes the research methodology to be used for data collection and analysis so that these questions can be addressed.

4. Research Methodology

In the previous chapter, elements identified in the literature review were placed into a research framework based on systems thinking concepts. From this, a series of research questions were outlined, emphasising both environmental effect and organisational control within the IT project conflict domain. The main objective of this study is to collect, analyse and report on data relevant to the research framework, and subsequently address the research questions. This chapter describes how this objective was met.

First, the selection of a research methodology is discussed. It is argued that adopting a positivist approach, employing a qualitative method through the use of case studies would be appropriate for this research. Next the research design is outlined. Criteria were developed for the selection of each of: organisations to study (the cases), IT project selection within the organisation, stakeholder group identification within the project, and stakeholder group representative identification for interviewing purposes. The unit of analysis (the conflict incident) was established. The Critical Incident Method is found to be well-suited to data collection through interviews. Construct validity issues are addressed.

The data analysis techniques are discussed in relation to the research questions. Coding methods are outlined and their application to both within-case and cross-case analytical techniques are discussed. Issues with conceptualising some of the constructs are considered. The analytical tools used to discuss each of the conflict incidents are outlined, including presentation of results. The methods used to improve the trustworthiness of the qualitative data and the way it is used for research is described.

4.1. Methodological Approach

The following describes, first, the suitability of case study research to address the research questions. To this end, the history and development of the positivist case study method in the IS discipline is considered. Finally, qualitative enquiry (as

opposed to quantitative data collection) is argued to be the most appropriate approach to data collection.

4.1.1. A Case Study Research Method

A case study can be defined as:

“... an *empirical enquiry* that investigates a *contemporary phenomenon* within its *real-life context*, especially when the *boundaries* between phenomenon and context are not clearly evident.” (Yin, 2003, p. 13, emphasis added)

Yin goes on to say

“... you would use the case study method because you deliberately wanted to cover contextual conditions – believing that they might be highly pertinent to your phenomenon of study.” [p.13]

Case study enquiry represents a method well suited to the research problem. Each IT initiative within an organisation is investigated through stakeholder interviews (*empirical enquiry*), with a focus on stakeholder conflict (*contemporary phenomenon*), within an organisational environment that includes cultural, political, historical, and controlling influences (*real-life context*). While the literature suggests that all of these may affect conflict, there is no clear indication as to how these factors act in concert, across different situations, to affect the conflict resolution process (*boundaries not clearly evident*).

Like all research methods, case research has its strengths and weaknesses. Case studies capture ‘reality’ in greater detail, and provide the capability for analysing more variables than most other methods (R Galliers, 1992). The potential for complexity offered in the research framework suggests this strength is important to this study.

However, Galliers also warned that this strength can be a weakness. By taking into account a wide range of perspectives, it can be difficult to deduce precisely what is going on. Furthermore, practical constraints, especially time, can restrict the number of cases considered, making generalisability problematic. Sometimes only one case study is possible to achieve the required depth of enquiry in complex situations. While this research cannot escape these issues completely, including several case organisations attenuates these concerns to some degree.

4.1.2. A Positivist Foundation

This research employs a positivist assumption to guide the research design through the use of case studies for data collection and data analysis. This statement is discussed in detail in this and following sections.

There is a long tradition of employing positivist case study research within the information systems discipline. Originally, IS case studies were mostly descriptive in nature – providing useful insights and lessons learned, but rarely testing or building theory. However, towards the end of the 1980s, key papers appeared challenging researchers employing case studies to do more than just supply insights and recommendations. A review of case studies in top IS journals from the early 1980s identified severe weaknesses in many, in terms of both purpose and method (Benbasat, Goldstein, & Mead, 1987). For example, they found that researchers did not provide: “clearer descriptions of where the topics fit into the knowledge building process; detail the case selection criteria; and provide more information about the data collection process.” (Dube & Pare, 2003, pp. 598-599) Building on Benbasat et al.’s work, a ‘scientific’ approach to employing single case studies to build theory in IS was published two years later (A. Lee, 1989).

Around the same time, Kathleen Eisenhardt’s seminal work on the use of case studies in research (Eisenhardt, 1989) had a significant effect on IS case study research over the following years. She provided guidelines on how to develop theory using case studies, including a positivist perspective employing a priori specification of constructs.

“A priori specification of constructs can also help shape the initial design of theory-building research. ...it is valuable because it permits researchers to measure constructs more accurately. If these constructs prove important as the study progresses, then researchers have a firmer empirical grounding for the emergent theory.”(Eisenhardt, 1989, p. 536)

Since then several papers in top IS journals have appeared, further refining issues of rigour and theory-building as applied to positivist case study research (Darke, Shanks, & Broadbent, 1998; Dube & Pare, 2003; Pare, 2004). In an in-depth examination of positivist case study research within the information systems discipline, Guy Paré noted that case study research is useful:

1. “When a phenomenon is *broad* and *complex*,

2. Where the existing body of knowledge is insufficient to permit the posing of causal questions,
3. When a holistic, in-depth investigation is needed, and
4. When a phenomenon cannot be studied outside the context in which it occurs.” (Pare, 2004, pp. 233-234)

In this study, it was established through the literature that large IT projects can be broad (in terms of the range of stakeholders) and complex (particularly where stakeholder behaviours are concerned), satisfying criterion (1). It has also been established through the literature that, while a range of studies have identified important factors affecting IT project-related conflict and its resolution, few have considered them from a holistic perspective. Different factors can be dominant at different times, across different contexts. Further, some factors may reinforce, or diminish, the effects of others. Causality can be difficult to establish if there are multiple factors at work, satisfying criterion (2). It is proposed that a holistic perspective would be the best way to assess the relative, and interactive, effects of the combined set of factors, satisfying criterion (3). Finally, many of the most important factors identified in the literature are contextual with respect to the conflict resolution process, including pre-existing cultures, power structure, individual behaviours, and historical factors, satisfying criterion (4).

Sarker and Lee emphasised the essential difference between interpretivist and positivist epistemologies when employing case study research:

“...consistent with the empiricist ideal of eliminating “speculative assumptions not founded on observation” (Schweizer, 1998), we adopt a ‘realist’ ontology rather than a social constructivist or an impressionist perspective (Van Maanen, 1988), focusing on what organizational participants *said* or *did*, rather than on what (we thought) they *meant* through our interpretations of symbols.” (Sarker & Lee, 2003, p. 817)

Positivist case study research continues to be popular in the IS discipline (recent examples include: Beachboard, 2005; Ke & Wei, 2006; Masrek, Karim, & Hussein, 2008; Poba-Nzaou, Raymond, & Fabi, 2008).

4.1.3. A Qualitative Study

Positivist case study research can involve both qualitative and quantitative data collection and analysis. However, the primary source of data in IS-based case study research typically involves interviews and organisational documents. Therefore,

while quantitative methods are employed on occasion, it is generally qualitative data that is collected and subsequently analysed. Qualitative research can be defined as:

“... an inquiry process of understanding, based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyses words, reports detailed views of informants, and conducts the study in a natural setting.” (Cresswell, 1994, p. 15)

In this definition, Cresswell emphasises a complex, holistic picture,

“...as a reference to a complex narrative that takes the reader into the multiple dimensions of a problem or issue, and displays it in all of its complexity.” [p.15]

This study uses qualitative data collection and analysis, but does not undertake any quantitative data collection.

4.1.4. Addressing the Research Questions

The following research questions were developed in Chapter 3.

RQ1: In what way, and to what extent, do environmental factors affect the conflict resolution process and its outcomes?

RQ2: In what way, and to what extent, can governance design, monitor, and control the management of conflict resolution?

RQ3: In what way, and to what extent, can governance moderate negative effects of the environmental elements on conflict resolution?

RQ1 focuses on the causal relationships between environmental factors and conflict resolution. RQ2 shifts the focus to the causal relationships between the controllable governance factors and conflict resolution. Finally, RQ3 examines the causal relationships between the controllable governance factors and the effects of the environmental factors on conflict resolution. Implicit in these questions is the assumption that the interactive and causal effects under scrutiny will not only be complex, but may vary considerably across different organisations, and even across different IT projects within a specific organisation.

Therefore, to address these questions, it has been argued that case studies can be employed as a form of positivist, qualitative enquiry, based on assumptions built around a pre-determined framework representing extant theory.

4.2. Research Design and Conduct

A research design is “...the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of the study.” (Yin, 2003, p. 19)

The following outlines the research design for this study. The outline provides descriptions of: an initial exploratory study; case selection, IT project selection, stakeholder identification, representative selection as interviewee candidates, and the unit of analysis. Each design aspect description includes a justification for the design approach, and the consequent events when the design was operationalised.

4.2.1. An Exploratory Study

Prior to the case study research, an exploratory study was conducted to provide initial empirical support for the following assumptions:

- That significant stakeholder conflict at some stage, or stages, of large, complex IT projects is not unusual;
- That organisations, seeing the effects of unresolved or escalating conflict, take conflict resolution seriously; and
- That organisational factors such as power and culture can affect the way conflict resolution is conducted.

The study objectives focus on the way both environmental and control factors are important in the way they affect conflict resolution. Therefore, before the case study research was initiated, it was important to establish that: significant conflict was likely to be present in the project’s history (the first assumption); control factors are important as organisations seek to resolve conflict (the second assumption); and environmental factors, such as power and culture, are also important as they are capable of affecting conflict resolution.

This exploratory study involved informal interviews with five senior project management consultants (all from different consultancy firms). Observations were drawn from the recorded interviews, but they were not transcribed. As all three assumptions were empirically supported, the decision to embark on the case research

based study was made. Appendix A provides a summary of the findings from this exploratory study⁵.

4.2.2. Case Selection

An organisation that participated in this study represents a *case*. Organisational selection was based on the following three criteria:

- The organisation was based in the Wellington region⁶;
- The organisation was of sufficient size that they had their own IT department; and
- The organisation undertook IT projects periodically, and had completed, or were close to completing, at least one significant IT project within the last two years.

Location was important given each case required multiple interviews. Confining the data collection exercise to a limited area meant differing interview days and times could be logistically managed. Furthermore, as New Zealand's capitol, Wellington is home to many head offices for both public and private organisations.

Size was important insofar as the organisation needed to be big enough to have its own IT support and service functions, including IS development. Furthermore, it was likely that larger organisations would have larger, more complex IT projects, and a broader range of stakeholders involved.

It was important that the organisation had either recently completed, or was close to completing, a significant IT project. Recent events can be recalled more clearly, and with some contextual depth. A completed, or nearly completed, project would have accumulated sufficient history to allow conflict incidents to have emerged.

Initially, work-related contacts (colleagues and ex-students) employed by medium-to-large organisations were approached by email, briefly describing the research objectives and how their respective organisation might be interested in participating.

⁵ The findings of the exploratory study do not form part of the analysis for this research beyond providing empirical support for the three assumptions. For this reason, the findings are summarised in the appendices.

⁶ Wellington City is New Zealand's capitol and second largest city. The Wellington region comprises Wellington City, the Hutt Valley, and other surrounding areas, with a combined population of approximately 400,000.

Contacts willing to help passed on the request for participation to the highest IT-related authority in their organisation. The possibility of participation in the study was discussed by telephone with the senior IT person. If the senior IT authority agreed to participate, and the case selection criteria were met, then the organisation was confirmed as a research case for this study. This process continued until three cases were confirmed.

4.2.3. IT Project Selection

Within each organisation, the senior IT authority (the CIO, IT Manager, etc.) was the first to be interviewed. The first part of the interview served three purposes. The first was to identify an appropriate IT project (there were often several options) for the study. The second saw the senior IT authority assist with identifying key stakeholder groups involved with the project. Finally, the IT authority also identified key representatives of project stakeholders that would make suitable candidates for interviewing.

The criteria for **IT project selection** were that:

- The project should have either been completed within the last two years, or be near completion;
- The project should be organisationally significant, including at least three distinct stakeholder groups and a relatively major budget and timeframe; and
- The project should be complex, where outcomes were difficult to ensure or foresee.

Stakeholder group identification was necessary so that interviewee selection would be as representative as possible. In all three cases, stakeholder groups included: two or more user groups, the IT function, and management.

Interviewee selection was based on recommendations from the senior IT authority. To improve generalisability and provide a foundation for comparative analysis, multiple-case research requires a degree of *literal replication*, where an opportunity is created to see if similar situations lead to similar results (Yin, 2003). It could be argued that constraints placed on both organisational and project selection are sufficient to create a foundation for literal replication. However, the focus of the

research is on stakeholder conflict, and standardisation in stakeholder group selection would have more impact in terms of literal replication.

In Chapter 2 (Literature Review), it was noted that situations involving stakeholder conflict within IT projects most often involved the IT Department and one or more user groups. Therefore, interviewee selection was fundamentally based on these two stakeholder groups; two interviewees would be selected from the IT function involved in the project, and two would be selected based on their representation of each of two distinct user groups. At least one other stakeholder group should be represented – more, if the senior IT authority identifies others.

Initially, there was no way of knowing whether or not a minimum of five stakeholder representatives would be sufficient to provide the necessary multiple perspectives on conflict and its resolution. For this reason, no upper limit was set on the number of interviewees for each case. Consequently, in each of the three cases, the senior IT authority was able to identify appropriate interviewees for each significant stakeholder group based on the criteria outlined above. The number of interviewees selected for each of the three cases were 5, 6 and 7.

Further, the data collection exercise was always open to other recommendations for further interviewing if there appeared to be important perspectives not previously identified. Where others were recommended during interviewing, they proved to be either those already on the interview list, or some who were identified as knowing more about one specific aspect (e.g. budgetary control processes). However, the need for further interviewing was deemed unnecessary in the end, for the reasons discussed below.

The concept of ‘theoretical saturation’ refers to “...the point at which incremental learning is minimal, because the researchers are observing phenomena seen before (Glaser & Strauss, 1967)” (Eisenhardt, 1989, p. 545). However, one major objective of the data collection method, *critical incident technique*, is to emphasise the most significant (in this case) conflict incidents. Thus, saturation in this research context refers to the point where each significant conflict incident identified was as fully described (in terms of the framework constructs and dimensions) as seemed possible.

In practice, significant conflict incidents (typically those identified and discussed by more than one interviewee) appeared well-described, with few gaps, and a general consensus from the interviewees on what happened. These incidents were deemed to be saturated, and included in the analysis. Those conflict incidents identified by only one interviewee were typically less significant in terms of impact on the project and stakeholders – and were correspondingly incomplete in terms of identifying and evaluating the different factors involved. These incidents were invariably omitted from the analysis.

In each case it was possible to identify individuals who met at least one of the following criteria:

- The senior IT authority in the organisation;
- The project manager;
- Senior representatives from at least two distinct user groups;
- At least one other stakeholder group representative (another IT representative, a consultant or vendor, the project sponsor, etc.)

These groups were selected for the following reasons. The senior IT authority had to be interviewed for assistance with project and stakeholder selection. Further, they offered a senior management perspective on the project.

Project managers were key individuals who managed project operations. They were on many of the project-related governing and management bodies, and were charged with keeping the project moving forward. They interacted with other stakeholders – particularly users, the IT Dept. and management.

User groups were almost inevitably involved in project-related conflicts, as they were the ones who would end up using the new system (and possibly paying for it). They are the stakeholders who would be most affected by problems that may affect the project's resourcing, quality, timeframe, or functionality. Large projects often have more than one user group. Consequently, at least two user perspectives was appropriate.

The selection of the fifth interviewee was more flexible. For example, external stakeholders were seen to provide a useful, non-organisational perspective, and all

three cases had external involvement, to varying degrees. As five interviewees were considered the minimum number for this study, further flexibility was possible through additional interviews. One case involved five interviews, one six, and the other seven.

It should be noted that interviewees were not identified only for their stakeholder group representation. As the focus of this research is on the decision-making and governance involved in conflict resolution, it was necessary that they be involved in the IT project at a broader level, preferably in key project decision-making or governing roles. Those lower down in the decision-making hierarchy, who were not members of any governing or management body with respect to the IT project, were less likely to be aware of all the issues involved in stakeholder conflict. This does not mean they could not add valuable information, only that they were less likely to add as much as someone who was more directly involved. This was born out in one case when a team leader from the project team, representing the vendor responsible for software implementation, admitted in an interview that while he was aware many things were going on at a higher level, he was not always able to provide new information.

The senior IT authority would identify interview candidates and discuss their suitability for interviewing. Where possible, the criteria for interviewee suitability included some combination of the following individual characteristics:

- Likely to be available for interviewing;
- An active member of the stakeholder group they were representing;
- Knowledgeable about, and at least moderately involved in the project;
- Member of project governance or management groups; and
- Likely to discuss project issues with candour.

Across all three cases, only two key interviewees were not initially available. Both had since left the organisation (there were two suitable projects selected for data collection and analysis in that case), and both were project managers. One of them was subsequently tracked down and interviewed. The other was travelling overseas, but a suitable alternative was identified and interviewed instead.

While these decisions were made during the interviewing period, it became increasingly clear that the ‘missing’ project manager played a key role in at least one significant conflict incident, and the lack of data representing her perspective did leave a potentially serious gap. However, many other interviewees associated with that project commented on her involvement, with consistent observations, suggesting the impact of this ‘missing’ perspective was not as serious as originally thought; nevertheless, there is no way of knowing for sure whether the missing perspective at a material impact on the analysis or not. Fortunately, this was the only occasion when a key participant could not be interviewed.

Finally, the senior IT authority was asked if the selected interviewees could be contacted directly. In one case, he went further and contacted the interviewees himself, suggesting they cooperate with the research exercise. In the other two cases, interviewee contact details were provided and permission to use the senior IT authority’s name in negotiations was granted. Consequently, in all three cases, every selected interviewee contacted had agreed to be interviewed.

4.2.4. Unit of Analysis

Identification of the unit of analysis is a critical step in the research process.

“In an exploratory case study, a clear definition of the unit of analysis helps define the boundaries of the theory, which in turn, set the limitations in applying the theory.” (Dube & Pare, 2003, p. 610)

The phenomenon under investigation is IT project-related stakeholder conflict, and specifically, organisational responses to that conflict. The unit of analysis is the **conflict incident**, which is defined to be a single incident of conflict with the following characteristics:

- Prior to an organisational response, conflict exists between two or more stakeholders (groups or individuals) – it may have arisen over an IT project-related issue, or it may have been ongoing relationship conflict;
- The conflict is manifest and recognised as conflict by the stakeholders; and
- There is an intentional response to resolve the conflict.

Consequently, this study is concerned with the way an organisation responds to the emergence of project-related conflict incidents.

4.3. Data Collection

Interview data was the primary source of analytical material for this research. The data were collected by employing semi-structured questioning, based on the Critical Incident Method, where the first conflict incident that came to the interviewee's mind became the focus of enquiry. Interviewees were encouraged to talk about the conflict, including contextual elements, with minimal prompting.

4.3.1. Organisational Documents

Where possible, documents were collected from interviewees to provide additional research material. These included:

- hierarchical authority charts for the organisation (or at least the parts that are relevant to the stakeholders involved) – these provided the chain of authority (a governance arrangement) for those stakeholders involved in the project;
 - Example: In Case 2, the organisational chart highlighted the governance issues – all three members of the primary governance (and management, as it transpired) group were in charge of groups that had autonomous existences under a loosely governed 'umbrella' deputy directorship.
- quality assurance reports;
 - Example: In Case 1, the entire set of monthly (sometimes fortnightly) QA reports were made available (with permission from the organisation) by the independently contracted project QA assessor. The QA assessor was interviewed as well, and the reports provided (at times vivid) chronological evidence of both a worsening situation for the project and the inability of the project steering committee to address it (in spite of the QA's advice, also recorded, which they did not always heed);
- both written and diagrammatic outlines of organisational processes and procedures (governance mechanisms);
 - Example: In Case 3, the CIO described the complex governance and management hierarchy by drawing a diagram, adding components as

he discussed them⁷. He illustrated these structures in operation by outlining the processes covering project funding and project oversight.

- and sample project status reports to the project steering committee.
 - Example: In Case 3, the CIO presented an example of a current project status report to demonstrate how project progress is monitored and risk assessments are regularly re-evaluated each month. This established the project-related information both provided by the various reporting structures and acted upon by the decision-making bodies.

4.3.2. Critical Incident Method (CIM)

The Critical Incident Method (CIM), also known as the Critical Incident Technique, was originally developed as an aid to understanding human behaviours in psychology research (Flanagan, 1954). CIM involves the identification of critical incidents as a way of exploring and classifying human behaviours. A critical incident is

“...one that makes a significant contribution, either positively, or negatively, to an activity or phenomenon.” (Grove & Fisk, 1997, p. 67)

CIM is a flexible approach to collecting data, as it can be used in qualitative or quantitative research, to build or test theory. It is used in a broad range of disciplines, particularly with psychology, marketing and health research. It has been used in the IS discipline, but perhaps not as often as it could have (G. Kelly & Bostrom, 1998). In combination with content analysis of the collected data, CIM is well-suited to exploratory research of holistic phenomena (Bitner, Booms, & Tetreault, 1990).

The essential idea of CIM is to use a critical incident as a focal point for the interviewee to recall important elements relating to the phenomena being studied, including behaviours, chains of events, antecedent and contextual factors. Provided the incident has a clear, fixed duration, there are a number of advantages to employing this approach.

⁷ It quickly became necessary to verbally identify the components as he spoke, so that they could be identified on the completed diagram at a later stage, when reviewing the interview recording.

- The incident will be important – prior research shows interviewees, when asked to recall an incident, tend to raise those that have had a significant impact (Chell, 1998);
- The incident will be more easily recalled – although retrospective, the incident is both recent and important (Chell, 1998); and
- The method suits a holistic research objective – the interviewee should not feel constrained about raising anything that might be important in relation to the incident (G. Kelly & Bostrom, 1998).

In this research, the phenomenon in question is the IT project, and the conflict incident (the unit of analysis) becomes the critical incident.

4.3.3. Construct Validity

There are risks in working with constructs where the researcher must make subjective interpretations as to how the construct is identified and measured (Yin, 2003). Yin identified two tactics which can improve construct validity: using multiple sources of evidence; and maintaining a chain of evidence.

The collection of **evidence from a range of sources** strengthens construct validity by showing consistency of meaning across different perspectives (Yin, 2003). While interview data was the prime source of evidence, documents (such as hierarchy charts, process diagrams, quality assurance reports, and meeting minutes) were also collected and used as supplements to the interview data.

Furthermore, it was not unusual for different interviewees within the same case to raise the same conflict incident. However, there were no examples of direct contradictions in terms of factual events. Interviewee opinion over conflict and its resolution had differed on many occasions, but these differences inevitably represented the nature of conflict itself, which is the subject of scrutiny in this research

The material in each case should be presented in such a way that the reader can follow the **chain of events** and determine for themselves if the construct measures appear appropriate (Yin, 2003). Conflict incidents that were raised, but not discussed in any detail by any interviewee were discarded from the sample due to insufficient

information for analysis. Otherwise, each of the 34 incidents across three cases were described as conflict events, including the triggering conflict, the environmental and control effects on resolution over time, and the resolution outcome. Where possible, the conflict incidents were also arranged chronologically to provide a brief history of the project through a conflict perspective. This was important as in some situations the resolution of one conflict incident either created or exacerbated follow-up conflict incidents

4.3.4. Data Collection Process

All research that requires interaction with people must undergo a stringent evaluation by the university Human Ethics Committee (HEC) before it can proceed. The evaluation focuses on anonymity, confidentiality, reporting, and publication. One requirement is that every interviewee receives (and discusses) both an information sheet about the research, and a consent form for them to sign. The HEC approved the data collection methods of this research. The HEC document, including copies of the information sheet and consent form, is provided in Appendix C.

There were a total of 18 interviews across three cases. Interview times ranged from 45 minutes to 65 minutes. Interviews were conducted at the head office of each organisation, except where interviewees were external to the case organisation. Three external interviewees were interviewed: one in his own office; one in the researcher's office; and one in the backroom of a public hotel bar.

For each case, interviews were conducted over a time period of 2-3 months. In all cases the conflict incidents described were within two years of the interviews taking place.

Every interview was recorded, with the interviewee's permission. Every recording was transcribed, and the transcription sent to the interviewee for checking. Approximately a quarter of the interviewees offered minor amendments and clarifications (which were incorporated into the transcripts); another quarter indicated they were fine with the transcript; and the remaining half did not respond. All interviewees were offered the opportunity to withdraw from the study at any time up to one month after receiving the transcripts. None chose to do so.

Each interview employed the same protocol, with the exception of those with the senior IT authority, where the first half of the interview was focused on identifying a project, stakeholders and interviewee candidates (see Section 4.2), but the second half reverted to the standard protocol. This protocol is provided in Appendix B.

Apart from pleasantries and administrative tasks (answering initial queries about the research, explaining the process, signing the consent form), the interviews focused briefly on background, followed by a semi-structured interview about conflict incidents. While interview time was confined to a maximum of an hour, there were no limits on the number of conflict incidents raised. Across all three cases, 34 conflict incidents were raised.

4.3.5. Data Collection Protocols and Forms

The purpose of a protocol in this research was to outline a conversation schedule between the researcher and someone important to the research process. Separate protocols (see Appendix B for details) were developed for the following purposes:

- Outline the research project to an organisational contact (telephone);
- Outline the research project, and organise an interview time, to the senior IT authority (telephone);
- Outline the research project to a candidate interviewee, and organise an interview time (telephone);
- Organise case confirmation, project selection, stakeholder identification and candidate interviewee identification with senior IT authority (face-to-face interview, first half); and
- Enquire about conflict incidents with every interviewee (face-to-face interview).

A two-page information sheet, introducing the researcher, describing the project, inviting the reader to participate, and stating contact details, was provided for every potentially interested party, including all contacts and interviewees. A consent form was presented, discussed and signed by every interviewee at the beginning of each interview. The consent form explained what kind of information was being collected, how it would be used, what will happen to it on completion of the

research, when the data can be withdrawn from the research exercise, and how anonymity and confidentiality will be preserved. Both these documents are provided in Appendix B.

4.4. Data Analysis

The analysis of the collected data was based on applying and interpreting codes representing constructs identified in the research framework. Codes are “tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study.” (Miles & Huberman, 1994, p. 56). The following describes the data analysis process used in this study. First the process of transforming constructs into codes is discussed, followed by a brief description of the coding process. The ascription of codes to text was not always straightforward, requiring refinements to the conceptualisation of the conflict incident and some of the codes – these issues are discussed in some detail. Finally, the strategies employed to improve the trustworthiness of the data are addressed.

4.4.1. Developing codes from constructs

A large quantity of information about the framework constructs, and their relationships, was drawn from the literature. In these circumstances, it is recommended that a ‘start list’ of predetermined codes be drawn up and used in the initial analysis (Miles & Huberman, 1994).

The list was drawn from the constructs identified in Chapter 3, using definitions identified in the literature review (Chapter 2). Operational definitions (for coding purposes) were adapted from academic definitions, and these are listed in Appendix D. The challenges in characterising the constructs within the text are discussed in Section 4.4.3.

The codes were of two kinds: *primary codes* representing constructs explicitly identified in the research framework, and *secondary codes* representing either dimensions of constructs (such as the three dimensions of conflict) or useful explanatory data (such as the conflict trigger).

The codes were structured in the following way. The top level codes were of two kinds: General Organisational Information and Conflict Incidents. Each time a new

conflict incident was identified during analysis of the text, a new top level code was created. The full structure of the codes used for analysis is described in Appendix H.

Only one significant code was added during the coding process: *individual behaviours*. The way this new code emerged is described in detail in Section 4.6. As a consequence, the original research framework was modified to include this new environmental construct.

There were no significant code deletions, though there were plenty of minor ones. These occurred when a conflict incident did not require every code available for that incident (see the code structure of the conflict incident in Appendix H). For example, some conflict incident descriptions did not provide any data about the use of power and influence. Most likely this would mean that power and influence did not play a significant role in that incident. In these cases, the codes for power and influence would disappear from the code structure – but *only* for those conflict incidents.

4.4.2. Coding

The software package NVivo was used to record the applied codes on each of the electronically stored transcripts. Codes were mostly applied to segments of text ranging from several sentences to several paragraphs. In many cases, two or more codes applied to the same segment of text.

To validate both the applicability of the codes, and their actual application, an academic colleague was asked to apply the set of operational codes to several pages of text from a transcript. The applicability of the operational definitions was discussed. Both the applications of the definitions were compared, and differences discussed. Some refinement of the definitions was required, but the differences were not significant.

4.4.3. Characterising Conflict Incidents

For coding to be successful, the operational code definitions have to clearly apply to the text segments. This application was generally straightforward, but there were instances where this was not the case. The following outlines how conflict incidents were characterised, along with a selection of codes that required further elaboration.

Conflict incident (UNIT OF ANALYSIS)

Conflict incidents were identified based on meeting the following criteria:

- The incident related, in some way, to the IT project; and
- There were at least two parties (the conflict stakeholders) who demonstrated any of the three characteristics used to define conflict: disagreement, negative emotions, or interference.

Across all three cases, only two conflict incidents were discounted because they were unrelated to *any* IT project conducted by the case organisation. The other criterion presented some challenges.

Some conflict incidents were discounted due to insufficient information for analysis. There were a variety of reasons why this occurred. Sometimes the incident was raised only in passing, to illustrate a specific point – often in the middle of discussing a different incident (this was the most common reason). On a few occasions, the incident was raised near the end of the interview, leaving little time for expansion.

There were also ‘borderline’ incidents, where sufficient information was available for only limited analysis. However, one of the basic tenets of the critical incident approach is that the interviewee will tend to raise the most important, or striking features first (albeit from their perspective). Working under this assumption, even where only some attributes about an incident are raised, they are likely to be important ones worthy of attention. Consequently, borderline incidents were retained for the study.

Some conflict incidents were initially identified as separate incidents, described by different interviewees, but upon scrutiny, were later found to be the same incident. The data, in these situations, were merged.

Occasionally, the concept of *conflict prevention* came up. This typically involved taking action to generally discourage (or at least minimise the harmful effects of) conflict. This might include setting up good communication channels between stakeholders; creating a cooperative work environment; ensuring decision-making bodies are representative; and establishing generic conflict management policy

(possibly incorporating mechanisms for conflict resolution). These fall under the ambit of governance.

However, it is important to differentiate between the concept of conflict prevention, and what is termed here *anticipated conflict*. Whether an outcome of formal risk management, including some form of project stakeholder analysis, or a prediction based on experience and personal suspicion, anticipated conflict represents a conflict incident involving identifiable conflict stakeholders that has yet to occur. As it qualifies as a risk factor, it may merit attention. Like all risk factors, the anticipated conflict incident may either be very likely to occur, or have the potential to seriously impact the project, or both.

No one can say what would have happened if some action had, or had not, taken place. Nevertheless, where conflict had been identified as a genuine risk, and risk mitigation processes were initiated as a direct result, it was still possible to compare the anticipated level of conflict with the actual level of conflict once the issue had surfaced.

For the purposes of this study, anticipated conflict incidents can be examined in much the same way as those that have already occurred. With the latter, interviewees describe the levels of conflict they observed, but with the former, they describe the levels of conflict they think would occur if no prior action is taken.

Once the anticipated conflict incident is identified, measures may be taken to ‘resolve’ (mitigate) the anticipated conflict (risk). They might ‘reduce’ the level of conflict (by taking actions such that when (and if) the conflict finally does occur, the impact is likely to be manageable); ‘eliminate’ it (by dealing with issues in a constructive way, avoiding disagreements, negative emotions, and interference); or ‘terminate’ it (by making early decisions about issues, before conflict can develop, and then moving on – essentially attempting to quash any expression of disagreement, negative emotions or interference). Furthermore, the pro-active concept of managing anticipated conflict has the attraction that doing so successfully would very likely reduce detrimental effects on the project. In every case, anticipated conflict was found to be a critical element in the project.

Conflict (INPUT)

For a specific conflict incident, the level of conflict is assessed using the three dimensions: disagreement, negative emotions, and interference. For comparative purposes, each dimension was assigned a value of 'YES', 'Some' or 'NO'. A value of 'YES' meant this dimension was clearly apparent from the evidence. A value of 'NO' meant this dimension was not apparent due to any evidence. A value of 'Some' meant there was at least some evidence that this dimension was apparent. For example, an interviewee observed there were different views on what should happen ('YES' for disagreement), anger and frustration by one of the stakeholders ('YES' to negative emotions), and their resulting inability to meet their own objectives ('YES' to interference) over a particular issue.

Conflict Resolution (PROCESS)

The formal processes used by the organisation to resolve the conflict were identified here. There was variation over time, as conflict resolution was a dynamic process. Some conflict incidents were relatively short in duration, where a specific issue developed, manifest conflict was observed, and then the conflict was resolved. Others tended to be ongoing, often triggered or exacerbated by a series of related issues over time, with conflict dimensions waxing and waning as attempts at resolution continued with variable success.

As indicated earlier, the dimensions of conflict (disagreement, negative emotions, and interference) were re-assessed once the resolution process had finished. Note that where resolution was ongoing, it was still possible to gauge changes in conflict dimensions after a period of time had elapsed. Attention was focused on the change in levels of conflict, including both the direction of that change (had the level of conflict gone up or down?) and its magnitude (had the level of conflict changed significantly?)

Individual Behaviours (ENVIRONMENT)

Individual behaviours refer to the actions of individuals that are not explained by culture, power or history, but are instead based on the personal attributes of that individual. This was not an original construct developed from the literature review, but rather it emerged during the coding exercise. This emergent code represented an

environmental factor that had a significant impact on resolution in all three cases. As a consequence, the new code was confirmed and some recoding was required.

Where the role of an individual is typically a governance issue, how well that individual carries out their role will partly come down to personal characteristics, such as experience, skill levels, decisiveness, ability to communicate, etc.

Statements on individual behaviours were only noted where it was clear they had an impact on resolution.

Establishing clear demarcation between the effects of personal attributes and culture on an individual's behaviour was also problematic on occasion. Culture is defined in terms of collective values, attitudes, beliefs, and behaviours. Many personal attributes of an individual can also be described in terms of these characteristics. It can be convenient to think of one's personal attributes as a 'culture of one'. It was not always possible to discern an individual's values, attitudes and beliefs based on interviewee evidence. However, seeking psychological explanations for an individual's behaviours went beyond the scope of this research, and therefore the new construct would only focus on *behaviours*, which were observable and easier for interviewees to describe.

Governance & Management (CONTROL)

While it was generally clear who was involved in resolution decision-making (*management*) and who was overseeing the process (*governance*), these role allocations would change over time on occasion. The most common example occurred during the use of problem escalation to a higher authority. Typically this would be the same authority that was responsible for governance, but who became directly involved in the decision-making. Thus those who had a governance role sometimes took on a management role.

Policy (CONTROL)

Policy is a governance arrangement designed to guide, constrain or direct behaviours, including decision-making. Formal policies are set at the governance level, promulgated to all affected, and where appropriate, enforced by those that govern. There were two points that arose during coding.

First, like other governance arrangements, policies were set at different levels of the project hierarchy. Second, there emerged descriptions of policy that had not been *formally* set and promulgated, yet effectively performed in a similar manner. This *informal policy*, while infrequent, did come from a governing body, and involved conveying their expectations in other ways (e.g. through verbal communication, or through example by leadership). Both formal policy (explicitly expressed by the governing body) and informal policy (implicitly expressed by the governing body) had significant effects on conflict resolution on occasion.

In practice, it was sometimes difficult to identify relevant policy. Frequently, even senior managers in an organisation found it hard to identify explicit policy that may have affected conflict resolution. In many cases, relevant policy may simply not have existed at the time. In other cases, decision-makers may have been: unaware of its existence (poorly promulgated), unable to apply it in any practical sense (poorly designed or explained), or simply ignored it (poorly enforced). It could have been that policy did exist, and was applied, but no one referred to it as ‘policy’, or confused it with the related, but more prescribed concepts of process and procedure. Any of these explanations could have applied. In the end, only those segments of text that clearly indicated a policy (both formal and informal) were coded as such.

Mechanisms (CONTROL)

All three cases employed a variety of mechanisms relevant to conflict resolution. Seen as tools that helped either decision-making or implementation, some were pre-determined, while others were set up on an ad hoc basis. Most were formally recognised and used, such as a procedure for determining the relative priorities of different project proposals. Occasionally, some were informal, such as setting up a discussion forum to broaden consultation. Finally, reflecting the variability of governance levels in the project hierarchy, mechanisms were devised and/or implemented at levels appropriate to their governance and management levels respectively.

4.5. Presentation of Results

The following outlines the approaches used to present the results from the data analysis. The approaches are organised into a series of five steps:

- Transform code allocations into code reports;
- Organise the code reports into large tables;
- Reduce the large tables to summary tables;
- Reorganise the summary tables to highlight preliminary findings; and
- Reorganise and condense the summary tables to address research questions.

Code reports present the text segments allocated to a specific code from *all* the interviewees for a specific case organisation. This enables an analytical focus on each code, and what it has meant for the case as a whole. NVivo software was used to compile the code reports.

Large tables were set up using an Excel spreadsheet, one for each case organisation. The columns represented every code used in the coding exercise. The rows represented each of the conflict incidents. Each cell was filled with key points and appropriate quotes linking the conflict incident to the code. Owing to size constraints, each table had to be split into separate tables: *Background* (describing the organisation, the IT function, the IT project, and the stakeholders); *Input* (describing the issue, the conflict stakeholders, the decision and decision-maker); *Process* (describing conflict resolution and influence on decision-making); *Environment* (culture, power, history, individual behaviours); *Output* (resolution outcomes); and *Control* (management and governance arrangements).

Summary tables were condensed from the unwieldy large tables, by removing the quotes and summarising the key points. This provided two advantages: first, the reports were now small enough to include in the Appendices; and second, they made the analysis required for preliminary findings more straightforward.

The **preliminary findings** were presented as part of each case analysis in the following way.

- First, a *conflict incident overview* is provided, where each incident is numbered and presented in chronological order (where this is known). This enables a narrative overview, where the brief descriptions of each incident are linked through the unfolding story. This provides the reader with a reference point as the individual incidents are examined in detail at a later stage.

- Immediately following the overview is the *conflict incident map*, displaying each of the conflict incidents diagrammatically. Where the outcome of conflict resolution for one incident either directly causes a new conflict incident, or exacerbates an existing incident, this is represented as a relationship linking the two incidents. Each relationship is represented as a labelled arrow, where the label indicates the specific outcome from the resolution that negatively affected another incident. This provides an alternative measure of resolution success, as fewer relationship arrows would suggest broader acceptance of the resolution outcomes.
- Each conflict incident is examined in greater detail, drawing on the summary tables and extracting supporting quotes from the original large tables. As a rule, significant incidents were investigated more extensively than minor incidents. Where several minor incidents had common features, they were often discussed collectively.

Finally, the **research questions were addressed** for each case analysis by examining the nature of each construct as observed across all conflict incidents. This included condensing the summary tables further, so that they could be included within the text of this study. One condensed table linked the effects of environmental factors with conflict resolution, to support the analysis for the first research question. The second table linked the effects of governance to conflict resolution and its management, to support the analysis of the second research question. The effects of governance on the environmental factors, the subject of the third research question, did not warrant a condensed table as there were insufficient table entries.

4.6. Qualitative Data Trustworthiness

Originally, quantitative concepts of data validity and reliability were carried over to qualitative research as measures of data quality, but the evolution of the interpretivist paradigm challenged these measures (Seale, 1999), arguing data quality should reflect “the assumption of multiple constructed realities” (Lincoln & Guba, 1985, p. 295). Instead, the concept of qualitative data *trustworthiness* was used, incorporating the idea that ‘proof of truth’ in any account presented is not possible, yet there are ways to encourage trust in the account. Trustworthiness continues to be an

important measure of data quality (Seale, 1999). Four criteria for trustworthiness in qualitative research were put forward (Lincoln & Guba, 1985) based on the concepts of: credibility, transferability, dependability, and confirmability.

4.6.1. Credibility

The credibility criterion focuses on the believability of the outcomes from qualitative data analysis. Credibility comes with close involvement with research participants, triangulation of data gathering techniques, and member checking (Pickard, 2007). Member checking refers to the submission of qualitative research outputs back to the original participants for confirmation of the results.

In this research, each participant providing data was interviewed face-to-face, and in their place of work (excepting several external consultants), achieving *close involvement*. Data gathering mainly involved one-hour interviews, but included printed documentation such as organisational charts, quality assurance reports, and meeting minutes. However, *triangulation* of the data was an important factor as well. As a positivist study, the research focused on predefined constructs. Focussing on critical incidents limited the domain of recall to very specific events in the project history. As a result, it was common for interviewees within the same case organisation to refer to the same constructs, and often the same conflict incidents – particularly the more significant ones (in terms of project risk). This meant there was virtually no contradictory evidence about conflict resolution events or any of the factors that may have affected them. Where opinion from one interviewee was not verifiable from other evidence, that opinion remained qualified as a single opinion only during analysis (and consequently carried less weight as evidence). *Member checking* was not done in this study beyond returning the printed transcripts to the interviewees for checking. Because the preliminary results were based on data mostly verified by multiple interviewees, checking did not appear necessary. The next stage of analysis, where the preliminary research outcomes are discussed in aggregate form, as it would have unnecessarily jeopardised confidentiality. Finally, the analysis of each case took place two years after the data was collected, and their recall of events would have faded further.

4.6.2. Transferability

The transferability criterion focuses on the qualitative research outcomes and their capability for application in other, perhaps similar contexts (Pickard, 2007). The same research method is applied to three different organisations. While they were similar in a few ways (all public entities), their contexts were otherwise quite different. Not only was the research design successfully applied in all three cases, but the final analyses found several important findings applied in all three contexts.

4.6.3. Dependability

The dependability criterion focuses on the qualitative research process, ensuring the procedures described in the research design continue to be carried out in a consistent manner (Pickard, 2007). This can be achieved through external peer review of the process. As this research was conducted as part of doctoral studies, there have been two senior research supervisors closely involved throughout the research process.

4.6.4. Confirmability

The confirmability criterion focuses on the capability to trace back from final research outcomes to the original raw data gathered (Pickard, 2007). This provides an evidential chain that lead to the findings. Figure 4.1 describes the evidence chain for this study. Note that the researcher has every link in the chain in possession.

Figure 4.1: *The evidence chain tracing from research findings back to the original raw data*

Summary

The chapter began with the determination of the research methodology. It was established that a positivist research approach is appropriate, where deductive

reasoning can be applied to collected data. The holistic nature of the research framework corresponds with the complex conflict domain, allowing certain research perspectives (interactive, comparative, and completeness) to be applied. These perspectives are not normally possible in a post-decomposition environment, when the research focus is on one or more selected factors.

Environmental complexity and a focus on human behaviour suggests a qualitative approach is more appropriate. Case research was found to be an effective way to collect and analyse data from organisations where human-based phenomena occur within, and interact with, complex organisational systems.

Next the research design was outlined. Criteria were developed for the selection of organisations to study (each representing a 'case'). Within each organisation, an IT project is to be selected, based on criteria designed to maximise the quality of the data. More criteria were designed to select appropriate stakeholder representatives for interviewing.

The unit of analysis is the conflict incident, from the time conflict is recognised, to the time it is deemed to have ended.

The next chapter outlines the analysis of the first case study.

5. CASE 1: The New Zealand Fire Service

This chapter provides an account of the first case study for this research. It begins with a brief description of the New Zealand Fire Service, the case organisation. The organisational setting for the project is described, including the organisational decision-making structure and broad descriptions of the major project stakeholders. Both the Financial Management and Asset Management information systems projects, including the relevant project authority structures, are described. The interviewees are introduced, followed by a chronological overview of the conflict incidents they identified. The findings of the preliminary analysis are presented for each conflict incident. Each of the three research questions is addressed, and the results are discussed in terms of their implications for IT projects.

When this case study was conducted, the New Zealand Fire Service (NZFS) was a government organisation responsible for both fire fighting ('Fire Operations') and fire prevention ('Fire Safety'), across the country. The NZFS was overseen by the NZ Fire Commission, a government-appointed body responsible for the governance of the NZFS, including alignment with government policy and strategy.

The focus of this case lies with Fire Operations (generally referred to as 'Operations'). There were several levels of administration within Operations, but ultimately it was front-line fire fighting that was of primary concern, including fire stations ('property'), fire trucks, also known as fire appliances ('fleet'), fire equipment (hose, breathing apparatus, etc.), and of course the fire fighters themselves. There were 430 fire stations across the country, including both professional and volunteer services. The NZFS was responsible for them all.

5.1. Organisational Setting

The country was divided into eight regions, and each region was further subdivided into different districts. Each district incorporated a number of fire stations, both professional and volunteer. The organisational structure is described in Figure 5.1.

The **National Head Office (HO)** of the NZFS was appropriately based in New Zealand's capitol city, Wellington, as it was both geographically central, and the

home to the NZ government, including the NZ Fire Commission. HO included the National Commander (also known as the CEO), and other administrative executives who together made up the Senior Management Team⁸ (SMT).

Figure 5.1: *The NZ Fire Service organisation chart*

Each region had a **Fire Region Manager and two Assistant Fire Region Managers** – one responsible for fire operations, and the other fire safety. The Fire Region Manager was responsible for regional administration, reflecting the fact that different regions in New Zealand (e.g. rural vs. urban) will have different requirements for fire services. Similarly, regional subdivision into districts allowed for coordination of local fire stations within a district to meet variable community needs within the region. For example, fire stations were able to coordinate their

⁸ Note that some interviewees referred to this body as the Executive Team.

actions for more significant fire emergencies by concentrating their collective resources where they are needed in the district.

Each fire station was managed by the **Chief Fire Officer** and was mostly made up of Operations personnel. They worked closely with other stations in their district, including sharing equipment and joint firefighting.

5.2. Implementing an ERP System

In 2001, the NZ Fire Commission approved the NZFS proposal to upgrade many of their internal processes. For example, while the manual systems used to manage resources appeared to work well at the station and district levels, they were effectively obstacles to HO's aggregation of the data at a national level. This, in turn, made it harder both to set strategy, and to follow it.

Therefore, the NZFS chose to adopt a nationwide Enterprise Resource Planning (ERP) system, with the intention of integrating and automating resource processing both across functions and across geographical and hierarchical dispersion, including stations, districts, regions, and national HO. Once the government tender process was complete, software vendor JD Edwards (later to become PeopleSoft) was awarded the contract to supply, and help implement, their ERP software package modules across the NZFS. It was agreed by HO that the modules would be implemented one at a time.

The Chief Financial Officer (CFO) was a strong advocate for a new ERP system, and agreed to be project sponsor for each of the first two projects undertaken. These two projects represent the domain of this case study, and are briefly described below.

The **Financial Management Information System (FMIS)** was the first ERP module to be installed, and was seen to be one of the core systems for the overall ERP project. System users were identified as those responsible for processing financial transactions and records at all levels within the organisation (stations, districts, regions and HO), as well as those who manage the financial function at higher levels (particularly HO). The FMIS was intended to automate and integrate these processes.

A steering committee (SC) was appointed, and the project budget and deadlines were set. The SC hired external consultants for two key roles: the project manager and a quality assurance adviser. Technical development and implementation consultants were supplied by JD Edwards to work with the NZFS IT project team to adapt the module to the NZFS' specific context, structure and requirements.

The **Asset Management Information System (AMIS)** was the second ERP module to be installed. Assets needed to be managed in two ways: financially and physically. NZFS was an asset rich organisation, representing considerable financial investment in fleet and equipment. The manual systems employed at the fire stations had struggled to keep up with a number of financial requirements, including the provision of asset data to be used at a national level. The firefighting assets also required regular maintenance checks and repairs, to ensure they will operate effectively during a fire emergency. AMIS was intended to maintain both financial and physical information about NZFS assets electronically.

The AMIS project was intended to achieve four key outcomes.

- Create asset management processes for high-value assets – specifically property (buildings and land, with a special focus on fire stations), and fleet (fire trucks and other vehicles);
- Create asset management processes for specialist (and often expensive) equipment that are typically housed on the fire truck, including hose, pumps, breathing apparatus, etc.;
- Automatically provide data to FMIS so that financial aspects of assets can be aggregated at district, regional and national levels; and
- Enable Operations staff at fire stations to monitor and update maintenance records for specialist (including life-saving) equipment.

The AMIS project began soon after the FMIS had been fully installed. The FMIS project manager was invited to manage the AMIS project, but she declined, and a new external project manager was contracted. PeopleSoft (previously the vendor 'JD Edwards') again provided technical consultants to work with NZFS IT staff as part of the project team. At the time the research interviews were conducted, the project was nearly complete.

The **Asset Verification Project (AVP)** was an unexpected project that emerged from the original AMIS project specification. It had always been recognised by the AMIS steering committee that effective asset management was critically dependent on possessing accurate asset data. At that stage, each station had its own system for managing assets. Furthermore, at the district level, stations regularly shared equipment, and even trucks, when the need arose, making asset location a challenge as well.

Data collection was initially seen by the SC as an important task within the AMIS project. Teams of two were sent out to each fire station to identify what assets they possessed, along with any other relevant information. As this task grew in complexity, there was a gradual elevation of its status to, eventually, a separate project (although still technically seen as a subproject of AMIS). Thus, what was originally referred to as the ‘asset data collection exercise’ eventually became the Asset Verification Project (AVP), with its own separate project manager.

5.3. Project Authority Structures

Two major authority structures were involved in the ERP implementation: the Senior Management Team, and the Project Steering Committee (for each of FMIS, AMIS, and AVP). Two other relevant authority structures were also identified: the Project Review Committee, which did not exist until after the FMIS and AMIS projects began, and the Operational Function Group, which had a limited role (Table 5.1).

Table 5.1: *Bodies involved in governing IT-related projects*

Body	Level of Focus	Membership	Main IT Project-Related Roles
Senior Management Team (SMT)	Organisation	CEO and senior executives, including IT Strategy Manager & CFO	Project prioritisation & budget distribution (prior to PRC assuming role)
Project Steering Committee (for FMIS & AMIS)	Project	Three finance managers (including CFO); Senior IT managers (including IT Strategy); External contract project managers; A senior operations manager; External contract QA; Other senior members in different combinations;	Project oversight of AMIS & FMIS, including strategic and important tactical decision-making
Project Steering Committee (for AVP)	Project	Three finance managers (including CFO); AVP Project manager;	Project oversight of the AVP
Project Review Committee (PRC)	Organisation / Project	Two members of SMT; Other senior members of the organisation (fluid);	Business case appraisal; Project prioritisation & budget distribution; Project approval;
Operational Function Group (OFG)	Organisation	Assistant fire regional managers (operations); Two members of SMT;	Discuss implications of new systems on regional operations

The **Senior Management Team (SMT)** determined which projects would be undertaken each year, based on a variety of criteria – some formal, others political or personal. The selection of the ERP projects, and other IT and non-IT projects at the same time, occurred under this somewhat unstructured approach to project prioritisation. This did not change until the Project Review Committee was created (see below).

Once a business case had been considered and the corresponding project approved, a project sponsor was appointed. The Project Sponsor was expected to provide executive level support for the project.

Unless the project was quite small, a **Project Steering Committee (SC)** was set up by the SMT. This applied to both IT and non-IT projects. In theory, the membership of this steering committee would vary according to the stakeholders involved and

the type of project. In practice, however, it was common for individual executives and senior managers to sit on many steering committees.

The SC comprised the key project authority structure. All major project-related issues and problems that could not be resolved at the project team level were escalated to the SC. Many SC members also belonged to the SMT. Both FMIS and AMIS had virtually identical membership in their steering committees⁹.

The **Project Review Committee (PRC)**¹⁰ was a newly formed body of senior individuals (two of whom were on the SMT) tasked with reviewing every single business case (for both IT and non-IT projects). They prioritised projects based on strategic considerations, and set their budgets. Finally, they established membership of the steering committees to oversee the projects.

“Within the organisation we’ve now got a project methodology for the Fire Service, and a whole lot of standard templates that people have to fill out. So, in theory, you need to bid to do major projects, be they capital expenditure projects such as IT, or even operating expenditure projects such as the asset verification project was.” [*National Financial Controller*]

Both the IT project sponsor (normally the Manager of IT Strategy) and the CFO are excluded from the PRC as a matter of policy, as they were seen to be subject to conflicts of interest when assessing IT projects. Instead, they would attend specific PRC meetings to present their proposals for assessment.

“[The person] who, effectively, looks after the fleet and property assets ... would have done a presentation to the PRC on the fleet strategy, the building strategy, looking at those sorts of things. There would have been other presentations done to that Committee, from people who had other interests in certain areas of the business, and strategies. Hence people like [the IT Strategy Manager] aren’t involved in the voting side of the Committee. So you’ve got that independence there.” [*National Financial Controller*]

The **Operational Function Group (OFG)** comprised all eight assistant fire region managers (Operations), and two members of the SMT. The objectives of the OFG were to raise and debate issues affecting regional fire fighting, and coordinate actions across the country. The assistant fire region managers (Fire Safety) also had their own group, but they were not stakeholders in this study.

⁹ For this reason, the more convenient abbreviation ‘SC’ will simply stand in for either. Where it is important to differentiate the two committees, the term is qualified at that point.

¹⁰ Even though this committee did not exist until after the AMIS project had begun, it is included here to enable some comparison with how it was done for prior projects, including FMIS & AMIS.

Although not directly involved in project governance, the OFG were an important body in the project process. The OFG provided the opportunity for regional factions to debate, and reach some kind of consensus on how to respond to the implications of new systems such as FMIS and AMIS. Physical meetings of the OFG took place on an ad hoc basis as situations arose, where the regional representatives from across the country flew to Wellington and met at HO.

5.4. Interviewees for this case study

Six individual project stakeholders were interviewed for this case study (Table 5.2).

The first interviewee was the Manager, IT Strategy, who was in charge of the IT function at NZFS. He identified the two related projects (FMIS, AMIS) that met the selection criteria. He also identified suitable candidates for interviewing. He did not offer to contact them, however, instead providing me with email and telephone contacts and permission to use his name when approaching them. Each candidate contacted agreed to be interviewed.

Table 5.2: *New Zealand Fire Service interviewees for this study*

Interviewee Position	Textual Referral¹¹	Body Member	Interest Group
Manager, IT Strategy	IT Strategy Manager	Steering Committee (FMIS, AMIS)	IT management (HO)
National Financial Controller	National Financial Controller	Steering Committee (FMIS, AVP, AMIS)	Financial management (HO)
Contract project manager (FMIS)	Project manager (FMIS)	Steering Committee (FMIS)	FMIS Project team
JD Edwards / PeopleSoft: technical consultant	PeopleSoft consultant		AMIS Project team
Synergy International: quality assurance consultant	QA consultant	Steering Committee (FMIS, AVP, AMIS)	Project management & governance
Assistant Fire Region Manager (Operations) - Wellington	Assistant Fire Region Manager	Steering Committee (FMIS, AVP, AMIS)	Operations

¹¹ 'Textual Referral' implies these 'shortenings' will be used in the text of this study for (albeit limited) relief to both the reader and the writer.

5.5. Conflict Incident Overview

The following provides a précis of events as the project progressed over time. The unit of analysis for this research is a conflict incident. Therefore, as an aid to link contextual, historical events (from the project's inception) to the analysis that follows, specific conflict incident numbers, corresponding to those used in the analysis, have been included within the text in parentheses. These are summarised in the conflict incident map in Figure 5.3, focussing on conflict incident identification and their interrelationships in terms of the impacts of conflict resolution over one incident on the development and resolution of one or more other incidents. These impacts form a part of the analysis of each conflict incident in the sections that follow.

In terms of risk, the pre-existing relationship conflict between HO and Operations (#1) was arguably one of the most important issues threatening the implementation of nationwide ERP modules within the Fire Service. The underlying issues behind the relationship conflict are discussed later, but its effects permeated many of the conflict incidents to come.

The implementation of the FMIS went relatively smoothly, generally keeping to schedule and budget. The new system spanned all levels of the organisational hierarchy, from HO to the fire stations, but the primary users were limited to financial managers at these levels. For this reason, gaining buy-in, even at station level, was less problematic, because most of these users wanted to see FMIS implemented.

It wasn't until the implementation of AMIS that serious problems began. The SC was well aware that Operations might take issue with aspects of AMIS, and sought measures to reduce the risk of resistance (#2), through limited increases in both consultation and participation with Operations representatives during the project. These measures were tested when the time came to collect asset data from each station, so that the new AMIS asset database could be populated with data.

The asset data collection exercise, it transpired, proved a considerably more complex and contentious operation than originally thought by the SC. Complex, because the data collection teams quickly realised there was a significant range of assets in the form of equipment, and that these assets were difficult to classify. Contentious,

because the station firefighters were being asked to give up time to help the data collection teams, which included the time-consuming removal of equipment from each of the fire trucks for inspection. The benefits of AMIS appeared to accrue primarily to HO.

Although Operations was obliged to cooperate with the asset data collection teams, there was considerable passive resistance in terms of priority – many fire station managers were reluctant to give asset data collection the attention it required (#3). Consequently, the collection exercise went very slowly.

There were also issues over the accuracy of the data collected. HO knew the nationally aggregated asset figures, but not how they were distributed. However, the totals of the collected data did not match the national figures. As it was not always possible to know which stations had provided accurate data, the SC made the decision to conduct the data collection exercise a second time. This time it would be carried out as a separate project (the Asset Verification Project, or AVP) with its own project manager. Furthermore, since the AVP was seen as a subproject of AMIS, more and more resources from the AMIS project budget were diverted to the AVP. This included involving the AMIS project manager to help recover control over AVP, so that the data collection could be wrapped up quickly, and AMIS could then move ahead.

However the extra workload meant the project manager had less time for AMIS. It had also become clear to the SC that she was finding it difficult to relate with Operations personnel, and did not seem capable of improving the AVP performance in terms of time and accuracy (#4). As a result, the SC made the decision to dismiss her, and hire a new project manager specifically for the AVP project.

The second data collection exercise provided collective totals that were much closer to the national figures, but some members of the SC still felt it was not accurate enough. The proposal to launch a third round of data collection became a contentious issue within the SC (#5). In the end, a third round of data collection was undertaken.

Shortly before the interviews took place, another Operations vs. HO issue had arisen. The problem centred on who would be responsible for updating asset data in AMIS,

once it had been implemented. Finance, within HO, wanted to enter the data to be sure that all financial consequences of that asset were updated, before then allowing Operations to enter asset-specific information such as maintenance records and location. Operations, with their emphasis on asset safety, wished to do it the other way around (#6). This issue was still unresolved at the time of the interviews, and had caused further slippage in the AMIS project schedule.

At the time of interviewing, the implementation of AMIS was still not complete. In spite of concerns expressed by the external QA consultant, the SC insisted on placing the AVP on the critical path within the AMIS project plan. This meant that, not only was the AVP absorbing AMIS resources, including its project manager, but the consequent slippage against the AMIS deadlines was causing increasing concern (#7). Even after the third round of data collection, there were still some concerns within the SC, but it was felt that would have to be good enough, and so the AVP was finally closed.

The conflict incident map in Figure 5.2 places each of the conflict incidents referred to above in a chronological context, as indicated by both the directional arrows and the increasing value in the conflict incident numbers. This map also highlights relationships between the resolution outcomes of conflict incidents and their corresponding impacts on following conflict incidents. The arrow labels identify the specific resolution outcomes of interest.

Figure 5.2: *A conflict incident map outlining incident numbers and brief descriptions, as well as their interrelationships in terms of initiating/fuelling other conflict incidents*

There was one clear example of causality between conflict incidents. The PSG made a decision to appoint the AMIS project manager to be the AVP project manager as well, in the hope of reducing the conflict between Operations and HO (from #3 to #4). However, the other relationships represented in Figure 5.2 were less causal and more contributory. For example, many resolution decisions contributed to Operational resistance (#3): poorly resolved relationship conflict (from #1); insufficient consultation and participation in the planning of both the AMIS and AVP projects (from #2); the inability of the AMIS project manager to work with Operations (from #4); and the imposition of a third data collection round on Operations (from #5). Similarly, the overall slippage in the AMIS deadlines (#7) could be attributed to the combination of: continued resistance by Operations (from #3); slippage in the AVP deadlines (from #5); and conflict over asset data entry (from #7).

The key pathway runs centrally through the conflict incident map, from #1 to #3 to #7. There was considerable relationship conflict between Operations and HO when the AMIS project began. This was not fully resolved, and the relationship conflict remained an underlying factor in many of the conflict incidents, including Operations' eventual resistance to the data collection exercise. Consequently, attempts to resolve other conflicts sometimes exacerbated the relationship conflict and encouraged further resistance. Ultimately, all of the conflict incidents contributed directly, or indirectly, to the considerable slippage in the AMIS project deadlines.

The following sections examine each conflict incident in turn.

5.6. Relationship conflict between Operations & HO (#1)

While there was evident relationship conflict over the duration of the AMIS project, and particularly the AVP, it is important to note that a major source of this conflict was the pre-existing (prior to these projects) tension between Operations and HO. The reasons for this are historical, and it is worthwhile exploring these past events to understand why this conflict developed the way it did. Three interviewees flagged the decade-old events as important regarding what happened with the AMIS project.

In the mid-1990s, businessman Roger Estall was appointed CEO of the Fire Service as part of a set of economic reforms that began in the mid-1980s. Estall's appointment broke the tradition of career firefighters becoming National Commander (as the position was known until Estall's appointment). Estall's task was to seek efficiencies through cost reduction – primarily through reduction of staff and equipment. Operations vigorously objected on two grounds: (1) Estall didn't understand how firefighters worked; and (2) Estall's proposed cuts were seen as a serious threat to firefighter safety.

Significant contention between Operations and HO spilled over into the public arena, culminating in the first ever firefighter strike in New Zealand. Estall, and his reforms, were eventually removed, but the damage had been done and Operations no longer trusted HO.

“...the final effect from that is still apparent, and it certainly affected the [AMIS] project.” [*QA consultant*]

One of Estall's initiatives in the '90s also involved asset data collection teams moving across the country. However, in that instance, Estall went further and ordered the removal of what had been deemed by HO as 'excess' equipment for each station.

“So, you've got all this history, where people come into someone's fire station and want to count your assets - there are all these misconceptions about what the purpose of it is. You tell them there is no sinister, hidden purpose ... we're not trying to take your assets. We're just trying to get a fair reflection of what they actually are. Then everyone delves back into the past, and their memories are [long]... because people in this organisation [have been] around for a very long time. So there is that general mistrust.” [*National Financial Controller*]

The other major contributor to tension between Operations and HO was the significant cultural differences between the two groups.

“We've got a cultural divide in our organisation, between people who wear a uniform, and those who don't. That's been around since we've had an organisation. That's just life, the way it is.” [*Assistant Fire Region Manager*]

People in Operations saw themselves as front-line staff – the ones who literally risked their lives to provide a community service. They saw HO as far removed from what they did – functionally, hierarchically, and geographically. And despite

the CEO being a uniformed man¹², the vast majority of HO staff were still seen by Operations as ‘suits’. This included the SC, whose members were mostly drawn from the suits in HO.

This perceived lack of understanding and interest by HO was not completely unfounded.

“I think there’s not a lot of empathy from the National Office about what people are actually providing out there, and the role of each level of the organisation needs to be better spelt out, in terms of how we’re going to move this forward. Our core business is going to fires and emergencies, and [that’s] what drives the organisation. ... everything else that surrounds that are support functions, including this office. So, I like to think that the young lady that inputs our accounts in National Office has a view that she’s helping support people in the fire stations. That’s really difficult to get [HO] people to get their head around.” [Assistant Fire Region Manager]

The suspicion held by Operations towards HO could be quite intense.

“...we can’t use that word ‘centrally’, because there’s a huge hang-up about that out in the regions. Calling it central purchasing sort of implies that the control is central. So we call it ‘coordinated purchasing’.” [Assistant Fire Region Manager]

As if to highlight the gulf between ‘suits’ and ‘uniforms’, one interviewee – the National Finance Controller – continually referred to the fire stations as "business units" and the corresponding Chief Fire Officers as "business unit managers".

HO, and particularly Finance, were very enthusiastic over their increasing use of IT to improve the way they processed and aggregated data, and looked forward to the implementation of these ERP modules. However, Operations felt much removed from these ambitions. They had relied on local manual systems for decades, and generally felt comfortable with their use. Consequently they were reluctant to change, and were often described by interviewees as “IT illiterate”. Given poor communication channels between these groups, Operations often felt they had new systems thrust upon them, sometimes with little apparent benefit for them.

It was in this environment that the AMIS project was launched. The SC was aware of these tensions, at least to some degree, and was also aware that they would need to address them. The asset data collection exercise would require Operations’

¹² Firefighters often contrasted themselves from HO people by their working clothes. *Uniformed* people were those who were, or once had been, firefighters. *Suits* were those who mostly worked at HO. After businessman Estall was removed, NZFS returned to the tradition of appointing a uniformed CEO.

cooperation as the possessors of the assets. But apart from limited (one) representation on the SC, there were no other mechanisms designed to facilitate HO and Operations working together on a more cooperative basis for this project. This issue was simply not addressed at a governance level – leaving those responsible for integrative IT projects to fend for themselves.

This long-standing issue clearly had a significant impact on the AVP and AMIS projects (see the analysis of conflict incident #3 below). Nevertheless, it was anticipated to some degree (see #2 below).

5.7. Anticipated conflict between Operations & HO (#2)

As a direct consequence of the relationship conflict between Operations and HO (see #1 above), the SC was concerned resistance might be an issue, and sought measures to reduce the effects of relationship conflict through increased consultation and participation.

Perhaps the single most important thing the SC did was to retain the services of the Wellington-based Assistant Fire Region Manager after the FMIS project. Originally seconded to the FMIS project to resolve a specific issue that had arisen, he was consequently placed directly on the SC for the AMIS project. The SC hoped this improved representation of Operations' perspectives would help them appease Operations' concerns over the upcoming AMIS project. Unexpectedly, it also provided the opportunity for Operations to learn something about National Office from him, including the fact that some of them *do* wear uniforms.

"Because, the people out there think these people in National Office, in the main, they're just a bunch of selfish idiots... particularly because they wear a suit – they don't wear a uniform. So I introduced the concept to the people that work at the National Office – that work for me – they wear a uniform to work. Let's see if we can break through the cultural divides there." [*Assistant Fire Region Manager*]

A key measure was the development of a communication plan.

"When we got serious about the asset management system, I got agreement from everyone in the Steering Committee that I would manage the communication plan, so that we could keep people informed. We would give them enough to motivate them to want to do more." [*Assistant Fire Region Manager*]

Other measures were also put in place:

- Each data collection team would be made up of an external consultant and a uniformed firefighter; and
- The Chief Fire Officer of each station would sign off on the data collected (the National Financial Controller thought this would give the stations “input into the process”).

"All the processes were there to make sure we got the best data that we could. ...So, in theory, we should have got full cooperation and really good data out of it." [*National Financial Controller*]

The SC even considered which assets would be most helpful to start with.

"People's lives are at stake with breathing apparatus. So the people whose job it is to maintain them, and service the equipment, and so forth, are very conscientious. That is why it was chosen as the first piece of plant and equipment to be put into the system. ...We knew they would want to maintain good records. So, we chose that equipment accordingly ... for that reason." [*IT Strategy Manager*]

As noted earlier, a communication plan had been drawn up by the Assistant Fire Region Manager, supposedly with full support from the rest of the SC.

Unfortunately, firefighters in Operations remained both un-consulted and uninformed about the project.

"And, frankly, [the communication plan] died a financial death, because nobody [at HO] was really serious about it. I found it really difficult to get people together even to have their photo taken, to put in our in-house magazine. Pretty scary stuff. I went to our Director of Communications, and he really wasn't interested..." [*Assistant Fire Region Manager (Operations)*]

Their other measures proved to be only partially successful at best. For example, while “buy-in at senior management level” was certainly important, it was not a substitute for station-level buy-in. Apparently the presence of a ‘uniform’ in the data collection teams was helpful, but it didn't make up for the time and effort the station personnel would have to put in. The Chief Fire Officer of each station took an independent approach to cooperation with data collection, some willing to sign off on inaccurate records, others refusing to sign off at all. It is difficult to see how the National Financial Controller's assertion that this gave them “input” into the process could carry much weight, as the process had already been determined. It allowed them to *participate* in the process only. The selection of breathing apparatus as the first asset to focus on was effective in some respects (Operations took safety very

seriously), but this required the fire trucks to be stripped down of virtually all the equipment. Consequently even these asset assessments were not popular.

There was a sense that the SC was reluctant to relinquish power over the process, and appeared to fully recognise neither the depth of feeling held by Operations towards HO, nor the lack of genuine participation in the development of the data collection process, or in the AMIS project in general. The seriousness of the risk of resistance should have, perhaps, been more apparent considering what had happened on an earlier project.

“At one stage, not on [the AMIS] project, but another, it actually affected their ability to roll out their HR system. The firemen were using refusal to carry out tasks as an industrial weapon.” *[QA consultant]*

5.8. Operations resistance over data collection (#3)

The SC was initially confident that they had put measures in place that would involve Operations more in the project processes set up for AMIS. But it wasn't until the data collection exercise that Operations unrest became manifest. Although all fire stations felt obliged to participate in the exercise, many did not give timeliness or accuracy as high a priority as the SC would have liked them to. By the end of what they thought would be the only round of data collection across the country, they discovered much of the data was of poor quality, and the asset database was not yet ready to be populated.

The underlying issue was that while HO did have accurate figures at a national level, how those assets were distributed across 430 individual fire stations was unknown to them. Physically fixed assets (property) were straightforward, but many assets were moveable and might (for many reasons) have been transferred to different stations (e.g. breathing apparatus, fire hose, etc.). An AMIS objective was to enable the tracking of these, so that maintenance records could be stored and accessed. So, data collected from stations, when aggregated, did not add up to the national figures. The differences were, in fact, so significant that further data collection was required.

That Operations had the power to resist without openly refusing to cooperate was amply demonstrated.

“...it would just be done late ... and skimpily. We would get figures down that were not trustworthy. It became, to them, a low priority task. And, very quickly, probably after a deadline had been passed, phone calls were being made, and it had to be got out of the system ... got out of the way, so people were put in [situations where they made] low quality decisions.” [*Manager, IT Strategy*]

In some cases, this led to a few Chief Fire Officers resisting by not signing the asset count off as correct, even when there was pressure to do so.

The first problem was that each data collection team was made up of an external contractor, who was in charge of the process, and a firefighter, who was there in support. It was not clear to what degree the external contracting firm prepared its staff, but it quickly became clear that they did not really understand Operations culture, and consequently struggled.

The contractors had not appreciated the complexity and range of assets to be identified until the process was well underway. In fact, it was so complex that the Assistant Fire Region Manager had to work with senior contractors to quickly come up with an asset classification scheme.

In terms of individual behaviours, the SC was fortunate to have the services of the Assistant Fire Region Manager available at such short notice. An extremely experienced firefighter (over 30 years in the uniform), he understood the nature and variety of assets. He also sat on the SC, and was fully supportive of the project.

The situation was further exacerbated by poor communication from the SC to station officers.

"There was not a great communication line to tell [fire station] people what they were doing, to encourage them to help, and so the data [the collection team] brought back was, frankly, compromised." [*Assistant Fire Region Manager*]

"We've got over 430 fire stations ... different people have different attitudes to these things. Those who pay more attention to detail are very conscientious – fantastic results, even and correct, 100% accurate. Those who are more laissez faire in their approach are perhaps a bit more secretive...they're into their little fiefdom – that's the Chief Fire Officer – especially in some volunteer brigades. [They] would probably not wish to be so cooperative, also, or reveal all their assets, for whatever reason they've got. But, as I say, a lot of that is apparently back to history." [*National Financial Controller*]

The SC was sufficiently unhappy with the accuracy of the data that they made the decision to initiate a second round of data collection. A letter was sent to regional and district management requesting cooperation with the exercise. But regional

managers operated within a semi-independent, overtly political environment of their own, and weren't necessarily supportive.

“...the Fire Service was a very politicised organisation – those regions were like separate governments. It seemed to me that they were run on their own, and here we were going to have an integrated system and we were going to put everything in one place. I think that was probably the cause of most issues, at the start, until someone said this is the way we'll do it. ...It felt like we had all these regions out there, that had just been told 'You will be coming on to the new system' – a sort of command. But then ... 'No, you aren't coming onto my patch' ... 'We do it this way ...' or 'We do it differently from Auckland ...' ... a lot of that sort of talk [ensued].” [*PeopleSoft Consultant*]

However, at station level, the insistence on a second round of data gathering was not well received.

“...we were pushing for accuracy, and this is work for all the regional people, who have to all go off and check their assets again ... They don't see any immediate gain – it's just an extra burden for them. ...you impose a new system on everybody, and impose the obligation to use it, in order to capture this information – information that is of importance and value to the Head Office people who make these policy decisions. ... but not to the people on the outside who are actually going to do all the work.” [*IT Strategy Manager*]

By now, the SC had realised that the data collection exercise was more complex than they had at first thought. To provide more coordination and move things forward, the collection exercise was elevated to a project status and given the name Asset Verification Project (AVP). The AMIS project manager was allocated to manage the AVP as well. Not all SC members were in favour of this move (see #4 below).

The results of the second collection round were better, but were still not regarded as good enough by most members of the SC. Reluctantly, they made a consensus decision to perform a third round of data collection.

They had also come to realise that the AMIS/AVP project manager was not performing as expected, including a failure to relate to some of the station managers. In the end, the SC agreed to end her contract (for both AVP and the AMIS project), and hired new project managers, one for each of AMIS and AVP.

By the end of third collection round, again the quality of the data had improved, but some SC members were still unhappy. A vigorous debate within the SC ensued

about whether or not one final round was necessary (see #5 below). In the end, they decided the asset data was sufficiently accurate that they could move on with AMIS.

5.9. Involving the AMIS project manager in the AVP (#4)

As noted earlier (#3), while agreeing on a second round of data collection, the SC also considered a proposal to ask the project manager of the AMIS project to manage the AVP as well. There was disagreement within the SC over this proposal. Its proponents suggested she was hired to manage the AMIS project, and AVP was considered part of that. Furthermore, one of the reasons the first round of data collection did not go well was poor coordination of the exercise – the sort of discipline a project manager would be expected to bring.

Those against the idea pointed out AMIS was already delayed because of AVP delays, and asking the AMIS project manager to effectively manage a new project as well would only further stall AMIS.

"There was conflict there about how much time she should be spending on this. Was this part of her responsibility or not? ...The more time she spent doing that, it was time she was not spending on other things. And there were conflicts within the team because of that." [*IT Strategy Manager*]

Those for and against were not explicitly identified in the interviews, though one interviewer indicated Finance members supported the proposal to avoid the cost of another contractor. Ultimately the proposal was agreed upon by the SC, and the AMIS project manager had the AVP added to her portfolio of projects.

Unfortunately, the second data collection exercise did not go as well as expected. The project manager struggled to make it work, though the SC was not aware of this for some time – likely due to the formal feedback mechanism that required only the project manager to report back to the SC. It was not until the decision for a third data collection round was being considered, that the SC also agreed to terminate the contract of the project manager from both AVP and AMIS.

"The issue was essentially allowed to drag on, and it wasn't until it became a crisis, that they decided to sack the project manager – partly because of conflicts ...". [*QA Consultant*]

As well as conflicts within her project team, there were suggestions of conflict with Operations managers as well, particularly at those fire stations that needed special attention. Two comments from the FMIS project manager, who turned down the

offer to manage AMIS as well, provide some insight into another cultural divide that may have affected the AMIS project manager's ability to communicate effectively with Operations staff.

"I didn't wish to do the next stage of the project. ...I suggested that they get another project manager who could relate, specifically, to the firemen. Not meaning to sound sexist, but I thought it would be better done by a bloke. ... and they ended up with another woman!" [*FMIS project manager*]

"I did get a feeling that some of the Fire Service managers out in the field had trouble relating to me, and I had assumed it was because I am a woman. ...they're very focused on the knowledge of the fire appliances and techniques used. I felt that maybe a man would be able to relate to them better." [*FMIS project manager*]

The personal qualities of the AMIS project manager had an impact as well, though not necessarily a positive one.

"I suspect one of the [problems] was that they put the wrong person in charge of Asset Verification from the beginning, which didn't help. When it was clear she wasn't the right person, nothing was done about it." [*QA Consultant*]

"The project manager was an ex-employee of PeopleSoft ... she used to work with me. ...She could be quite a difficult person, actually. You can have conflict with the project manager easily, too." [*PeopleSoft Consultant*]

So it was only when the SC recognised the extent of the problem, did they exercise their authority both to replace the project manager and hire more staff. After that, "...things went smoothly". [*QA Consultant*].

5.10. Slippage in AVP deadlines (#5)

Each round of data collection further delayed the AVP project. In addition, station personnel were becoming increasingly annoyed at having to spend more time doing the same exercise. Three times the problem went to the SC for a decision, after each data collection round. Both the QA consultant and the PeopleSoft consultant used the word "naïve" when describing the NZFS approach to IT projects. For example, one of the issues was data accuracy. Beyond making sure the collected figures tallied with the national ones, they had not really considered establishing accuracy at an individual station level, a district level, or even at a regional level.

"...supposedly all the asset lists were to be signed off by all the regional managers as being accurate. And we never got that done successfully. ...I suppose we could argue that there were arguments, discussions ... about how did we know when we had finished? How do we know when we've got that degree

of accuracy? ...it will never be absolutely accurate. ...We did not have any objective basis for saying 'it's now accurate enough'. ...I would say the biggest issue for AMIS was asset register correctness." [IT Strategy Manager]

The SC debates over repeated data collection exercises split the SC membership along two main arguments. Finance members, led by the CFO, argued against further collection exercises based on minimising further delays and costs with the AVP. Others, including IT management, argued that if the data were not accurate, no one would trust the system and they wouldn't use it. Finance, worried that AVP delays were setting AMIS back as well, took a conservative view on the trade-off of time and cost vs. quality. The problem was, unlike large assets such as land, buildings and fire trucks (where the figures are accurate), lengths of hose, level two suits, portable pumps, and a whole lot of other rescue equipment were more difficult to track.

"We've got over 100,000 assets on our asset register. So, it's extensive ... we're an asset rich organisation. From a materiality point of view, we're always going to be accurate with the dollars, but it's just some of the finer detail – that's where you get the hassles." [National Financial Controller]

Finance argued that further refinement of the data was unnecessary. The Manager of IT Strategy was on the other side of the argument, believing strongly that data quality was critical. However, he didn't think it was just the financial argument that finally led to the decision to end the AVP.

"...in my opinion, there is a psychological element about this as well. There was an element of weariness about it. After it had been done so many times, you're saying to yourself, 'do I have to do it again?' You say 'I've spent so much time, so much money doing this – we'll go with it as it is.' Now that was not spoken, in my opinion, but there was an element of that in the decision taken." [IT Strategy Manager]

In terms of governance, HO (including the SC) had authority over stations, districts and regions, but chose not to exercise it beyond making it clear to district and regional managers that cooperation with AVP was compulsory. The fact that resistance at the station level remained a considerable problem suggests edicts to Operational management were not sufficient to encourage cooperation from the frontline firefighters. As noted earlier, Operations saw themselves as functionally, culturally and geographically distant from HO. Described by one interviewee as "fiefdoms", many of the Operations groups at station, district and regional levels were strongly, and sometimes aggressively, independent.

For example, regional offices not only complained about the AVP and the AMIS project, but also conducted their own meetings to discuss why AMIS was even necessary (some of them had their own systems), and whether or not any benefits would accrue to them. The fact that turf protection was rife among them was noted by two interviewees, who also said the politics at the regional level could get very nasty sometimes. Exercising SC authority, by itself, was not sufficient for HO to gain full cooperation from Operations.

The Operations representative on the SC saw it differently, suggesting HO didn't have the courage to do more than just send out commands.

“...there was a view that if people at the senior level in the organisation wrote to people at regions and districts, and said if we don't do it this way, we won't fund you. I think that's really good, but...instead, they sent out one of those 'do as I say' instructions to all the regional managers, not that we listen to the instructions, frankly.” [*Assistant Fire Region Manager*]

As the governance body for each project, the SC was praised by external (to the NZFS) interviewees. They noted the SC was prepared to face up to problems and look for a solution, and that they generally reached consensus on most important decisions.

“The Steering Committee was very, very consensus orientated – a very convivial approach. There were no authoritarian or dictatorial approaches. It didn't seem to be a blame culture, either, which is quite different from other places.” [*QA Consultant*]

5.11. Asset data entry responsibility (#6)

The issue of responsibility over asset data entry into AMIS emerged in the latter stages of the AMIS project. There was (and remained at the time of the interviews) conflict between Operations and the SC, particularly Finance, over the asset system update process.

“...when we purchase the asset – that's when the conflict starts. [Say] we purchase a new fire engine. Now when you buy a fire engine, you put it in the asset management system. But I put my hand up and say hang on, I want to do it, because I want to associate that new truck, the fire engine, with all its standard tests, and its pump tests, and all the compliance issues that surround [it]. ...The financial people say: ah, any purchase has got a financial implication, and we want to do it. And when we've done it, you can do your stuff. Well I don't want

to do it like that. I want to put it in and then I want them to do their stuff."
[Assistant Fire Region Manager (Operations)]

Once again, HO vs. Operations tensions emerged as a major factor in the conflict and its resolution. Operations felt considerable resentment over this issue, as they perceived a loss of control over their own assets to fit into a system that was designed to support financial administration at HO. "It smacks of big boy control!"
[Assistant Fire Region Manager]

While Finance understood that front-line firefighters had important needs in terms of safety and effectiveness, they nevertheless still saw the data as being fundamentally financial in nature. Finance pointed out that the PeopleSoft asset system module was structured around a financial processing perspective, and that the long-term view was that other data implications, through the implementation of other ERP modules, would flow on from that.

Similarly, while many in Operations understood that financial and accounting systems were important, they saw AMIS as yet another HO function that places what was an administrative support system higher in priority than fire fighting. They saw the data as representing the fire fighting equipment, and they wanted to see each of these assets characterised correctly before any financial implications were considered.

As noted earlier, the cultural gaps between HO and Operations had a major impact on the ways these conflicts unfolded. Even where opposing parties sought dialogue to resolve the issue, cultural differences challenged their ability to see things in the same way.

"In my experience, working with people like financial accountants is rather a different experience for people like me who start life as a firefighter, and in fact, end up working in an area like this. We don't have a lot of exposure to people with great academic accounting experience and the way they manage the things at a high level. It's quite a challenge for us to be able to work with people like that." [Assistant Fire Region Manager]

There were many attempts, through debate and argument, to resolve this. At the time the interviews for this study were conducted, the conflict was still at an impasse. The Assistant Fire Region Manager made it clear that he had the option to "bully" resisters if necessary. But it had not come to that, and he was still optimistic.

The Assistant Fire Region Manager found himself on both sides of the argument, having to balance the interests of Operations, as he was their representative on the SC, with those of the SC in terms of wanting to see the delays ended and the project moving forward. For example, the SC frequently turned to the Assistant Fire Region Manager whenever HO vs. Operations conflict arose. They formalised his troubleshooting role by appointing him to manage the implementation of the AMIS project. The conflict over asset data entry was one of the first he had tackled since the appointment. Even so, he did feel the governance arrangements were skewed to entrench HO values over those of Operations. Authority structures and policy setting were weighted in favour of administrative management over 'uniformed' management.

"One of the underlying problems is that we have a whole range of people developing policy for the organisation in isolation. People in the Finance Division will develop finance policy that has an impact across assets that we manage, without consulting us. ...when you see the make-up of the senior management team, it's weighted towards the people who manage the business at National Office, [including] the Chief Financial Officer, ... We've got quite a diverse group that develop a whole range of policy, and they look after data management, project management, a whole range of stuff, and those people drive the policy as well." [*Assistant Fire Region Manager*]

Furthermore, he observed a shift from empowerment to command and control. There was a growing sense that Operations at the lower levels was increasingly disenfranchised from the decision-making that would affect them. Poor communication and consultation channels played a major role in this neglect.

"Now, the policy, the business rules, the way we do things around here, are ...moving from a cultural value, into a more centralised control of the organisation, and there's a need for some of those. Some would debate that we've even gone too far. We've gone back to a nationally led management organisation, rather than regions working within the boundaries of business rules and policy, but are quite autonomous in their day-to-day operation. ...And it went from being already good at walking the talk about being completely empowered to the lowest level in a bottom-up organisation, [to the point where] we're screening the people who are working in there." [*Assistant Fire Region Manager*]

There was little by way of policy to govern projects – the SC acted autonomously to manage as they saw fit. Within HO, there was a presumption that HO, and particularly Finance, were solely responsible for creating policy for developing these new systems. There were no formal mechanisms available for consulting Operations

to ensure they had some input into the policy documents that would be governing their actions in future.

“...there was no set of policies that [would help us] manage all this stuff when we started all this. We did all this back-to-front. We found out what the system could do for us, and then we wrote a bunch of policy that managed it.” [*Assistant Fire Region Manager*]

5.12. Slippage in the AMIS project schedule (#7)

There was considerable slippage in the AMIS schedule. As suggested in Figure 7.1, this was the culmination of a series of prior conflict incidents that had contributed either directly or indirectly to this. There were also broad issues that spanned virtually the entire AMIS & AVP projects, and they are discussed here as well.

The most important contributor, highlighted by every interviewee, was the deadline slippage in the AVP. This, in turn, was primarily due to resistance from Operations. Historical relationship conflict between HO and Operations, exacerbated by a perceived lack of consultation and participation in the project processes, contributed to the resistance that occurred.

“What we underestimated with that, and the flow-on effect into the AMIS project, was how long it would actually take to upload all the verification data. ...The Steering Committee was aware of this pretty much all the way through. Unfortunately it was just one of those things we were committed to doing, and we just had to let the verification data run its course ... and let the impact of that, on the AMIS project, take its course as well.” [*National Financial Controller*]

“...in the end, the timeline and the budget for [AMIS] blew out by 100%. ... and that was due to this one problem of verifying the assets. ...I’m not convinced they actually got value for money out of the Asset system [anyway].” [*QA Consultant*]

Initially, the data collection exercise was seen as a task in the AMIS project. However, the QA consultant repeatedly warned the SC of the risks to AMIS by putting the data collection into its critical path. This created a dependency on finishing the data collection and verification phase first, before other tasks in AMIS can be undertaken. It wasn’t until the formal creation of the AVP as a separate project that this advice was finally heeded.

“...they never really appreciated the amount of work, and the complexity [of the AVP]. It caused the [AMIS] project to blow out in terms of time and budget. ...When it was brought to their attention that they had an issue, they tried to do

everything that needed to be done to bring it back on track. But that was based on a misunderstanding about just how difficult it was. The issue was essentially allowed to drag on." [QA Consultant]

"...you are in [crisis mode] to deal with it...It's a natural tendency [to avoid sunk costs], to try and recover from it. Instead, you should be taking a big step back. But if you don't understand how big a problem is, you don't do that. ...I think they probably should have [understood this issue.]" [QA Consultant]

Politics, particularly between the regions, played a role throughout both the AMIS and AVP projects. The majority of the politics observed were based on 'turf wars' (jockeying for resources, power, etc.), and most of them seen by the QA consultant appeared to be protective, rather than opportunistic (though there were a few instances of that as well, he noted). There were occasions where a few members of either Operations or the project team were involved in political in-fighting that led to project delays.

"There was some fairly low-level [below SC level] staff politics – a bit of stabbing people in the back. ...The politics were, oh, fairly corrosive, yes. The relationships broke down." [QA Consultant]

Cultural differences between 'suits' and 'uniforms' had played an important role in most of the conflict incidents discussed so far. Two others were raised as well: the firefighters' resistance to change in general, and their degree of computer illiteracy.

"...the FMIS was successful, in terms of new operational systems, [as it was] totally in line with what the stakeholders needed. Whereas AMIS was something new – a new way to manage things. ... and the Fire Service doesn't seem to be very good at changing their culture, and encourage people to do things differently." [QA Consultant]

"There's very much the Fireman's culture, which is computer-illiterate – well, their job is fighting fires. The management culture is very slow at making decisions, and there is a separation of policy from operations. Even though things move at a very slow pace, the capacity for the firefighters to take on change is very low. Therefore, it's very hard to make change." [QA Consultant]

"I guess some layers of management probably don't have the imagination to understand what they could do with the new information that the computer systems have given them. This has happened in other areas as well, where people weren't sure if they were actually taking full advantage of the tools that were rolled out – because they didn't have that as a mindset." [QA Consultant]

This "separation of policy and operations" illustrates the divide between HO and Operations. Operations' reluctance to embrace both change and IT, and this was not formally recognised by the SC.

“That comes back to the project governance, where the low capacity to absorb change really wasn’t fully taken into account.” [QA Consultant]

Another ‘big picture’ issue was the challenge of doing so many projects at once. Other projects were underway around the same time as AMIS. For example, while the SC was grappling with the increasingly problematic AVP, the SC of another active IT project (The ‘Portal Infrastructure’ project) was also having problems. However, the two project steering committees had virtually the same membership. It was not unusual for some senior HO staff to spend considerable time on several steering committees, including non-IT projects, all on top of their normal duties. Consequently, both implementation resources and implementation management were stretched.

When the Manager of IT Strategy was asked about a programme office function, he indicated the NZFS was much too small to warrant that expense. Yet the lack of programme-level management, according to the QA consultant, led to problems.

"So, [they were] trying to roll out this kind of project, at the same time they are rolling out other projects – too many projects in an organisation that has low capacity to absorb change ... and there didn’t seem to be an overall view from a governance perspective. When I was there, there wasn’t anything visible about: ‘here’s our programme of projects ... here are the implementation dates ... here are the resources they need to implement them’. ...a lot of implementations don’t, of course. I think they are viewed as ‘just’ IT projects." [QA Consultant]

The QA consultant went on to point out that NZFS had not been involved in both the complexity and frequency of change such as this before.

“They weren’t used to these sorts of projects. ...You have got this major block of organisational change happening, [but the] ability of the organisation to resolve the change wasn’t as coordinated as it should have been. [This is] not necessarily uncommon. Some organisations, if they say we are implementing an ERP system, they know that this is an organisational change project, so they have that focus. Whereas here, it was an HR system, a finance system, an asset system, a station management system – all different, aren’t they?” [QA Consultant]

There were no visible mechanisms for managing change at an organisational level – particularly at the user level, where the degree of engagement was minimal. Nor were there any for managing programmes of projects, so that “it becomes difficult to focus the type of resources to actually make the project a success.” [QA Consultant]

Until the creation of the Project Review Committee, project prioritisation was done on an ad hoc basis.

"...the CEO comes in and he wants to do [a new station management system], and we just do it ... as opposed to actually looking at the workload, and doing the forward scheduling. When I raised it with them, they said "Oh yes, yes, yes, we probably need to do that." I was thinking about what their response would be, whether they *would* do something about it. They were doing some fairly major IT initiatives there." [QA Consultant]

The following section examines the above conflict incident analysis through the lens of the research framework, and addresses each of the research questions in turn.

5.13. Conflict Resolution

The following examines the assessment of the dimensions of conflict, the corresponding resolution outcomes, and the primary targets across all conflict incidents. Recall that the level of conflict involved in a given conflict incident can be accessed through an examination of each of the three key dimensions of conflict: disagreement, negative emotions, and perceived interference with objectives.

Conflict resolution outcomes are determined by comparing the level of pre-resolution conflict with the level of post-resolution conflict. First, each dimension of conflict is assessed for each conflict incident, both before and after resolution. Each assessment leads to one of the following allocations: **YES** (there is clear conflict with respect to this dimension); **Some** (there is evidence of conflict with respect to this dimension, but the level is not clear); **NO** (there is no evidence of conflict with respect to this dimension); and **Uncert** (there is insufficient information to make an assessment).

There are five possible outcomes for each dimension of conflict comparison: **E** (conflict has been eliminated); **R** (the level of conflict has been reduced); **U** (the level of conflict remains unchanged); **T** (conflict has been terminated – that is, no further resolution attempted); **S** (the level of conflict has escalated); and **?** (uncertain).

For this case study, the assessments of levels of conflict, both before and after resolution, along with the corresponding resolution outcomes, are briefly described in the summary table found in Appendix E (Table E-1). These results are condensed in Table 5.3.

Table 5.3: A summary of the changes in levels of conflict after resolution for each conflict incident

#	Incident	Target	Conflict (Pre-Resolution)			Conflict (Post-Resolution)			Resolution Outcome		
			Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference
1	Relationship conflict between Operations & HO	Relationship	YES	YES	YES	YES	Some	YES	U	R	U
2	Operations' resistance to AMIS [anticipated]	Task (process) [Relationship]	YES	YES	YES	YES	YES	YES	U	U	U
3	Operations' resistance to AVP	Task (content / process) [Relationship]	YES	YES	YES	YES	YES	YES	U	U	U
4	AMIS project manager becomes AVP project manager as well	Task (process) [Relationship]	YES	YES	YES	NO	Some	NO	E	R	E
5	SC faced with slippage in AVP deadlines	Task (process)	YES	Some	YES	NO	Some	Some	E	U	R
6	Who controls asset data entry	Task (content) [Relationship]	YES	YES	YES	YES	YES	YES	U	U	U
7	SC faced with slippage in AMIS deadlines	Task (process)	YES	NO	YES	NO	NO	NO	E	U	E

Resolution Outcome: T = Terminated; E = Eliminated; R = Reduced; U = Unchanged; S = Escalated; ? = Uncertain (in terms of direction & degree of change)

For each conflict incident, a **positive outcome** can be defined as one where each dimensional level of conflict is either reduced (R) or eliminated (E). Conversely, a **negative outcome** can be defined as one where each dimensional level of conflict is one of: unchanged (U), escalated (S) or terminated (T). A **partially positive outcome** can be defined as one where two dimensional outcomes are positive and one is negative. A **partially negative outcome** can be defined as one where two dimensional outcomes are negative and one is positive.

The **primary target** of a conflict incident can be any combination of three types: task content (conflict over the nature of the task itself), task process (conflict over how the task should be carried out), and relationship (conflict due to an awareness of interpersonal incompatibilities).

The frequencies of resolution outcome types are related to primary target types in Table 5.4. Overall, 3/7 of the conflict incidents achieved positive, or partially positive, outcomes. Two of these were conflicts between SC members, who employed a consensus decision-making approach. Conversely, 4/7 incidents achieved negative (3) or partially negative (1) outcomes, all of them involving relationship conflict between HO and Operations as a factor (see Table 5.3).

However, it is difficult to draw any conclusions about a 43% success rate, given it was based on seven incidents. Furthermore, according equal status to each conflict incident in this statistic is not reasonable, given the incidents varied widely in terms of significance and context. However, the success rate was indicative of the problems the SC have had with conflict resolution when Operations were involved as major stakeholders.

Task processes dominated the primary targets of conflict resolution with 4/7 incidents, the others evenly spread across other types. This reflects the use of ad hoc methods to resolve conflict as conflict incidents arose, with varying degrees of success.

Table 5.4: *The frequency of resolution outcomes expressed as negative or positive results, categorised by the corresponding primary targets*

Resolution Outcome Type	Primary Target	1. Relationship	2. Task (content)	3. Task (process)	4. Task (content & process)	TOTAL
Positive				1		1
Partially positive				2		2
Partially negative		1				1
Negative			1	1	1	3
TOTAL		1	1	4	1	

Drawing from the preliminary findings, the following three sections examine the contributions of each of the constructs identified in the research framework. Each section focuses on a different research question.

5.14. Analysis Addressing Research Question 1

The first research question focused on contextual, or environmental, effects.

RQ1: In what way, and to what extent, do environmental elements affect the conflict resolution process and its outcomes?

Each of the environmental elements identified in the research framework (culture, power, history, individual behaviours) are now examined across the conflict incidents identified in this case. A summary appears at the end of this analysis. These effects are then considered holistically, testing the framework for completeness, and identifying interactive and dominant effects.

Cultural differences between HO and Operations stood out as an enduring factor in terms of conflict throughout the projects covered in this organisational case study. Applying the four dimensions of culture to both major stakeholders yielded the following results, summarised in Table 5.5.

Table 5.5: *Cultural dimensions and relevant context of both Head Office and Operations*

	HEAD OFFICE	OPERATIONS
CONTEXT		
Geography	A building in Wellington	Stations dispersed across country
Gender	Mixed (but senior positions all male)	Male dominated
Capability	Authority to make decisions	Power to resist decisions
CULTURE		
Beliefs	See themselves as managers & coordinators of firefighters at a national level;	See themselves as firefighters providing local community service as the core 'business' of NZFS;
Values	Effective organisational coordination and oversight; Centralised control; Efficiency	Saving lives & property; A degree of autonomy ; Effectiveness
Attitudes	Drivers of change; See Operations as conservative & unable to move ahead;	Reluctant to change; Think poorly of HO management
Behaviours	Embraces new technologies & systems; Insist on Operations cooperation; Dress in suits	Many computer illiterate & suspicious of IT; Sometimes refuse to cooperate Dress in uniforms

Table 7.3 demonstrates an internal consistency across all four dimensions of culture for each of HO and Operations. The range of differences between HO and Operations that had an impact, including the context that helped shape these differences, were equally pronounced across all four dimensions.

Power and influence played an important role in the conduct of these projects, according to three of the interviewees. Perhaps the most important example was the fact that Operations had the power to resist a command from HO that they gave asset data collection a high priority, and a number of them exercised that power. Many of those firefighters who participated in the strike in 1995 were still fighting fires in 2004. Given the high standing firefighters had in NZ society, it was likely that this group would always have significant power to resist something they genuinely felt would threaten their ability to do their job. Therefore, until HO were to find mechanisms for engaging Operations more in the way things were done, it was equally likely that Operations would continue to exercise that power through resistance.

Another example, independent of the HO vs. Operations tensions, was the turf protection brought on by the changes in the way the internal processes would function. Information related to resourcing at a regional level was to be used through the new system, which could alter the way resources were allocated. At the regional level, Operations management consisted mainly of long-serving firefighters who had moved up through the ranks. To what extent HO was aware of these dynamics is not clear, but when describing the interactions of the regional managers, the QA consultant used phrases such as "stabbing people in the back", "corrosive", and "relationships broke down." It is difficult to see how 'corrosive' political infighting could be anything but damaging to a project such as AMIS.

Historical events were at the root of the constant tension between HO and the geographically dispersed Operations. But apart from the FMIS project manager (who had no real involvement in AMIS), every other interviewee made a direct reference to the extensive efficiency initiatives in the mid-1990s, and how it severely soured the relationship between HO and Operations.

Although those events took place a decade before the interviews, they made it clear that the relationship conflict had remained more or less unresolved since then. Furthermore, this conflict had led to project implementation problems before AMIS (such as the new HR system), typically in the form of resistance.

It is puzzling, then, why historical lessons do not appear to have been learned. There are many possible explanations, including:

- HO were not really aware of the extent of the relationship conflict;
- HO were convinced, each time resistance occurred, that it was a one-off problem that could be avoided next time;
- HO would like to improve the relationship, but are unsure how to go about it;
- HO were resigned to the fact that resistance may occur, and preferred dealing with resistance on an ad hoc basis through the SC, if and when it occurred; or
- HO assumed that the measures put in place to involve Operations more in the decision-making would be sufficient to avoid resistance.

Any of these explanations are possible on the evidence available, though plausibility may vary.

Individual behaviours rarely had a significant impact on project-related conflict in this case. The key stakeholder groups in this study, HO (particularly as embodied within the SC) and Operations were typically represented by individuals who reflected their stakeholder groups' perspectives on issues. Consequently, few individuals were singled out by interviewees, although there were exceptions.

Both the CEO and the CFO were very enthusiastic about bringing ERP, and other process changes, into the NZFS. One interviewee described how the CEO had insisted (on more than one occasion) that they initiate a new project, even when resources were already spread thin with other projects on the go. The Project Review Committee, created after that point, would have severely constrained such behaviour, even from the CEO.

The CFO, a senior member of the Senior Management Team, tended to focus more on financial functionality and HO data aggregation, than on operational functionality – particularly at station-level. Because he was joined by two other senior Finance managers on the SC, Finance had a strong voice on virtually every project.

Several interviewees noted that the original project manager for the AMIS and AVP projects could be difficult to work with. Her inability to work with resisting Operations staff, particularly at the station level, ultimately led to her dismissal. By the time the SC realised she was not coping, considerable delays and costs had been incurred.

The Assistant Regional Manager, who sat on the SC, was in a unique position. On the one hand, he was very enthusiastic about the projects, and used his position as a senior Operations representative on the SC to first, persuade, and then oblige those in Operations who resist to cooperate more. He indicated he would even, if necessary, use authority-based threats. "I would bully them," he said. On the other hand, he also encouraged others in the SC, particularly those from HO, to think more about the needs of the firefighters. He provided a rare voice for Operations at HO level, and was quite direct about the problems with relationship conflict and cultural differences.

The Assistant Fire Region Manager's personal interest in AMIS was highlighted when he worked urgently with senior consultants to design asset classes, applying the knowledge he had gained over thirty years of service as a firefighter. Arguably, his involvement was critical to what limited success AMIS eventually produced.

The preliminary analyses addressing the first research question are briefly described in the summary table found in Appendix E (Table E-2). These results are condensed in Table 5.6.

Table 5.6: A summary of the impacts of environmental factors on conflict resolution for each conflict incident.

#	Incident	Culture	Power	History	Individual Behaviours
1	Relationship conflict between Operations & HO	Many cultural differences between Operations & HO	Operations have power to resist; semi-autonomous management	Effects of mid-90s events still impacting on these projects	Operations rep on SC worked hard to bridge gaps, but one person was not enough.
2	Anticipated resistance by Operations to AMIS/AVP	Many cultural differences between Operations & HO	Operations have power to resist; semi-autonomous management		
3	Resistance by Operations to AVP	Many cultural differences between Operations & HO	Operations had collective power to resist, from regional to station level; Prev. empowerment culture -> semi-autonomy from HO	Direct recall of ill-fated asset data collection in mid-1990s; firefighters have “long memories”	Effective qualities of Operations rep on SC helped considerably – delivered more than SC expected.
4	AMIS project manager over involved in AVP	Gender issue between Operations & PM;			Personality issue between Operations & PM;
5	Slippage in AVP deadlines	Finance valued cost minimisation; Project team valued accurate DB			
6	Control over AMIS asset data entry	Many cultural differences between Operations & HO, and Finance is a subset of HO	Operations have power to resist; semi-autonomous management		
7	Slippage in AMIS deadlines	Indirect effect - many cultural differences between Operations & HO	Office politics hinder progress, including turf protection among regional managers	Lack of history with major, integrative projects such as these	

The following extends the above analysis by examining the environmental elements holistically, as part of a broader, interactive system. This is done by considering, in turn, each of completeness, interactive effects, and dominant effects.

Completeness, in terms of environmental effects on conflict resolution, refers to the identification of any significant effects that could not be explained by those already identified in the research framework.

The FMIS project manager raised the issue of gender, in the sense that Operations was vastly male-dominated, in spite of a gradual increase in numbers of female firefighters (though not in Operations management). This might partly explain why the AMIS project manager, once appointed the AVP project manager as well, found it difficult to relate well to the Chief Fire Officers at the fire stations, regardless of personality issues.

While gender bias was important here, it did not represent a separate factor, but rather was another facet of cultural differences. Firefighters, who might have found themselves in positions of physical danger, placed tremendous value in camaraderie and an ability to rely on others for support. The FMIS project manager suggested many in Operations might have found this difficult to achieve with female firefighters. The attitudes and behaviours of a significant number of male firefighters were not always welcoming towards their female colleagues.

A variety of **interactive effects** were identified in the case. Historical events from the 1990s had exacerbated tensions based on the strong cultural differences between HO and Operations. At the time of the interviews, the culture clashes were still present, and the historical effects of the early reforms were still reinforcing Operations' suspicion of HO's motives.

However, those historical events also combined with the existing power Operations already had to resist HO through their geographical, hierarchical and cultural isolation. The result was an increased sense of power after firefighters went to the unprecedented lengths of industrial action. The extent of Operations' power, based partly on their popularity with the public, a well-organised union, and a distrust of HO, was tested when the firefighters went on strike. Their subsequent awareness of their power to resist provided Operations with an effective mechanism for getting

what they wanted. Thus the tensions described before are reinforced further by the knowledge that Operations can act, if necessary, on their concerns.

Another example of environmental interaction involved the original AMIS project manager. The above three factors (culture, history, and power) would already have made it very difficult for the troubleshooting role she was meant to fulfil. However, there was general agreement among several interviewees that she was not well suited for this role anyway. Her individual behaviours were described as “difficult”, and she failed to gain buy-in from fire station chiefs – a task she was charged with achieving. Her position became untenable.

A **dominant factor** is one that considerably outweighs others in terms of its effects on conflict resolution. In this case, it was difficult to distinguish between several different factors – they were all significant at different times, and no individual factor consistently stood out. There was also a degree of interdependence between their effects. For example, cultural differences had been shown to be a major underlying factor behind most of the conflict incidents considered. On the other hand, historical events a decade earlier dramatically increased the cultural tensions, and were a significant underlying factor behind the project-related conflict. Furthermore, the power to resist had become, or should have become, of overriding concern with such projects, as it is a direct consequence of the cultural differences and historical events described above.

5.15. Analysis Addressing Research Question 2

The second research question focused on control effects, specifically regarding the manner in which governance both guides and directs management decision-making.

RQ2: In what way, and to what extent, can governance design, monitor, and control the management of conflict resolution?

Each of the governance control elements identified in the research framework (policy, authority, and mechanisms) is examined in turn across the range of the eleven conflict incidents identified in this case. A summary appears at the end of this section in Table 5.7.

Policy played a minor role in terms of project governance. Where policy did apply, it was not always project focused, and was inevitably created by HO staff with little

input from Operations. Where policy was communicated to Operations, it typically appeared as a command, which would then be filtered down through the Operations management structure. HO-based policy making and dissemination of this kind was seen by Operations as further evidence that HO was attempting to reverse the empowerment initiatives of several years earlier by reasserting a command and control approach.

The lack of policy governing projects was most pronounced where long-term and/or broad-based issues arose. For example, no long-term strategies were devised (and hence no policies set up to reflect them) to deal with frequent occurrences of resistance.

Coping with multiple projects was another major organisational problem, but no policies existed to direct project prioritisation, resource allocation, etc. at the time. This was later remedied, to some degree, with the creation of the Project Review Committee.

There was an informal policy among the HO staff within the SC to: (a) be prepared to face a problem and find a solution; and (b) use a consensus approach to determine that solution. This informal policy appeared to be very successful. Debate could be vigorous, but no one dominated proceedings while agreement was eventually reached. Unfortunately, informal policies can change even as membership of the committee changes.

In terms of project governance authority, the steering committee allocated to a project was given sole responsibility. The SC provided summary reports to the CEO, including the regular QA report, which the CEO requested to see before anyone else did. Even so, no interviewee indicated any further interest or interference with the projects from the CEO. This committee, apart from the External QA consultant, the Project Manager, and the Assistant Region Fire Manager, were all representatively drawn from Head Office, and many of them from the Senior Management Team. The committee was virtually unchanged in membership across both FMIS and AMIS, with a subset looking after the AVP. Finance was well-represented on all three committees.

The SC, although charged with project governance and high-level decision-making (such as appointing a project manager), it was crisis decision-making that increasingly took precedence as the HO vs. Operations conflicts continued. Furthermore, where Operations were concerned, the SC appeared to be much better at making decisions than implementing them. The SC were genuinely surprised each time their decision to do an asset data collection round did not yield the results they wanted. They seemed unaware of the limited capability their authority had in this environment.

The Operations SC representative pointed out that HO did have the authority to withhold funding, or elevate it to an HR performance issue. But as he said, the threat to do so was pointless unless they were prepared to carry it out – and he didn't think they were.

The other problem that the SC faced was their apparent inability to take a broader and longer-term perspective on what was going on. They were inexperienced with such large, complex projects of this type, and had too many projects going on at the same time anyway. Having an experienced External QA was very helpful in this regard, but his warnings were not always given due attention. For example, the key decision to place the asset data collection exercise on the AMIS critical path list as a dependency was made against QA advice.

Years prior to these projects, a policy of accepting a degree of local empowerment through the Operations hierarchy encouraged semi-autonomous behaviour throughout regional, district and station levels. While negative politics among regional managers was an unfortunate consequence of this, by and large Operations clearly preferred the chance to manage their own staff, resources, and assets in ways that suited them.

But ERP is based on the concept of standardisation and integration of processes. Exercising authority to achieve this was clearly going to be problematic. In other words, authority was a necessary, but not sufficient, condition to integrate processes across Operations.

Project governance mechanisms were not as widely used as they could have been. Perhaps the most glaring omission was the lack of effective communication

channels between Operations and HO. For example, the latter agreed on a communications plan to keep Operations at all levels well informed. But in the end it failed due to lack of funding and lack of interest from the SC.

Communication in the other direction was no better. For example, there were few formal mechanisms for consultation, which meant Operations were effectively excluded from much of the decision-making. This could also be seen as the lack of an effective feedback mechanism for the SC in terms of progress with Operations, as most of their information would come through third parties (such as the project manager).

As a consequence, Operations were rendered both poorly informed and poorly consulted.

However, HO was not totally oblivious to the tensions, and had anticipated some conflict. Bringing a senior uniform into the SC was a significant step at bridging the HO/Operations gap. Having more uniforms in the SC might have helped even more, providing more voices for Operations, and spreading the representational workload. Other measures were taken as well, but in the end these proved mostly ineffectual.

There were no mechanisms for managing multiple projects – no one was responsible for any kind of programme management function. There were no mechanisms for change management, in spite of the enterprise-wide effects of the ERP projects. According to one interviewee, the SC more or less assumed that all aspects of change were handled by the project manager.

However, this apparent neglect was almost certainly attributable to inexperience with such large and complex projects, including implementation challenges, and possibly a sense of resignation over the HO/Operations relationship conflict.

Furthermore, the creation of an important project governance mechanism such as the Project Review Committee was a strong step in the right direction. Afterwards, project prioritisation and resource allocation were subject to rigorous processes under policies directly linking strategy to decisions.

The preliminary analyses addressing the second research question are briefly described in the summary table found in Appendix E (Table E-3). These results are condensed in Table 5.7.

Table 5.7: A summary of the impacts of governance arrangements on conflict resolution for each conflict incident.

#	Incident	Policy	Authority	Mechanism
1	Relationship conflict between Operations & HO	Policy making split from Operations	Ultimately HO remained in charge through governance & management body SC	No serious mechanisms employed (esp. communication channels) to encourage cooperation
2	Anticipated Operations resistance by Operations to AMIS/AVP		Appointed an Asst Regional Manager (Operations) to SC as Operations rep	Some mechanisms used: data collection teams incl. an Operations person; buy-in from senior regional Operations management; selection of BA for asset collection first; communication plan approved, but failed due to no support
3	Resistance by Operations to AVP		SC has some authority, but not enough to quell resistance	Poor communication mechanisms between Operations & HO
4	AMIS project manager over involved in AVP		SC had poor understanding of situation – took too long to realise first PM a mistake	Seeing AVP as a project did help, but only when new PM appointed
5	Slippage in AVP deadlines		SC made tough decisions, but doing so on ad hoc basis	Eventually applied project mechanisms (eg appointing a PM)
6	Control over AMIS asset data entry	If this is a finance priority vs. firefighting priority, then policy required	SC ultimately have authority to break impasse, but are reluctant to use it	Discussion meetings
7	Slippage in AMIS deadlines	IT Strategy Manager has informal policy of preferring quality over meeting deadlines	SC effective in making consensus decisions, but do so on ad hoc basis. Not always able to deal with Operations lack of Operations involvement in decision-making	Poor communication, lack of programme management

5.16. Analysis Addressing Research Question 3

In chapter 3, the third research question also focused on control effects, but in this case, the controls were directed towards environmental effects on the resolution process. The question is represented here.

RQ3: In what way, and to what extent, can governance moderate negative effects of the environmental elements on conflict resolution?

Each of the three governance arrangements available to a governing body identified in the research framework (policies, authority and mechanisms) are now examined across the range of the environmental elements identified in the research framework (culture, history, power and personal qualities).

As found earlier, cultural differences between HO and Operations has played a major role in the conflicts discussed. The need for the Fire Service to bridge some of the cultural gaps had been noted on several occasions. However, little has been said of any attempts to address these gaps beyond short-term tactical manoeuvres to achieve specific ends. Many broad suggestions from interviewees had been put forward, and are summarised (within a governance context) as follows:

- **POLICY:** Bringing Operations into the policy-making process;
- **AUTHORITY:** Placing more Operations people in decision-making and governing bodies such as steering committees; and
- **MECHANISMS:** Installing effective communication channels between HO and Operations.

Note that these recommendations are complementary and could be considered as a project governance package, given each recommendation would support the others. However, at the time of interviewing, the cultural differences appeared undiluted and as much of an issue as ever.

The effects of historical events of the mid-1990s were still reverberating through projects ten years later. These effects appear to have strengthened the tensions already provided through the cultural differences. It is likely that the recommendations provided to address cultural gaps would also help render historical effects less influential. They need to put the past behind them.

Operations, at all levels, had the power to resist, and did so on occasion. Seen as a manifestation of cultural differences and historical events, there was clearly a need to find some long-term way of bringing Operations and HO together more and encourage cooperation. It is unclear why they had not done so before – perhaps HO treated each occasion as a one-off; or HO were unaware of the extent to which this was an issue; or it may be HO were aware, but were resigned to this sort of problem happening on occasion.

Policies governing the way projects are undertaken and managed would provide an opportunity to recognise Operations concerns. This process had begun with the development of the Projects Review Committee, reflecting the new policies governing how projects were assessed, prioritised, and allocated resources. However, this initiative had more benefit for HO than Operations.

The allocation of members to a project steering committee provides HO with an ideal opportunity to bring more people from Operations into the decision-making process at the SC level. At the time, HO and Operations had authority structures that made cooperative management across both groups quite difficult.

At a mechanism level, the need for effective communication channels, going in both directions, has been highlighted many times already. There are many other project processes which could more directly involve Operations as well.

Personal qualities had little impact on governance arrangements in this case, partly because there was so little project governance beyond the SC. Only a few individuals stood out in the project process. The CEO was found guilty of pushing through pet projects without worrying about stretched resources and higher priority projects. But once policy (on prioritising & resource allocation), authority (the Projects Review Committee), and mechanisms (the project review process) had been formalised, even the CEO was no longer able to subvert the process.

5.17. Discussion

Seven conflict incidents were identified for the AMIS and AVP projects, and none were identified for the FMIS project. A number of themes emerged post-analysis, and these are:

- the importance of addressing anticipated conflict;

- the dynamic relationship between the outcomes of one conflict resolution and their impacts on later conflict incidents;
- the need to learn from history and any pre-existing relationship conflict;
- how governance can moderate dangerous culture clashes;
- the conflict resolution process should take into account the power of user resistance;
- the risks of relying on project authority structures for governance, with few project-specific policies and mechanisms;
- the risks of placing key governance and management responsibilities on the same individuals; and

The following considers each of these themes in turn.

The **importance of ‘resolving’ anticipated conflict**, by adopting either preventive or moderating measures, cannot be underestimated. The AMIS project steering committee did anticipate conflict between HO and Operations, but did not do enough to moderate the risk. Every incident identified in this case involved Operations either directly or indirectly. Given relationship conflict between HO and Operations was present since the firefighters went on strike many years earlier, and that other historical events at times exacerbated this relationship conflict, it should have come as no surprise to the SC that serious conflict, in the form of resistance, was a genuine risk. Strong cultural differences between the ‘uniforms’ and the ‘suits’ made it difficult to reduce the level of relationship conflict between them. Furthermore, as a professional, front-line group, Operations had, just as in the past, considerable power to resist. Greater action from the HO-dominated SC to mitigate the risk of resistance was not taken – the magnitude of the risk was underestimated. Some of the actions that could have been taken by the SC are discussed below.

The **dynamic relationship between conflict incidents** was highlighted by the conflict incident map (Figure 5.2). A relationship between conflict incidents is established when the resolution outcomes of one incident either cause or exacerbate the follow-up incident. That all 7 incidents identified should be part of this web of conflict is testimony to the need for contextual understanding and effective

governance arrangements. Ad hoc decision-making was frequently employed to deal with immediate problems, ignoring or underestimating underlying issues, and with less consideration towards longer term consequences.

The need to **learn from history and any pre-existing relationship conflict** is important to project risk management. To mitigate this risk, those responsible for project governance must understand as much as possible about the major stakeholders, including how well they interrelate, incorporating knowledge of relevant events from the past. Furthermore, project governance arrangements reflecting this knowledge can be in place before the project begins. However, the SC did little more than include a firefighter in each data collection team, and co-opt *one* Operations manager onto the SC.

Culture clashes helped explain why the underlying relationship conflict between Operations and HO had always been present since the 1990s. The differences, in terms of beliefs, values, attitudes and behaviours, were so marked that some interviewees admitted each group knew very little about the other. As well as the usual differences between an organisation's head office and satellite offices spread across the country, the two groups had very different backgrounds. HO had some people with a firefighting background, but many others did not, such as those in Finance and IT). For as long as they remained relatively ignorant of each others' cultural characteristics, it will be difficult for them to put in place the right governance measures to prevent, reduce, or eliminate conflict.

While resistance is not an unusual form of conflict in IT projects, the **power to resist** can still be assessed early on (and reassessed over the duration of the project) as part of a risk management process. Once identified as anticipated conflict, appropriate governance arrangements can be put in place to either eliminate or at least reduce the impacts of resistance. In this case, the risk of Operations resistance was correctly identified, but was poorly evaluated, leading to only minor adjustments in project governance and consequent serious conflict.

Placing the role of governance into the hands of **a single authority structure, without sufficient project-oriented policies and mechanisms to back it up**, was a serious risk. Governance is a three-pronged approach, requiring authority structures to be guided, directed or constrained by policy, and supported by established

mechanisms. These three components should be balanced and complimentary to suit the context. Policies ensuring Operations were better represented in decision-making and governance, with mechanisms available to ensure strong communication and coordination channels were in place, would likely have meant less conflict and more effective resolution.

Allowing the boundary between governance and management to blur made the SC's job harder. Project governance provides direction and constraints to help guide management decision-making. Those responsible for governance may get involved in decisions that will have high impact on the project (e.g. with conflict escalation), but are generally not involved in day-to-day decision-making. By placing both project governance responsibilities and decision-making roles onto the same body (the SC), the relationship between governance and management had collapsed, enabling greater decision-making freedom and less objective monitoring and control.

For example, because the SC had not fully prepared for the anticipated conflict with Operations, they had become reactive, frequently making ad hoc decisions to address conflict as it arose. There was little incentive for the SC to think in the longer term, or in a broader context, than whatever the immediate issue presented. This would help explain the dynamic web of causal conflict throughout the project (Figure 5.2). Furthermore, governance requires a certain degree of objectivity, and a focus on the bigger picture. However the SC were almost exclusively drawn from HO, and was unable to see the conflict with Operations objectively.

5.18. Conclusions

All seven conflict incidents were essentially based on the relationship conflict between HO and Operations, either directly or indirectly. Historical events, in combination with strong cultural differences between HO and Operations, have meant an ongoing set of issues arose when the two groups worked together on the AMIS and AVP projects. Those same historical events also demonstrated to Operations that they had the power to resist HO in some areas – particularly where they thought changes would increase the risk to firefighters.

Project governance was placed in the hands of the Steering Committee. This authority structure, although functional and consensus driven, was not effective in dealing with conflict between HO and Operations. This may not be surprising given the SC members were mostly drawn from HO, with only one representative from Operations. Thus, the SC was seen as representing HO by Operations, and so would have found it difficult to mediate between the conflicting parties.

Few project governance mechanisms were available to the SC and the project manager, and the most significant omission was the failure of the SC (and HO in general) to establish effective communication mechanisms between them and Operations. That would have ensured Operations were both well informed about the project and its progress, and had a voice expressing concerns to decision-makers. Similarly, the SC would have a better chance of gaining buy-in. Ultimately improved communication could have reduced the level of relationship conflict between the two, possibly closing the sizable cultural gap with a better understanding of each other's values, beliefs, attitudes and behaviours.

There were no mechanisms for conflict resolution for either organisational or project-oriented conflict. Indeed, a mechanism designed specifically to deal with HO vs. Operations conflict would have seemed sensible given the frequency of such outcomes. Instead, the SC used ad hoc, informal methods based on the assessed situation at the time. The short term focus was on resolving the immediate conflict, with little attention paid to longer term issues that led to the conflict in the first place.

Policies affecting the conduct of IT projects were also minimal. For example, the IT Strategy Manager was barred from being a member of the Projects Review Committee (because he was normally the project sponsor) as a matter of policy. But no such policy existed for ensuring operational representation at the SC level, where most of the important project-related decisions were made.

This is not to say that the SC had not genuinely tried to deal with the relationship conflict, but they failed to recognise the depth of feeling, and never really tried to understand the issues from Operations' perspective. On the other hand, Operations had been suspicious and resistant regarding HO initiatives, presenting serious obstacles to project progress. In the end, however, the SC was responsible, and had it

within their power to institute project governance arrangements to help reduce or eliminate the relationship conflict.

Finally, taking a holistic perspective has revealed how difficult it was for the SC to successfully implement some ERP modules when the combined effects of history, cultural differences and the power to resist made conflict both likely to occur and difficult to resolve. Making full use of the range of project governance arrangements available, instead of just a project authority structure, would have gone some way to mitigating many of the inter-related issues.

6. CASE 2: The New Zealand Ministry of Health

This chapter provides an account of the second case study for this research. It begins with a brief description of the New Zealand Ministry of Health, the case organisation. The organisational setting for the project is described, including the organisational decision-making structure and broad descriptions of the major project stakeholders. The Web Consolidation Project, including the relevant project authority structures, is described. The interviewees are introduced, followed by a chronological overview of the conflict incidents they identified. The findings of the preliminary analysis are presented for each conflict incident. Each of the three research questions is addressed, and the results are discussed in terms of their implications for IT projects.

The New Zealand Ministry of Health (referred to hereafter as the ‘Ministry’) was a major government ministry whose role and purpose was based on achieving key outcomes at “...three connected levels, reflecting directions established in the NZ Health Strategy and NZ Disability Strategy.” [Review of the Ministry of Health, 2006, p.12]. Those three connected levels were:

- *Societal level* – promoting healthy New Zealanders;
- *System level* – promoting a fair and functional health system; and
- *Ministry level* – ensuring the system works for all New Zealanders.

The Ministry was headed by the Minister of Health – a senior cabinet minister in Government appointed by the Prime Minister. The Director General of Health is a position equivalent to a chief executive, with overall responsibility for the functions of the Ministry as an organisation, reporting to the Minister.

This case focuses on a project intended to consolidate the various web presences maintained by semi-independent bodies (referred to as ‘directorates’) within the Ministry. Although under the authority of the Director General, these directorates operated on a semi-independent basis, and had developed their own websites in assorted ways, including the use of outside consultants and employing different technologies for content management. Even so, many of them elected to use an in-

house service group who managed and uploaded their content, while the IT function maintained the web technology infrastructure, including software development.

The following sections describe the nature of the project and its organisational context.

6.1. Organisational Setting

At the time of the study (2006), the Ministry was broken down into eight semi-autonomous directorates, each headed by a Deputy Director General (DDG) (Figure 6.1). Each directorate was seen as relatively distinct in function and purpose.

Consequently, although each DDG reported to the Director-General, they had considerable freedom as to how they engaged their budget. What follows are the descriptions of selected organisational structures that are relevant to this case study.

The Corporate and Information Directorate (CID) incorporated the major stakeholder groups involved in the selected IT project, while other directorates were website system users. The CID included a variety of disparate functions (such as legal services, human resources and IT services) that provided specialist internal support services across the whole Ministry (Figure 6.1). The following describes each of the three major project stakeholder groups: the Publications & Communications Group (generally referred to as ‘Comms’), the New Zealand Health Information Service (NZHIS), and Information Technology Shared Services (ITS¹³).

Comms managed the content and publishing of material to be made available to the public. This service was available across the Ministry, and included both hard copy material (pamphlets, reports, etc.) and websites. These services were also available to Ministry advisory committees, incorporating for example, annual reports, consultation documents, brochures, and health charts. In total, Comms was responsible for approximately 200 publications every year. In recent years, Comms’ responsibilities had grown to include content management for Ministry websites.

The number and diversity of Ministry websites had grown considerably in recent years. Those in Comms felt that their resources should have been bolstered to deal with the increased workload that had evolved. They believed there had been

¹³ Although the acronym is not totally accurate, Ministry staff used ‘ITS’ anyway – possibly due to verbal convenience in conversation.

insufficient development in terms of their web publishing tools for eight years. This made it increasingly difficult to offer the more sophisticated services that their web-hosted clients within the Ministry had come to expect.

ITS was responsible for the IT infrastructure, which included the development and maintenance of IS software, and the implementation of software packages. ITS was overseen by the Chief Technology Officer (CTO), who reported to the DDG of the CID.

For many years Lotus Notes had been the integrated technology platform for many of their systems. ITS continued to maintain a team of Lotus Notes developers, who were responsible for creating and maintaining systems using this platform. Users had become increasingly unhappy with many of these systems, as Lotus Notes had waned in popularity over the previous decade, and newer technologies seemed capable of much more.

Figure 6.1: *The NZ Ministry of Health organisation chart, with a specific focus on the Corporate & Information Directorate.*
The shaded components represent areas of interest to this case.

All system faults and requests for enhancements to systems were communicated to the ITS Service Desk. It was not clear what internal processes ITS used to allocate priority and resources, but there would typically be little or no communication between ITS and users over a service request.

NZHIS was a Ministry business unit residing within the CID directorate. Its mission statement was to “support improved health and disability outcomes through ensuring effective governance and delivering value through robust management of national health and disability information & systems.” (NZHIS, 2006, p. 5). NZHIS focused on four key areas: clinical coding (design, coding, and data collection); data management (monitoring & maintaining data quality); business intelligence (analysis & dissemination of information); and strategy & policy (governance & communication).

It was not unusual for NZHIS to be involved in IT projects likely to affect NZHIS functions at a national level. They had sponsored many in the past, though none quite like this one, according to the NZHIS Chief Advisor. The following section describes what became known as the Web Consolidation Project, and the drivers behind its initiation.

6.2. The Web Consolidation Project

The Ministry’s range of websites varied considerably in terms of: technology platforms, ‘look-and-feel’ and navigational design, and content management. This situation evolved over time as many groups, based in various directorates throughout the Ministry, were each granted their own budget to develop a website. A few, such as the NZHIS, had their own developers. Several allowed Comms to manage content and publish on the web for them, which made Comms the biggest single system user group. Others used commercial software, and a few outsourced the function.

By 2001, there were over 20 separate sites, of which about a third were managed centrally. This prompted the inclusion of the Ministry’s web presence to be part of a broad IT strategy document as an item requiring increasingly urgent attention. The development and implementation of a web strategy was allocated a capital budget which, unlike operational budgets, could be rolled over every year until spent. In this case, \$800,000 was allocated over a 3-year period. The roll-over option meant there

was flexibility over the timing of the spending, even beyond the 3-year period. The project was given the name *Web Consolidation* to reflect the intention to standardise aspects of the websites and centralise, to some degree, control. There were several important drivers:

- There was a strong sense that consolidation would go some way towards improving “...our **ability to provide better information to our external stakeholders** – very significantly better information – and to multipurpose, and present in different ways the information that has been generated by the Ministry for the purposes of web publication. ... recognising that actually a lot of that information is quite common, but in the past, hasn’t been well presented, hasn’t been easily discoverable, for our external stakeholders, and therefore its value has been reduced.”

[NZHIS Chief Advisor]

- **Centralised standards**, in terms of look-and-feel, navigation, and search engines, for example, were also important: “you can really help people if all of your sites have consistent, good practice, navigational and presentation aids. I see it as meeting our responsibility to our external stakeholders or clients, and being sensible about the way we do it.”

[NZHIS Chief Advisor]

- There was also an issue of **website management**. “There wasn’t good consistency of site management, and we didn’t have real visibility of the costs, because they were being paid in various ways, from various parts of the Ministry. There was some variation in the costs that were being paid by different sites. I believe by consolidating, we could do it for less cost overall. Therefore, we would save money, and that seems a mighty fine thing to do. So, there is a good financial business case for doing this.”

[NZHIS Chief Advisor]

- Finally, there was the **government’s requirement** that all government departments ensure their websites were compliant with a new set of e-government requirements. Initially this was seen as being outside the project’s scope. However, when an absolute deadline was set by the

government, compliance became an important issue, and in the end, a key driver.

6.3. The Project Authority Structures

Three major authority structures were involved in the Web Consolidation Project: the Programme Management Office, the Information Systems Senior Management Team, and the Project Steering Group (Table 6.1).

The **Programme Management Office (PMO)**, based in the CID directorate, oversaw any Ministry project allocated a budget greater than \$250,000. It employed a checklist approach involving a complex set of processes, including many project templates, across a comprehensive set of project tasks.

The **Information Systems Senior Management Team (ISMT¹⁴)** was given responsibility for ensuring that IT strategy was linked to Ministry strategy, and that new IT projects met these criteria. Chaired by the DDG of the CID, this group governed the overall use of IT within the Ministry. This included the evaluation, prioritisation and approval of IT projects (and their budgets). The ISMT did not generally get involved in IT projects operationally.

Table 6.1: *Project authority structures governing the Web Consolidation Project*

Proj. Authority Structure	Level of Focus	Membership	Main IT Project-Related Roles
Programme Management Office (PMO)	Programme / Project	PMO staff	Standardised approach to managing large projects, based on established processes and templates Role reduced when this project repackaged as a series of smaller projects
Information Systems Senior Management Team (ISMT)	IT/Project	DDG (chair); representatives from ITS and IS users (usually at executive or senior management level)	project prioritisation & budget distribution; Project approval;
Project Steering Group (PSG)	Project	ITS Manager; Comms Manager NZHIS Advisor / Project Sponsor (chair)	Unique to this project Project business case; Oversight of project progress (schedule, budget) – reports received from project manager;

¹⁴ Again, the acronym is not specifically accurate, but it is what the interviewees used.

The **Project Steering Group (PSG)** represented the highest level of project authority where membership varied from project to project. While PSG membership was normally determined by the ISMT, it was the DDG who selected PSG members for the Web Consolidation Project.

In this case, the PSG was the key decision-maker in many of the conflict incidents that emerged. Although the project manager handled most of the operational issues that arose, many of the more significant issues were escalated to the PSG. Although the option was always available, the PSG had not escalated any issues to the DDG.

In addition, there were three key individual roles involved in the decision-making: the project sponsor, the project owner, and the project manager. These are all briefly described as follows.

Every Ministry project was required to have a **project sponsor**. This was normally someone senior within the Ministry responsible for driving the project forward and clearing organisational obstacles where possible. For an IT project, the sponsor was usually appointed by the ISMT. But in the case of the Web Consolidation Project, the DDG appointed herself and NZHIS as joint sponsors – the former at a very high level; the latter more closely involved with the project.

Every Ministry project was also required to have a **project owner** – someone who controlled the project budget and was ultimately responsible for the system once it had been successfully implemented. Normal practice would have had a senior manager representing the primary user as the project owner. Again, the Web Consolidation Project was an exception. The ‘primary’ user group was not immediately obvious, and control of the budget went to NZHIS.

Finally, every Ministry project was required to have a **project manager**, who filled the traditional project management role of coordinating and controlling the operational progress of the project, including the day-to-day management of the project team and the resources available. The project manager for Web Consolidation was initially an ITS employee, but was later replaced by an external contractor. In the latter case, the project manager reported directly to the PSG on a monthly basis.

As the project sponsor, owner, and manager were all seen as key roles for the Web Consolidation Project, it was important to include them among the people selected for the research interviews.

6.4. Interviewees for this Study

Seven individual project stakeholders were interviewed for this case study (Table 6.2).

The first interviewee (the Programme Management Office Team Leader) established a project that met the selection criteria, obtained access permission from senior managers, and put the researcher in touch with the CTO. The CTO decided to support the research project, identified suitable candidates for interviewing, and asked them all to cooperate with the researcher – which they did. The PMO Team Leader did not offer any observations on the project itself, as the project had not been selected until post-interview discussions with other PMO staff.

Table 6.2: *Ministry of Health interviewees for this study*

Interviewee Position	Textual Referral¹⁵	Body Member	Interest Group
Team Leader, Programme Management Office	PMO Team Leader		Programme management
Chief Technology Officer, ITS	CTO	ITS representative on PSG	IT management
Team Leader, Publications & Communications	Comms Team Leader		Web publishing
Group Manager, Publications & Communications	Comms Manager	Comms representative on PSG; Project owner	Comms management
Chief Advisor, Health Information Strategy & Policy Section, NZHIS	NZHIS Chief Advisor	Chair of PSG; Sponsor & budget holder	IT strategy implementation management
Knowledge Manager, ITS Seconded as User Liaison Officer between users & ITS	User Liaison Officer		IT project support
Web Consolidation project manager (contract)	Project Manager		Independent

6.5. Conflict Incident Overview

The following provides a précis of events as the project progressed over time. The unit of analysis for this research is a conflict incident. So to link contextual, historical events (from the project's inception) to the analysis that follows, specific conflict incident numbers, corresponding to those used in the analysis, have been included within the text in parentheses. These are summarised in the conflict incident map at the end of this section (Figure 6.2).

In 2001, the ISMT recognised the need for the Ministry's web presence to be considered from a Ministry-wide strategic perspective. They approved a budget for a project that would both recommend a strategy, and if approved by the ISMT, implement it.

NZHIS were made co-sponsors (along with the DDG for the Corporate and Information Directorate) and given the responsibility to both manage the budget and

¹⁵ 'Textual Referral' implies these 'shortenings' will be used in the text of this study for (albeit limited) relief to both the reader and the writer.

oversee the project. This surprised Comms, as they had a much deeper involvement with the management of web publishing than did NZHIS, and normal practice within the Ministry would have allocated budgetary control to them, given that the Comms Manager had agreed to become the project owner.

There had been historical tensions between ITS and Comms for some time. Comms had been heavily dependent on ITS for software support for years, but ITS did not reveal how they prioritised work requests – including those from Comms. Comms felt service was often poor, and frustrated their efforts to provide more functionality for Comms' Ministry clients.

The DDG was concerned that this relationship conflict between ITS and Comms could lead to manifest conflict within the project (#1). NZHIS had the necessary expertise to oversee a project of this size, and were seen as independent of both ITS' and Comms' interests. It was hoped NZHIS could manage any emergent conflict and keep the project moving forward.

The Chief Advisor for the NZHIS was appointed to effectively govern the project on NZHIS' behalf. He allocated an NZHIS analyst to the newly created role of Web Team Leader, tasked with developing a web strategy document. Issues of governance and centralisation were to be addressed, though it is unclear from the interviews how much guidance he was given in terms of expected outcomes. He spent almost a year developing the document, consulting widely – including Comms, which argued strongly for centralised governance (content control, Ministry-wide search engines, standardised navigation and look-and-feel, etc.).

However, there was little contact between the Web Team Leader and NZHIS over this period, and the recommendations the Web Team Leader offered when the report was submitted were a major surprise to the NZHIS Chief Advisor, as they required a budget considerably higher than that available (#2). The Web Team Leader was removed from the role, and NZHIS had to start again.

In the interim, the NZ government required all government websites to become compliant with new e-government practices. The Ministry was not well-placed to meet these obligations. Its disparate collection of websites were developed, designed and managed in a variety of ways, using their own budgets and local preferences.

The NZHIS Chief Advisor decided a business case was to be developed to determine what could realistically be achieved with the funds available. An external contractor was hired as the project manager to create the business case. This would identify what changes to the Ministry's web presence would be necessary to at least partially centralise web management processes and practices, what would be involved in implementing them, and how they would ensure e-government compliance.

Project governance was formalised with the creation of the Project Steering Group (PSG), incorporating three members: the NZHIS Chief Advisor (chair; Chief Advisor for NZHIS), the Comms Manager (Group Manager, Comms) and the CTO (managing ITS). This meant the three major project stakeholders were represented at the project control level, though the NZHIS Chief Advisor retained control over the budget.

Early meetings of the PSG saw "vigorous" debate (as one interviewee described it) about what could realistically be achieved with the limited funds remaining. The focus was on a web content management system (CMS). The CTO argued that the cheaper software packages available on the market would either fail to meet some functionality requirements, or would be too expensive. As an alternative, the CTO argued that an effective CMS could be built in-house, based on the Ministry's Lotus Notes platform. Both NZHIS Chief Advisor and the Comms Manager were initially very doubtful an in-house system could be developed with the time and money available (#3). Ultimately, the PSG agreed to this approach, but with the proviso that ITS must fund its development internally – they would get paid through the project budget only once an acceptable working system was provided. This was a significant risk taken by the CTO.

Meanwhile, the business case had been developed to the point where a draft ready for submission to the PSG for signatures. The team that developed the business case was selected by the project manager, and included representatives from ITS, Comms and the NZHIS. It was at this point that the CTO refused to sign it, as the business case was based on the presumption that a CMS package would be purchased (#4). The IT Infrastructure Manager, who was representing ITS on the business case team, was unaware of the CTO's recent commitment to build a CMS. Instead, the CTO

replaced him on the business case team, and effectively led the development of a second draft of the business case from that point on, shifting the emphasis from a client priority to a technology focus.

The second draft was signed off by the PSG members, and the externally contracted project manager for the business case development was re-appointed as the project manager for the system to be developed and implemented. The Web Consolidation project manager operationally moved from NZHIS to ITS, but continued to report progress to the PSG.

Even though the Comms Manager signed off the new business case, the Comms group remained unhappy for several reasons, including:

- Comms saw the management of Ministry content on the web as an integral part of web publishing, yet the proposed changes implied different website owners could allocate the role of content approvers to anyone they wished, including themselves (#5).
- More generally, Comms had originally proposed greater centralised control of the Ministry's web presence, for better governance and more consistent features (navigation, look and feel, etc.). This proposal disappeared with the second draft of the business case (#6).
- Comms had consistently complained over several years that they were under-resourced for the responsibilities they had to carry out. Now they feared that with more websites migrating into a centralised process, their workloads would increase further, but again without further resources (#7).
- Where the project sponsor had an oversight role for a project itself, the business owner normally funded the project and took ownership of the system once implemented. The Comms Manager was anxious not to accept this role, fearing further burdensome responsibility. However, the Comms Manager was on the PSG at the time it was agreed Comms would be the business owner (#8).

There was a history of tension between ITS and Comms. The latter used a Lotus Notes-based system to publish material on the web. Faults, issues and suggested improvements had to be reported through the ITS Service Desk, but it was not clear

to the users how these work requests were prioritised. There were considerable delays, even for relatively straightforward requests, with little or no communication from ITS until they announced the job was done. Often testing had been inadequate, with Comms being left to find the faults. Even senior ITS staff had admitted ITS had given poor service prior to the Web Consolidation Project. This ongoing relationship conflict was considered to be a risk (#1), which was why a third party (the NZHIS Chief Advisor) was put in charge of both budget and the PSG.

The Lotus Notes platform was unpopular. Comms and other Ministry users found it an awkward, frustrating system which had gone “past its use-by date”, according to the Comms Manager. When ITS announced they would build a new CMS based on Lotus Notes, most users were sceptical (#9).

Generally, Ministry projects required the use of templates provided by the Ministry’s Programme Management Office (PMO). These PMO templates formed the basis of a checklist approach to project governance – ensuring various project-related processes were carried out according to PMO standards. However, the CTO was anxious to complete the project on time, with the desired functionality and quality. He was trained in various commercial IT governance toolsets (including ITIL¹⁶ and COBIT¹⁷), and chose to employ the principles of project governance embedded in the commercial product PRINCE2¹⁸, essentially ignoring the PMO templates (#10).

Early in the project, resistance from non-Comms users within the Ministry was anticipated (#11). Many had developed their own sites using their own budgets. As each directorate had a significant degree of autonomy, external users were seen as likely to resist attempts to standardise the technology and centralise control.

Therefore the PSG adopted a strategy that involved the following steps:

1. Create a new position – Project Client Liaison – to facilitate cooperation and coordination between ITS and the system users (especially Comms).

¹⁶ The **Information Technology Infrastructure Library (ITIL)** is a best-practice framework setting out concepts and policies for managing IT infrastructure, development and operations.

¹⁷ The **Control Objectives for Information and related Technology (COBIT)** is another best-practice framework, initially focussing on IT governance through auditing, but has since expanded to offer a complementary look at IT governance and management in conjunction with ITIL.

¹⁸ The **Projects in Controlled Environments (PRINCE2)** represents a best-practice framework for specifically managing and controlling projects.

2. Have ITS work closely with Comms, in terms of user requirements, system design, and implementation. In this way, Comms would become the project “champion”¹⁹, who could then promote the new system to other users.
3. Finally, with the support of the champion, other external users would be “picked off one by one”, as the NZHIS Chief Advisor put it. That is, both the User Liaison Officer and the project manager would work closely with each external user, in a sequential order. As more agreed to migration, there would be more pressure on the remaining ones to migrate as well.

Step 1 proved successful when the ITS Knowledge Manager agreed to take on the Project Client Liaison role. She proved popular with the users she dealt with, including Comms. In the end, both the User Liaison Officer and the project manager were directly instrumental in convincing the majority of the users to migrate to the new system.

However, while Comms cooperated well with the new CMS design and implementation (step 2), Comms required considerable time to specify how the new CMS would work. This was challenging as they were already overworked, and generally knew little about content management systems and how they worked (#12). Added to this was their unhappiness over the abandonment of their proposals and the continued dependence on Lotus Notes. It was becoming clear to the PSG that Comms might not make suitable project champions after all (#13).

The Maori Health Directorate was identified as another good candidate to be project champions. They were proud of their distinctive website, and required assurances that if they migrated, not only would ITS preserve most of the design aspects of their website, but it would also be e-government compliant. However, ITS failed to follow up these assurances with communication about progress, and nearly lost Maori Health as a project champion. In the end, they were successfully migrated and, as project champions, became part of the “road show”, as one interviewee referred to it, to convince other external users.

¹⁹ The term ‘champion’ was used informally by the PSG to refer to the promotional role they could fill to support the project. The champion was to be drawn from the user pool. It should not be confused with the formal role of project sponsor, who was responsible for promoting and supporting the project at the senior level.

The CTO was a strong driver of the project, and fully supported both the User Liaison Officer and the project manager in their efforts. By contrast, the ITS project developers continued with their indifferent and non-communicative ways. The project manager illustrated this when, a few months earlier, he had placed a work request with ITS to set up new IP addresses for the migrated websites. He had been promised it would be done within two weeks. Months later it remained undone with no contact from ITS (#14).

At the time of interviewing, most of the external websites, including the NZHIS and those run by Comms, had been converted to the new system. The NZHIS Chief Advisor was confident the remainder would be converted eventually – though in one case an external user had purchased its own CMS.

The conflict incident map (Figure 6.2) places each of the conflict incidents referred to above in a chronological context, as indicated by both the directional arrows and the increasing value in the conflict incident numbers. This map also highlights relationships between the resolution outcomes of conflict incidents and their corresponding impacts on following conflict incidents. The arrow labels identify the specific resolution outcomes of interest.

Figure 6.2: A conflict incident map outlining incident numbers and brief descriptions, as well as their interrelationships in terms of initiating/fuelling other conflict incidents.

For example, anticipated relationship conflict between ITS and Comms (#1) led to the decision to appoint a ‘third party’ (NZHIS) to be joint sponsor of the project, with responsibility for overseeing both the project and its budget. However the NZHIS Chief Advisor then appointed the Web Team Leader and failed to monitor him, leading to an unacceptable web strategy document (#2). In looking for an appropriate way to scale down the scope of the project, the CTO saw an opportunity to propose an in-house system built by ITS. This led to further conflict, both within the PSG (#3), and across all Ministry web users (#9).

Some conflict incidents can be directly attributed to the resolution of past incidents, such as those between #2 and #3, between #3 and #9, and between #3 and #4. However, in other cases, the relationship may be less causal and more contributory. For example, abandoning the first business case (#4) exacerbated pre-existing conflict involving Comms (#5, #6, and #7). Any predictions of ‘what would have happened’ if different resolution outcomes had ensued could only ever be speculative.

The relationships in the conflict incident map combine to form chains of conflict incidents. The chain at the top of the diagram (from #1, #2, #3, #9, #11 to #13) moves from the project’s inception (#1) to its implementation (#13). Each incident in the chain required an ad hoc resolution that had consequential effects in terms of new conflict. The risks of seeking short-term solutions over long-term ones were borne out.

The other incident chain lies at the bottom of the diagram (from #3, #4, #5-7 to #13). As the PGS were making the decision to have ITS develop a CMS based on Lotus Notes, no one expected there to be an issue with the concurrent development of the business case. Once the CTO took over, and a new business case was developed, five conflict incidents arose based on Comms’ discontent. Two were new issues appearing as a direct consequence of the new business case (#8, #12). However, three were pre-existing concerns that flared up again when the first business case was abandoned (#5, #6, and #7). Comms remained unhappy, and this seriously affected the PSG’s hope that Comms would make a good website conversion champion (#13).

The following sections examine the conflict incidents in detail. They are presented in chronological order, with the exception of those incidents with strong commonality over Comms involvement – these are described in one section at the end of the preliminary analysis.

6.6. Original web strategy too expensive (#2)

The newly appointed Web Team Leader was tasked with developing a web strategy document, and after almost a year of work, produced recommendations that would lead to unacceptable costs to management, "...almost three times the available funding!" [NZHIS Chief Advisor]

The newly formed PSG responded quickly, removing the Web Team Leader from the project and deciding on a major change in direction. The Government policy that all government websites would be compliant with e-government standards had become more pressing, as a date for compliance had been set. Therefore, the need for a strategy document was abandoned in favour of a more concrete business case to reorganise content management and ensure Ministry websites would be e-government compliant. This new approach was seen as preferable to

"... the original, grand strategy, which I threw overboard a year after [the first draft] was delivered, which cost us a year. ...The organisation wasn't ready to achieve [much of what was in the draft]. ...At the end of the day, my doubts about it – which were largely instinctive, apart from the lack of money – were reasonably well-founded." [NZHIS Chief Advisor]

However, some interviewees pointed out that, as both sponsor and budget holder, NZHIS could have done more to stay involved. Had there been an effective reporting channel from the Web Team Leader to the NZHIS Chief Advisor, and better direction given to the Web Team Leader, the conflict would likely have been less of a risk and resolved at an earlier stage.

The length of time taken before a deliverable was produced was also an issue. One interviewee observed that bringing together the collective views of various stakeholders required a degree of skill in interpersonal relations, something the Web Team Leader did not possess, she said. She also believed that NZHIS should have monitored his efforts more closely.

“...[the Web Team Leader] was supposed to pull together the Communications side and the IT people, who are running [the intranet system]... He developed a web strategy, which was great. He also wasn’t the right person for the job. He didn’t get on with people very well - he tended to rub them up the wrong way, quite easily... He got everybody offside ... and left.” [*Comms Team Leader*]

According to another, the mistake was giving control to an independent business unit, expecting them to provide sufficient time and resources towards non-revenue generating activities.

“And pretty much as we predicted, because NZHIS is a stand-alone business unit, they have done nothing with it for four or five years – to the stage where they had to move pretty quickly to actually meet the e-government standards...” [*Comms Manager*]

6.7. Risk of Lotus Notes-based CMS (pre-decision) (#3)

Having hired the project manager to lead a stakeholder representative team to create a business case based on the implementation of a content management system (CMS), the PSG was presented with an unexpected option. The CTO had proposed to build a CMS using Lotus Notes as the software platform, arguing a good CMS package would be unaffordable.

"So, we, at IT, sat down and brainstormed some ideas around this, and we came up with the concept that we could do this in-house, using some reusable components and Lotus Notes. ...we have a development team that can do this." [*CTO*]

Knowing how unpopular Lotus Notes had become with many in the Ministry in recent years, the Comms Manager and the NZHIS Chief Advisor were initially unimpressed with the offer, and conflict ensued within PSG meetings.

"Between the three of us, there was probably a point in time when two of us were very, very sceptical about [the CTO’s] stated position – he believed that the Lotus toolset could do the job. It really was a ‘put up, or sit back and we will make some decisions for you, on your behalf’ type situation. ... We certainly weren’t three Lotus Notes sycophants, sitting in a room, saying it will be Lotus, by God, or it will be nothing!" [*NZHIS Chief Advisor*]

The Comms Manager was particularly doubtful, arguing that Lotus Notes was an “orphaned” system – with few other government departments still using it. Consequently, few saw value in learning apparently redundant skills.

"Most staff in the Ministry do not like Lotus Notes. They never have, right from the day that it was introduced. ... It was a star on the rise ten years ago, but it

seems to have fallen by the wayside, now. And from what I hear, IBM doesn't support it anymore." [*Comms Manager*]

Resolution was only achieved when an unusual deal had been struck. The CTO agreed to pay for the system development out of his operational ITS budget. Only when the developed system was provided within the tight deadline, and was proven to meet the functional and quality requirements, would ITS be reimbursed for its costs out of the project budget. It is unclear why the CTO was willing to take this risk, but it was strongly argued that it would be cheaper than purchasing a suitable CMS package.

"Basically, [the CTO] took a development risk decision, and turned his Lotus Notes developers loose to develop the toolset, almost on a pure commercial basis. In other words, if it was not good enough, and wasn't accepted, he wouldn't get paid. So, effectively, he took an internal commercial risk." [*NZHIS Chief Advisor*]

The only interviewee to mention this deal was the NZHIS Chief Advisor – suggesting the arrangement was not necessarily apparent to anyone outside the PSG. Given the nature of the risk, this would support any reluctance on the part of the CTO to admit to what he agreed (for example, one could imagine how his own staff might feel about the risk to their operating budget). The project manager had assumed the project fund was paying costs.

"From a project sponsorship point of view, for a long time [the NZHIS] took a step back, and said to ITS, right – deliver! We have been backed into a position where we have to fund this project ... so, give it to us! You are telling us what it is going to be on. You are telling us how it is going to happen. You have told us it can happen within the right timeframe." [*Project manager*]

Although resolution was complete, the potential cost to ITS was high. The CTO had the power base of IT expertise when promoting a technological solution, but persuasion was not sufficient. The historical tension between Comms and ITS, coupled with Comms' strong dislike of Lotus Notes, meant the Comms Manager was likely to be unconvinced. Furthermore, the Comms Manager observed that ITS was seen as having a "Lotus Notes culture", where their experience, knowledge and confidence were built around Lotus Notes.

6.8. First business case abandoned (#4)

While the PSG members were debating the CTO's radical proposal to build the CMS using Lotus Notes, the business case team had completed its first draft. The team

included representatives from NZHIS, Comms and ITS (with none from the PSG) and was headed by the project manager. Once consensus on the business case was reached, the project manager circulated the document to the PSG members for formal approval. To their surprise the CTO, having seen the document, refused to sign it.

"We went through one iteration where we believed that we had the key players fully involved: NZHIS, Communications and ITS. We got to the stage where we believed that we had a viable business case, but were then surprised to find that there were objections within ITS over the direction of that business case."

[Project Manager]

Even more surprising, the CTO dismissed the ITS representative from the business case team and personally took his place. The CTO openly drove the business case process from that point, producing a second draft that effectively moved it from a client focus to a technology focus. The second draft was more in line with the CTO's proposal to develop a new CMS using Lotus Notes. The Comms Manager was now under pressure to sign the new business case, even though the changes significantly reduced Comms' input.

"We had to, relatively significantly, rework the business case. ... [With the change in emphasis towards the technology,] there was a recognition that this might provide Comms with some benefit, but it might not give them everything they wanted. But if they didn't sign up to this, then they were back to square one. ... So, some of the goals that NZHIS and Comms had seen as being major deliverables from the project were very much pushed to a secondary level. ... communication very much took a back seat." *[Project Manager]*

While this swift and decisive response directly supported the new direction of the project, and in that sense was effective, conflict was not completely resolved. First, the mechanism set up by the PSG to create a business case was corrupted by the CTO, and it was not made completely clear to the business case team why this had happened. A team that had worked well together now found their joint outcome was time wasted, and they had to start again. Second, the CTO was now in control, and consensus was no longer an available option, adding more tension to the team. Third, everyone assumed that the senior ITS representative on the business case team (the IT Infrastructure Manager, in fact) had the mandate from the CTO to reach an agreement, making consequent events even more puzzling. The autocratic way the CTO handled the resolution process partly reflected his own individual behaviours, according to the project manager.

"I think the CTO has very strong opinions as to how the project should be run. So, I think that he was concerned that perhaps there wasn't enough involvement, despite our efforts, of his people. ...I think he felt that the Ministry had invested heavily in Lotus Notes as a platform product for the Ministry, and he felt that any solution should be built around that product and platform." [*Project Manager*]

The PSG did not receive feedback over the developing business case. Particularly surprising was the CTO's failure to communicate with his own representative, prior to the representative's removal from the team.

"At the time, I felt that [the ITS representative] had been let down, because he, at that stage, believed that he was providing advice on behalf of ITS, and had support from further up. As I say, there was some kind of communication breakdown at some level. When the business case suddenly changed in direction, I thought 'he's been left out to dry'." [*Project Manager*]

"I think [the CTO] was aware that something was happening, but it never really pushed any buttons or alarm panels for him. ... [It was] under his radar." [*Project Manager*]

The PSG had the formal authority, but the Comms Manager accepted an increasingly passive role (discussed later) and the NZHIS Chief Advisor backed off, effectively leaving it to the CTO. On reflection, the project manager felt it was more about power and personality than authority.

"If there are lessons to be learned, with hindsight, then you would take more notice of personalities within the Ministry, and know which ones can influence things, and which ones can't." [*Project Manager*]

6.9. Risk of Lotus Notes-based CMS – post-decision (#9)

After the decision to build an in-house CMS using Lotus Notes was announced, the scepticism that first appeared in the PSG debates was reflected among the broader web user groups, including Comms staff. Lotus Notes was unpopular among website owners, and this decision would see them have even greater dependence on ITS for support.

"A large number of people did not want the Lotus Notes platform – that was one where we started a long way behind the starting line, in trying to push that one through. There was a lot of politics around that." [*NZHIS Chief Advisor*]

There were three issues of concern across the broad user community. First, many had felt that the opportunity to get a new CMS was lost by committing even more to Lotus Notes. Secondly, as a consequence of that commitment, users were also

committing more to ITS support. Historical experiences with both Lotus Notes and ITS support had led to a legacy of mistrust and frustration. Third, some user groups had already invested in other systems, and were clearly reluctant to abandon those investments given these uncertainties.

"...there was that perception out there that ITS, as opposed to me, wasn't necessarily having a customer focus. ...I've put myself right out there, and at times, I thought these [ITS] guys were going to let me down. But I always had the CTO's full support. ... If that hadn't happened, I doubt that we would have been able to deliver. There had been enough broken promises, I think, in the past." [*User Liaison Officer*]

Bringing in the User Liaison Officer, and the project manager, both of whom worked closely with the users, went some way towards encouraging collaboration within the project. Ultimately, it was not until a successful version of the CMS was provided that both external and Comms users were able to see that functionality, usefulness and usability had all improved considerably.

"So, we have had to show them that we have thought about this pretty well, and that we have been quite tough on our IT people to deliver good practice software, based on the Lotus Notes platform, and that that has been achieved." [*NZHS Chief Advisor*]

There were several reasons for the new system's eventual broad acceptance by the user community:

- There was the requirement that each Ministry website be e-government compliant, and migrating to the Lotus Notes based CMS provided an opportunity to meet it relatively painlessly.
- The NZHS Chief Advisor and the Comms Manager drew back from much of the decision-making, seeing the CTO as the main driver of what was now a more technical project. The CTO was in control and had very strong reasons to ensure the project succeeded.
- The decision to appoint the Knowledge Manager for ITS to the role of user liaison proved to be very successful. Known for her strong interpersonal skills, she was able to provide the communication channel between ITS and the users – something noticeably absent from ITS' normal support structure.
- The contract project manager provided the communication channel between the users and other project stakeholders, including a regular reporting

mechanism to the PSG. He also worked very well with the User Liaison Officer.

6.10. Anticipated external user resistance (#11)

Historically, many external users built and ran sites outside Comms' centralised control, employing a range of both technologies and arrangements to manage them. This had grown in number and size over the years preceding the project, and it was the realisation that some control over this growth was required that led to the project in the first place.

Shortly after it was announced that ITS would build a CMS, the PGS determined it was likely there would be user resistance – especially from the external (non-Comms supported) users. Many of the directorate groups in the Ministry, such as Maori Health and the NZHIS, not only had specialist functions, but included staff with specialist skills and backgrounds. Consequently, several interviewees spoke of strong, yet diverse cultures within the Ministry, and that in some cases their websites reflected this culture – often referred to as their 'brand'. Again, Maori Health was cited as a good example, where website design and content reflected Maori culture as well as health issues of particular concern to Maori.

Thus there were several reasons why resistance was likely:

- External users feared any degree of centralisation would threaten their cultural identity on their websites through attempts to standardise site characteristics.

"...they avoided the central site, because they didn't want to look like the Ministry. They wanted individual branding." [NZHIS Chief Advisor]
- The PSG had neither power nor authority over the external users, as they were in semi-autonomous directorates outside the CID.
- Some external users had used their own budgets to build and maintain their own systems, and saw a return to Lotus Notes as a risk to what they had already achieved.
- Many of the external user groups had a poor understanding of what was involved in maintaining a website.

"... well, for most of the [user] websites, the lack of understanding of what a web presence really means [is an issue]. Very, very basic understandings, or misunderstandings, about what it means to place a website, when you are a large organisation, and what that means, what legal responsibilities you have, vis-à-vis things like the Archives Act. What are the perceptions that the external stakeholders have of a site that they know is run by part of a government department?" [NZHIS Chief Advisor]

Consequently, the PSG acted to reduce or resolve some of the issues before conflict became manifest. As they had neither the power to obligate, nor the authority to direct, the PSG hoped to persuade the external users. They had a strong policy lever in that all government sites had to be e-government compliant.

"There was a site that was non-compliant...and they were, bluntly, in the crap, because they hadn't allowed for these site changes. They needed to do it, and they needed to do it quickly. ...We were able to come along, like a knight in shining armour, and solve their problem for them." [CTO]

So, the new CMS was framed as an opportunity to have it done for them, but without threatening the unique features of their website.

"As it turns out, in nearly all cases, when shown the advantages of migrating to a centrally supported infrastructure and toolset, most of the site owners have been pretty relieved, to be quite honest. They thought that was a hell of a good idea. ...We were able to show them that the same toolset actually gives them [their unique characteristics], and yet takes away some of their worries about information integrity, publishing processes, backup, disaster recovery, and fulfilling their archival and legislative responsibilities." [NZHIS Chief Advisor]

The PSG brought in the User Liaison Officer and the project manager, who had the right personal qualities to be persuasive, to work closely with the users and build a strong communication channel between them and ITS – at least over the duration of the project. "Once we actually started talking to people we needed to, it was fine." [User Liaison Officer] Accorded some flexibility in their roles, both the liaison officer and the project manager decided to take on the responsibilities of both testing and training. Consequently, ITS delivered a better product to Comms, and Comms were able to get more involved.

"[The project manager] and I, by that stage, had such good knowledge of what had been delivered, that Comms could come back to us with a whole lot of questions. So, we ended up doing the training as well..." [User Liaison Officer]

The NZHIS Chief Advisor admitted that the involvement of these two key people were possibly the critical factor leading to the success of the project in the end. Even as ITS representatives, they listened to the users' concerns, while also keeping them

informed about the project. The users, including Comms, had not experienced this before.

The PSG established an implementation strategy where each user would be dealt with individually, in a planned sequence. This proved to be another component of the project's success. There were three reasons for this:

- It accommodated the fact that the users were strongly heterogeneous – staff in different user groups had different backgrounds and different functions in the Ministry, effectively leading to differences in directorate-level cultures. This was relevant both to the design of their websites and to the way they needed to be approached by the project team.
- There were also technological issues. Each user group employed their own directorate budget to pursue a web presence within the Ministry. There were varying hardware and software solutions employed. Some of these were maintained by the users' own technical staff, while others were dependent on third parties outside the Ministry. ITS argued that the migration to the new system would simplify things.

"[So, we said], if you [migrate], then all you have to do is change the logo, and whammo, you have got a new website, and you didn't have to do any hard work on it. And that used to cost you \$50,000. So, we were playing on the value proposition to them, in terms of getting some leverage in places they might not have wanted to go in the first place." [CTO]

- The one-by-one strategy also enabled them to be selective about who they work with first – seeking to increase the likelihood of early successes. This included the fact the PSG wanted a champion user group to help promote the migration exercise.

This strategy generally worked well by reducing the potential for resistance in most cases. This also meant less drastic measures were required to achieve cooperation.

"...it probably cost us a lot of time, but we chose to absorb that time. We remained within program budget, because we had a couple of lucky wins, really, and that has enabled us to actually stretch the time to take this fairly low-key approach. I think that has probably enabled us to not have to bring out some of the other mechanisms. It means there are no bodies on the path behind us, really." [NZHIS Chief Advisor]

However, one of the more serious obstacles was the ITS culture of indifference and inward focus. The User Liaison Officer noted how she was worried at one point that the ITS development team would not come through as promised, and how important it was to have the CTO backing her up (using his authority) to ensure ITS was not seen as an impediment. The project manager also recounted an illustration of ITS' inability to work effectively with users and other project team staff, and how he too had to escalate to the CTO. It is not clear to what degree the CTO was aware of ITS' widespread reputation for poor client support. Even so, it had clearly been in evidence during the project, often requiring escalation to avert user disgruntlement and project delays. There was nothing to suggest that ITS culture was likely to change much post-project, and so would remain a threat to future IT projects.

Several interviewees identified NZHIS as one of the more challenging external user groups they had to deal with. The NZHIS website was targeted early during implementation, and the project team had assumed the co-sponsors of the project would be no trouble over migration. But the NZHIS technical staff interpreted the project objectives as likely to interfere with their ability to process and present statistical information – a major function they were responsible for. Consequently, they initially refused to cooperate, and the NZHIS Chief Advisor had to get involved.

"I have been able to stand back, in this semi-independent role, and I eye-balled my own unit in the same way that I have eye-balled others, and said 'You have to come along. I am sorry, yes, you have got a lovely website, and it does comply with the government's accessibility guidelines, and I applaud you for that, but you are going to consolidate onto the Ministry one, because there are other business drivers to do so.'" [NZHIS Chef Advisor]

In hindsight, it appeared the NZHIS technicians had misinterpreted the intentions of the project, highlighting perhaps another internal communication problem.

Persuasive reassurances from the User Liaison Officer and the project manager were not sufficient this time, nor were obligations to be e-government compliant – they had already achieved that on their own. In the end, the conflict was escalated by the project manager to the NZHIS Chief Advisor, the latter having to take the NZHIS staff to task and making it clear they had to cooperate – an exercise of authority within the NZHIS.

6.11. Conflict driven by Comms (#1, 5, 6, 7, 8, 12, 13)

Comms was at the centre of half the recorded conflict incidents. That is, in each of these incidents, it was Comms which was most concerned about the current or future implications of project-related events. As early as the allocation of the project budget, the historical relationship conflict between Comms and ITS (#1) was explicitly identified as a threat to the project.

"Where ITS have been working with Comms – it hadn't always been an easy relationship, because they weren't necessarily good at enunciating what their requirements were. ...and ITS is not necessarily that wonderful about communicating back." [*User Liaison Officer*]

The DDG dealt with it at a governance level, by putting the NZHIS Chief Advisor of NZHIS in charge.

"My role, really, has been a facilitative role... I have exercised budgetary delegation – in other words, I have paid the bills. This set me up nicely, in some respects, to chair the Steering Committee, and to be the project sponsor. And that, coupled with holding the money, has allowed us to pursue an approach that might have been harder for [the key stakeholders – Comms, ITS and NZHIS] who were closer to the project itself. That sort of independence has been of real value." [*NZHIS Chief Advisor*]

Even so, not everyone was pleased with the decision, including Comms, which felt he did miss an important opportunity when they abandoned the web strategy document. Many of the issues raised by Comms were interrelated and came down to concerns over workload and being valued. The latter referred to the pride taken in web publishing in general, and content approval in particular. This value system was part of their culture, with behaviours such as working long hours consistent with ensuring high quality work. Comms perceived the project taking this role away and placing it in the hands of the less-qualified external users (#5). They felt this was happening because higher levels of management, including the NZHIS Chief Advisor and the CTO, did not appreciate the knowledge and expertise required to do the job well.

"At present, [Comms] are doing the three main processes, which are: entering content, approving, and publishing. The aim [of the project] is to separate those three roles. ...Comms was quite keen on having content owners entering their own content, but then got nervous about what the implications were for that." [*User Liaison Officer*]

Specifically, Comms was concerned about content approval. There were fewer issues over entering content (that could fall to the users) and publishing (that would

remain with Comms). Although content approval could still be allocated to Comms under the new system, it was expected that many external users might retain this role.

"Of course, they could see the benefits, they wanted the content creation side. But they really weren't too keen on the fact that they would lose control on this. ...This came down to Comms saying they wanted to be the publisher *and* the approver. And other people saying, well maybe you shouldn't be." [CTO]

In another example, Comms' detailed proposals about web centralisation and standardisation were abandoned in the project process without consultation or explanation (#6). Again, they did not feel listened to. They felt their views were not valued. The emphasis of the business case shifted from a consolidation of stakeholders (through web governance) to a consolidation of websites (through technology).

"The Web Consolidation Project is really the only opportunity for people to meet – that is, for the right people to be in the same room together." [Comms Team Leader]

The Comms Team Leader felt that if Comms had effective responsibility to manage the web presence, then she, as publishing team leader, would end up defacto manager.

"I don't think that I am the right person, and I don't think I necessarily have the right role. Well, I certainly do not have the resource. ...I think somebody who is more experienced in the web should be leading the Ministry forward on where we are going on the web. ...I think that I can add huge value, and I am very happy being in charge of the content, and being responsible for the content, and making sure that everything has been signed off..." [Comms Team Leader]

Another common theme was Comms' view that they were seriously under-resourced to do their job properly. While this was an issue historically (pre-project), it came to a head when Comms determined the project objectives – bringing more external users onto a common software platform – were likely to lead to considerably more work. Again, their calls for more resources went unheeded by the PSG (#7).

Comms had direct representation on the PSG, but by this time the Comms Manager no longer wished to be very involved in the project (see the following discussion of incident #8), and did not lobby as hard for Comms' interests as he could have.

"I don't think the Steering Group ever said that we weren't able to [get additional resources], it's just that it hadn't been explicitly stated, and nobody had been employed." [Comms Team Leader]

The CTO, who was now driving the project, was convinced the workload for Comms would be less post-project than it was at the time of the conflict. The NZHIS Chief Advisor, who managed the budget, felt the issue was outside the scope of the project, and needed to be discussed with the DDG independently of the project.

On one occasion, Comms successfully negotiated more resources, albeit on a temporary basis. They found the time and effort required to specify the new CMS in some detail was draining, and made more difficult by, first, their lack of knowledge of such systems, and second, they already had a heavy publishing involvement in a major national promotion for meningitis vaccinations at the time (#12).

"I guess the conflict that we have had, is that while we have hugely appreciated the fact that there is this project, and while it is fantastic having it run through IT – because (a) they had paid for it; and (b) that we have got this upgraded system, upgraded tools, etc., but there hasn't been any resource allocated to Communications.

So, it was great that there was this Notes developer working on our tools, and it was great that we developed the specifications, but it was all done out of 'business-as-usual' funds....We were already stretched; it is already an impossible task. I have to write the service specifications, review them, and review each test – each time there would be something to do. ...We were always under pressure, because the project kept going on and on, because it took us so long to give them the feedback, because we didn't have any time!" [*Comms Team Leader*]

In this incident, the PSG accepted this was an issue, and brought in more help during the specification stage.

Because Comms had these major reservations about the new system, the PSG could see they might not make the best project champions as originally hoped (#13).

Despite the positive working relationships with ITS through the User Liaison Officer and the project manager, and the genuine benefits provided by the new system (which even Comms were pleased with), it was clear they would not unreservedly support the new system.

"We wanted to have champions. So, because we had done the main Ministry web site, and the Ministry web site was run by Comms, we thought Comms would be good champions. But, in fact, they were still dithering around this whole issue about what does it mean for us? Who is going to approve the web site? ... They were good at saying that this is a really good process for the user. But they weren't very good champions for the whole process, because they were happy about one bit, but weren't very happy about the other bit." [*CTO*]

Fortunately for the PSG, they had successfully convinced one of the major external users, Maori Health, to be their champion.

"I didn't actually consider [Maori Health] difficult, but we absolutely did have to win them over, because they had this really bad track record with ITS, trying to engage for help. ...One of the good things was, because we had done the MIH site with Comms, we actually had something to show Maori Health. ... A lot of it was regaining people's trust, and that ITS could actually deliver." [*User Liaison Officer*]

Comms' concerns also accounted for the confusion over system ownership. The Comms Manager had agreed, early on in the project, that Comms would become the system owners. However, as time went on, he changed his mind, seeing it as a "trap", as he described it. The Comms Manager's suspicions were based on the assumptions that the workload and resource issues would be set aside during the project, and would only emerge once it was all Comms' responsibility (#8).

"...they are busy trying to 'duck shove it'²⁰ to someone else – basically my team. And my team are responsible for the content. Then we have the IT people, who are responsible for making it go, and redeveloping it. So, it is quite fragmented." [*Comms Manager*]

This accounted for the Comms Manager's gradual withdrawal of interest in many of the project issues – he did not want to be seen as part of the project process. He did not communicate this to his own publishing team. Both the NZHIS Chief Advisor and the CTO, however, remained firmly convinced that the system owner was Comms, and that the Comms Manager would be assuming primary responsibility for looking after it.

Overall, Comms-centred conflict was successfully resolved on two occasions. When Comms was deemed unsuitable to be their project champion, the PSG was flexible enough to seek another champion (#13). The other incident was resolved when the PSG accepted Comms needed further, albeit temporary, resources to help them specify the new CMS (#12).

On three occasions Comms-centred conflict was dealt with only insofar as to keep the project on track, but remained unresolved from Comms' point of view. It was unclear to what degree Comms' control over web content would remain post-project (#6). System ownership was resolved formally as the Comms Manager reluctantly

²⁰ A colloquial phrase meaning to accept responsibility, only to pass it on to someone else.

agreed to accept ownership – yet subsequent behaviour suggested it remained unresolved, and could yet manifest itself some time post-implementation (#8).

Certainly the systemic, culture-based problems users (especially Comms) had with ITS were not dealt with, except temporarily over the project's duration. From a tactical point of view, decisions made – particularly by the PSG – had propelled the project forward to an apparently successful conclusion. Nevertheless, from a strategic perspective, the long-standing grievances borne by Comms became prominent as a consequence of the project, yet were generally brushed aside. Although strapped for money and time, the PSG could have raised the issues formally with the DDG, who was not only the project co-sponsor, but was also the manager of the CID, including ITS and Comms. Instead, Comms had come away with a grudging acceptance of the new toolset, but retained deep concerns about web management and governance, coupled with workload issues and ongoing relationship conflict with ITS. Future web-based projects could well be impacted by these same issues. For example, there was no guarantee that ITS could employ successful communicators such as the User Liaison Officer and the project manager in the future. The fact that there were clear indicators of all three conflict components: disagreement, negative emotions and interference (respectively 7/7, 6/7 and 6/7 incidents) indicated the seriousness of the strategically unresolved conflict.

6.12. Conflict Resolution

The following examines the assessment of the dimensions of conflict, the corresponding resolution outcomes, and the primary targets across all conflict incidents. Recall that the level of conflict involved in a given conflict incident can be accessed through an examination of each of the three key dimensions of conflict: disagreement, negative emotions, and perceived interference with objectives.

Conflict resolution outcomes are determined by comparing the level of pre-resolution conflict with the level of post-resolution conflict. First, each dimension of conflict is assessed for each conflict incident, both before and after resolution. Each assessment leads to one of the following allocations: **YES** (there is clear conflict with respect to this dimension); **Some** (there is evidence of conflict with respect to this dimension, but the level is not clear); **NO** (there is no evidence of conflict with

respect to this dimension); and **Uncert** (there is insufficient information to make an assessment).

There are five possible outcomes for each dimension of conflict comparison: **E** (conflict has been eliminated); **R** (the level of conflict has been reduced); **U** (the level of conflict remains unchanged); **T** (conflict has been terminated – that is, no further resolution attempted); **S** (the level of conflict has escalated); and **?** (uncertain).

For each conflict incident, a **positive outcome** can be defined as one where each dimensional level of conflict is either reduced (R) or eliminated (E). Conversely, a **negative outcome** can be defined as one where each dimensional level of conflict is one of: unchanged (U), escalated (S) or terminated (T). A **partially positive outcome** can be defined as one where two dimensional outcomes are positive and one is negative. A **partially negative outcome** can be defined as one where two dimensional outcomes are negative and one is positive.

The **primary target** of a conflict incident can be any combination of three types: task content (conflict over the nature of the task itself), task process (conflict over how the task should be carried out), and relationship (conflict due to an awareness of interpersonal incompatibilities).

For this case study, the assessments of levels of conflict, both before and after resolution, along with the corresponding resolution outcomes, are briefly described in the summary table found in Appendix F (Table F-1). These results are condensed in Table 6.3.

Table 6.3: A summary of the changes in levels of conflict after resolution for each conflict incident

#	Incident	Target	Conflict (Pre-Resolution)			Conflict (Post-Resolution)			Resolution Outcome		
			Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference
1	Relationship conflict between ITS and Comms (anticipated)	Relationship	YES	YES	YES	YES	Some	YES	U	R	U
2	Original web strategy too expensive	Task (content)	YES	Some	YES	NO	Uncert	NO	T	?	T
3	Risk of Lotus Notes based CMS (Pre-decision)	Task (content / process) [Relationship]	YES	YES	YES	NO	NO	Some	E	E	R
4	First business case abandoned	Task (content / process) [Relationship]	YES	Uncert	YES	Some	YES	YES	R	S	U
5	Comms losing control over web content	Task (content)	YES	Some	YES	Some	Some	NO	R	U	E
6	Control over Ministry web presence.	Task (content)	YES	YES	YES	YES	YES	YES	U	U	U
7	Web resources for Comms	Task (process)	YES	YES	YES	Some	Some	Some	R	R	R
8	Business owner of the implemented system	Task (content) [Relationship]	YES	YES	YES	YES	YES	YES	U	U	U
9	Risk of Lotus Notes based CMS (Post-decision)	Task (content / process) [Relationship]	YES	YES	YES	Some	Some	Some	R	R	R
10	A common approach to project management and governance	Task (process)	YES	Some	YES	Some	Uncert	Mostly NO	R	?	R
11	User resistance (anticipated)	Task (content) [Relationship]	YES	Some	YES	Mostly NO	Mostly NO	Mostly NO	R	R	R
12	specifying a new CMS	Task (process)	YES	YES	Some	NO	NO	NO	E	E	R
13	Looking for a website conversion champion	Task (process) [Relationship]	YES	YES	YES	NO	NO	NO	E	E	E
14	ITS fail to keep promise: IP addresses	Task (process)	YES	YES	YES	Uncert	Uncert	Uncert	?	?	?

Resolution Outcome: T = Terminated; E = Eliminated; R = Reduced; U = Unchanged; S = Escalated; ? = Uncertain (in terms of direction & degree of change)

The frequencies of resolution outcome types are related to primary target types in Table 6.4. Overall, 8/13 of the conflict incidents achieved positive, or partially positive, outcomes. In fact, all but one of them was positive. Conversely, 5/13 incidents achieved negative (3) or partially negative (2) outcomes. However, it is difficult to determine whether or not a 63% success rate suggests much more than ‘room for improvement’. According equal status to each conflict incident in this statistic is not reasonable, given the incidents varied widely in terms of significance and context.

Table 6.4: *The frequency of resolution outcomes across all 13 conflict incidents, categorised by primary target*

Resolution Outcome	Primary Target	1. Relationship	2. Task (content)	3. Task (process)	4. Task (content & process)	TOTAL
Positive			1	4	2	7
Partially positive			1			1
Partially negative		1			1	2
Negative			3			3
	TOTAL	1	5	4	3	

The inter-stakeholder **relationship** was the primary target of one incident (#1), where the conflict was anticipated. This assessment of risk proved accurate as the long-term tensions between ITS and their user base (particularly Comms) spilled over into this project, contributing to conflict incidents on at least 6/13 occasions (or 7/13 if the anticipated relationship conflict is included). It is not possible to know to what degree relationship conflict would have been a problem if it had not been anticipated, and acted upon, in the early stages. Even so, it is clear it was not fully eliminated as the project progressed, as the level of relationship conflict barely improved.

Task content was a major target in 8/13 incidents (columns 2 and 4 in Table 6.4). Many of these involved Comms, as they felt their requirements and proposals were abandoned and replaced with something likely to be just as, or even more, onerous (#3, 4, 5, 6, 8). Task content-based conflict was generally poorly resolved (column 2). Of the three conflict dimensions, disagreement and interference were more

successfully reduced than negative emotions, suggesting this dimension may either be harder to manage or given less attention.

Task process was a major target in 8/14 incidents (columns 3 and 4 in Table 6.4), which suggests some of the project governance arrangements were not working well. Again, Comms was a major contributor to the conflict, as they often felt either locked out of the decision-making process or poorly represented within the decision-making process (#2, 4, 7, 13). However, process-based conflict was positively resolved in every case (column 3). The question arises as to why process-based conflict should be resolved more effectively than content-based conflict. The analysis that follows suggests there is no one reason for this.

The majority of the conflict incidents identified in this case involved a combination of the three major stakeholder groups of the project: Comms, ITS, and NZHIS. Comms were the most significant user group, as they handled many websites, but external users (those within the Ministry, but outside Comms involvement) were a disparate collection of independent websites that could only be meaningfully treated as a group to a very limited degree.

Although only one incident of relationship conflict between Comms and ITS was raised during interviews, it was noted by all interviewees but one – the CTO, who manages ITS. The direction of conflict appeared to be one-way, that is, ITS' indifference and lack of communication considerably frustrated Comms, but there were no indications that ITS staff had any negative emotions with respect to Comms. Their lack of client focus suggests they were either unaware of the negative emotions they were generating, or simply didn't care.

Drawing from the preliminary findings, the following three sections examine the contributions of each of the constructs identified in the research framework. Each section focuses on a different research question.

6.13. Analysis Addressing Research Question 1

The first research question focused on contextual, or environmental, effects.

RQ1: In what way, and to what extent, do environmental elements affect the conflict resolution process and its outcomes?

Each of the environmental elements identified in the research framework (culture, power, history, individual behaviours) are now examined across the conflict incidents identified in this case. A summary appears at the end of this analysis. These effects are then considered holistically, testing the framework for completeness, and identifying interactive and dominant effects.

Culture was an important factor in five separate incidents. In two of them, Comms felt they weren't accorded credit and attention due; they weren't listened to. They valued their responsibility for content management, but maintained their belief that they were under-resourced and underappreciated. Early behaviours based on seeking consensus to resolve the situation gradually evolved into passive acceptance and a degree of resentment.

ITS culture appeared as a significant factor in three separate incidents. ITS had what one interviewee called a "Lotus Notes culture", where the senior technical staff have been working with a Lotus Notes platform for so long, it was what they knew best, and what they felt most comfortable applying.

However, it was ITS client support that users were particularly frustrated about. Even the project manager and the User Liaison Officer, both working for ITS, expressed concerns about ITS development staff, in terms of communication with users, prioritisation of jobs, and the constant need to escalate issues to the CTO.

Culturally, the external user groups were quite diverse, independent minded, and semiautonomous. While a third of all Ministry web users fell under the wing of Comms, the rest operated web sites with varying degrees of dependence on external products and support. Many of these external users had marked cultural artefacts, often represented through their websites (content, style, logos, etc.). The PSG anticipated the threat to the users' cultural brands could lead to resistance. Furthermore, these cultures were diverse, and it was strongly felt by the PSG that a collective treatment would not work.

Table 6.5 describes the cultures of these three important stakeholder groups, by applying the four dimensional model based on assessing their respective: beliefs, values, attitudes and behaviours.

In terms of **power**, collective resistance remains one of the more potent ways to influence the direction of an IT project. One of the more important incidents – anticipated resistance from external users – was sourced from the power they held to resist migration if they were not convinced of the value of the project for them. They obligated the PSG to listen to them, treat them well, and persuade them.

Influence was also apparent at the individual level. The NZHIS Chief Advisor used his power as both overseer of the budget and the chair of the PSG in such a way that the CTO felt obliged to accept the demanding requirements if he wanted to develop the CMS in Lotus Notes.

Once committed to building the new CMS, the CTO was seen by the other PSG members as informally taking charge of the project. This gave him the power to make decisions with the knowledge the PSG would back him up. This included both the abandonment of the first business case draft and the removal of the ITS representative from the business case team. To align the business case with his new project, the CTO had no qualms about quietly removing Comms' web governance proposal. He also used his knowledge and experience to avoid the formal involvement of the PMO (and their template-based project processes) by restructuring the project into a collection of smaller projects.

Table 6.5: *Cultural dimensions and relevant context of each of ITS, Comms and the external website owners*

	ITS	COMMS	EXTERNAL SITE OWNERS
CONTEXT			
PSG Representation	CTO – a strong personality who represents ITS interests well	Comms Manager – a weaker personality who does not represent Comms interests well	NZHIS Chief Advisor (PSG Chair) – a strong personality who does what is seen as necessary to get job done
Project Representation	Client Liaison Officer; Project Manager (post-business case)	Comms Team Leader	Individual Directorate website managers
Capability	Authority to make decisions on IT-related issues, including work priority; Power to override policy	Little authority to make decisions (eg workload, resources, scope of responsibility); Little power to resist decisions	Authority to make decisions about own websites (report to DDGs); Power to resist members of PSG, due to high level of independence
CULTURE			
Beliefs	See themselves as final arbiters of what is important in terms of IT support	See themselves as providing specialist, high quality publication services	Mostly see themselves as independently responsible for their own systems (including websites); Each seen as different from others
Values	Degree of independence from users; Persevering with Lotus Notes, a comfort zone for technical staff	Being appreciated by senior management; Having sufficient resources to do their job well; Having control over the publication processes, including content, to ensure standards and high quality	Mostly independent from Ministry, including ITS in some cases; Ability to promote own 'brand'; Each controls own budget
Attitudes	Indifference towards users, including Comms	Pride over contributions; Feelings of victimisation and under-appreciation – sometimes despaired that nothing will ever change; Think poorly of ITS	Strongly protective of own 'brand'; In some cases, protective of own system when developed independently of ITS Think poorly of ITS
Behaviours	Uncommunicative over system support requests; Determine own work priorities, rather than those of users	Pursued better funding & recognition; Sometimes refused to cooperate	Initially resisted until won round (a few remained resistant)

On the other hand, the ITS Knowledge Manager was seconded to the newly-created role of Client Liaison to help prevent external user resistance. Both she and the project manager were able to successfully influence the migration outcome through persuasion, rather than obligation or coercion.

Historically, Comms, along with many other website users within the Ministry, had long been troubled by the support provided by ITS. There was no sense of how user job requests were prioritised, nor was there much communication between users and ITS. Sometimes the software had not been tested properly. Furthermore, the Lotus Notes-based systems were becoming antiquated and difficult to use. Lotus Notes had already been abandoned by most other government departments – yet ITS remained strong advocates of the platform. These behaviours were the manifest outcomes of cultural traits (client indifference and devotees of Lotus Notes) referred to earlier. As a consequence, according to one interviewee, approximately two thirds of the website users opted for ITS-independent, Lotus Notes-free solutions. These external user groups were able to do so for two reasons. First, they were based in directorates outside the CID, providing considerable independence for the deputy director generals in each directorate. This made it very difficult for ITS to implement any kind of Ministry-wide strategic web-based initiative. Secondly, directorate independence extended to each DDG receiving his or her own budget with considerable freedom to use it as they see fit. Over the years, not only were some user groups able to refuse to cooperate with ITS, but they were in a financial position to pursue alternative solutions, including the use of commercial packages, consultants, software development contractors, and even hiring their own development staff.

However, unlike those users who went their own way, Comms continued to operate directly through ITS. Comms was their largest single user group, as ITS ran the main Ministry website, along with many others. Over time, Comms' dependency on ITS, coupled with the unsatisfactory support they were receiving, meant that relationship conflict developed between them. Even the DDG of the CID was aware of this, and anticipating project-related conflict, installed a third party (NZHIS) to oversee the project, as both Comms and ITS were major stakeholders. The NZHIS Chief Advisor was allocated the roles of project overseer and budget holder. This

was also reflected in the membership of the project governing body, where both ITS and Comms were represented at managerial level, but the NZHIS Chief Advisor was the chair. Where conflict arose, the NZHIS Chief Advisor was expected to either seek consensus or cast the deciding vote.

Comms' concerns about overwork and under resourcing had been circulating for several years – they had frequently put forward proposals to improve the situation, but to little avail. However, these concerns were exacerbated when their views were collected for both the strategy document and the business case, only to see them evaporate, first by the rejection of the strategy document, and then by the rewriting of the business case. These actions were perceived as further examples of their work and views being disregarded. That these historical concerns were not well anticipated was clear when the PSG was forced to abandon its hope of using Comms as their project champion.

All five protagonists (the three PSG members, the project manager and the User Liaison Officer) demonstrated that **individual behaviours** can have significant effects on conflict resolution. For example, all three members of the PSG showed a lack of communication with their own staff on occasion. The NZHIS Chief Advisor's own unit did not understand the implications of the project, and proved to be one of the biggest resistors until he became personally involved. The Comms Manager explained little of what went on in PSG meetings, leaving his Comms staff occasionally perplexed as to why certain decisions were made. Although the CTO consulted his development team over the viability of building their own CMS, he didn't appear to drive the issues of urgency and good client communication home to them. The project manager's frustration with ITS' broken promises, and the constant need to escalate to the CTO would suggest even the CTO wasn't able to counteract the ITS culture, and there was a lot at stake for him. There were no indications that anyone outside the PSG was even aware of what the CTO was risking with this project.

Initially, the lack of a functioning feedback mechanism could be traced to neglect. The NZHIS Chief Advisor was heavily involved in other projects, also at a governance level, and did not seek progress reports from the Web Team Leader during the early stages of the project. This resulted in wasted time and resources,

unnecessary conflict, and the abandonment of the strategy document. They had to start again.

Other examples illustrating the effects of individual behaviours include:

- The CTO had strong opinions on running IT projects. Once internal CMS development was agreed upon by the PGS, the CTO brushed aside the business case development process (originally set up by the PGS) and took control.
- The Comms Manager was not seen as an effective representative of Comms staff concerns while being a member of the PSG. In his position, Comms staff thought he would be able to discuss some of the governance issues while working with the other key players. He did not, nor did he remain closely involved with the project once ITS had taken over.
- Originally the Knowledge Manager for ITS, the User Liaison Officer was seconded to the project with a client liaison role precisely because she was well regarded as someone who communicated well, made a point of understanding user concerns, yet always moved things forward. This was seen by all interviewees (but one) as very successful.
- The project manager was contracted to manage first, the business case for the project, then the project itself. He also turned out to be a strong communicator and worked well with both clients in general and the User Liaison Officer in particular. The NZHIS Chief Advisor was adamant that the project would not have been successful if they had not ended up with two people such as the User Liaison Officer and the project manager, who earned both trust and respect, and eventually persuaded most of the external users to migrate. They even provided Comms with its first positive experience (for some time) working with ITS.

The preliminary analyses addressing the first research question are briefly described in the summary table found in Appendix F (Table F-2). These results are condensed in Table 6.6.

Table 6.6: A summary of the impacts of environmental factors on conflict resolution for each conflict incident.

#	Incident	Culture	Power	History	Individual Behaviours
1	Relationship conflict between ITS and Comms (anticipated)			ITS/Comms – historical relationship conflict	
2	Original web strategy too expensive				the NZHIS Chief Advisor – opted to spend time elsewhere
3	Risk of Lotus Notes based CMS (Pre-decision)	the CTO/ITS – “Lotus Notes culture”	the NZHIS Chief Advisor – as chair & sponsor	the Comms Manager – Comms / ITS tension	the Comms Manager – poor Comms rep;
4	First business case abandoned		the CTO – as PSG member, took over business case team		the CTO – “strong opinions” on running project
5	Comms losing control over web content	Comms – pride & dedication in their roles	the CTO – imposed new process with toolset	Comms – built up culture through history of dedication	
6	Control over Ministry web presence.	Comms – not being listened to	the CTO – dumped governance provisions for CMS focus		
7	Web resources for Comms			Comms – history of under-resourcing	the project manager – helped Comms draft request
8	Business owner of the implemented system				the Comms Manager – feeble resistance; poor communication
9	Risk of Lotus Notes based CMS (Post-decision)			Users – dislike Lotus Notes & ITS support	the User Liaison Officer /Project Manager – strong communication & understanding

10	A common approach to project management and governance		the CTO – power to redefine project structure		the CTO – experienced with project budgets; follower of PRINCE2;
11	User resistance (anticipated)	Ext users – branded individualism ITS – indifference to clients & inward focus; dedicated to Lotus Notes	Ext users – anticipated resistance PSG – <u>no</u> power (by obligation) over ext users the User Liaison Officer /the project manager – successfully persuasive	Ext users – gradual & sig. investment in own website	the User Liaison Officer /the project manager – personal qualities to persuade users to migrate
12	specifying a new CMS			Comms – no experience with CMS	
13	Looking for a website conversion champion			Comms – unresolved issues spill over	
14	ITS fail to keep promise: IP addresses	ITS – client indifference & inward focus		ITS – long history of “broken promises”	

The following extends the above analysis by examining the environmental elements holistically, as part of a broader, interactive system. This is done by considering, in turn, each of completeness, interactive effects, and dominant effects.

Completeness, in terms of environmental effects on conflict resolution, refers to the identification of any significant effects that could not be explained by those already identified in the framework. In this case, virtually every important factor identified within the collected data appeared to meet the criteria to be represented by one or more of the constructs identified in the research model, including the emergent *individual behaviours*. The one exception involved an external authority (the New Zealand government in this case) imposing standardised website requirements on all government websites, including those in the Health Ministry. While it can be argued that all organisations must comply with various regulations, this situation was somewhat unique given that the edict only became an issue over the course of the project, and further proved to be a key component when convincing external users to migrate to the ITS system. Consequently, it seems more appropriate to incorporate this environmental factor under the category ‘Other’.

Interactive effects refer to those environmental effects on conflict resolution that occur due to the combined effect of two or more environmental factors. That so many conflict incidents, in this case, involved major contextual factors (often several) affecting conflict resolution was not entirely surprising. There were numerous stakeholder groups, including Comms, ITS, NZHIS, PMO, Maori Health and each of the other external users as individual groups, all involved at different points in different combinations. Further complexity was introduced when key individuals’ behaviours were also found to affect the resolution process.

There were several examples of relevant interactions between environmental elements. For example, the PSG anticipated potentially strong resistance from many of the external users (#11). First, the external users had the power to resist, as the PSG had no authority over them. Second, many of the external users had strong cultures of their own, as represented through their own web site brands. Fear of brand loss provided a reason to resist. Third, many of the external users had invested considerable time, effort and money to create what they currently have, providing

another reason to resist. Finally, many were aware of ITS' culture of Lotus Notes and client indifference, offering yet another reason.

So, where resistance was anticipated, the power imbalance provided the external users with the means to influence the result. Historical effects (external users organised their own systems; ITS neglected its clients), along with culture clashes (between the external users and ITS), provided the external users with the reasons to influence the result. Where resistance did finally occur, the combination of the interpersonal skills offered by the User Liaison Officer and the project manager, with their ability to persuade external users to migrate, resulted in many successes.

A **dominant factor** is one that considerably outweighs others in terms of its effects on conflict resolution. In this case, there were several occasions when there was more than one dominant environmental factor for a given conflict incident. For example, incident #3 involved direct confrontation between the CTO and the NZHIS Chief Advisor within the PSG over the CTO's proposal to build the CMS in-house, using Lotus Notes. The CTO, and his ITS development team, were driven by their Lotus Notes culture to the point where the CTO was prepared to take on all the financial risk. The NZHIS Chief Advisor, as PSG chair and project sponsor, had considerable power to influence the outcome, which he certainly exercised by requiring ITS to take on the project risk. For this incident, both culture (for the CTO and ITS) and power (for the NZHIS Chief Advisor) were dominant environmental factors.

Another example concerns incident #11. As discussed earlier, history and culture were identified as important in terms of creating a situation likely to lead to conflict. However, it was power that provided the capacity for the resistance, while the User Liaison Officer and the project manager employed their personal qualities (establishing effective communication channels) and their persuasive power (on the merits of migrating to the new system) very successfully. In this case, these were all significant, but dominance of any one factor was hard to establish.

6.14. Analysis Addressing Research Question 2

The second research question focused on control effects, specifically regarding the manner in which governance both guides and directs management decision-making.

RQ2: In what way, and to what extent, can governance control the management of conflict resolution?

Each of the governance control elements identified in the research framework (policy, authority, and mechanisms) is examined in turn across the range of the eleven conflict incidents identified in this case. A summary appears at the end of this section (Table 6.7).

Policy was an important factor in eight separate conflict incidents. In four of them, the need to meet e-government compliance requirements proved to be a significant factor, as Ministry policy reflecting these requirements had an impact on conflict resolution. First, the deadline was getting closer even as they were rejecting the web strategy document (#2), which served as a major driver for the decision to pursue a more specific business case. Second, the debate within the PSG about building a CMS in-house (#3) was partly focused on the genuine risk that time and resources could be wasted, and this led to the agreement between the NZHIS Chief Advisor and the CTO. As the debate over the use of Lotus Notes widened (#9), the compliance requirement was used to explain why this decision was made. Fourth, and perhaps most importantly, it was used as a major bargaining tool to win over the external users (#11). Anticipating conflict, two ad hoc policies were set at the project level by the PSG. Essentially tactical manoeuvres, first the PSG determined that the external users would be approached on a one-by-one basis, and second, they sought an early champion user to help promote user migration.

One Ministry policy, that any projects valued over \$250,000 must be governed by the PMO, using their own template-based system, was circumvented by the CTO so that he could employ the principles of PRINCE2 without PMO constraint.

Sometimes it was the lack of policy that affected conflict resolution. For example, ITS either had no policy outlining how their Support Desk should prioritise and conduct user requests, or they had not promulgated, explained, or enforced the policy. Another example was the lack of formal policy governing the allocation of resources to Comms. The process used was not transparent to Comms.

Decision-making **authority** had a significant effect on conflict resolution in 12 of the conflict incidents, with the PSG involved in nine of them. Although their primary

purpose was project governance, the PSG also represented the highest authority on project-related issues (with the exception of the DDG of CID, but she did not get directly involved in the project). Therefore the project manager and the User Liaison Officer both reported directly, and regularly, to the PSG.

The PSG also held indirect authority over ITS and two of the major web system users (Comms and NZHIS) through its membership: the CTO, the Comms Group Manager, and the Chief Advisor of NZHIS. When NZHIS resisted migration, the NZHIS Chief Advisor took them to task. When ITS developers were slow and non-communicative, the CTO got directly involved through escalation. However, sometimes the Comms Manager neither kept his team informed, nor represented their interests, and was ineffective at establishing Comms as a useful project champion.

The PSG did not have authority over the external users, and this is what led to their decision to broach the project in a different way – based on persuasion, as opposed to direct control.

Governance **mechanisms** played an important role in nine different incidents. Communication, particularly between managers and their staff, was not always apparent, even where important issues were concerned. Examples of this occurred with all three managers making up the PSG. Each of them, on at least one significant occasion, failed to communicate effectively (or at all) with their own staff regarding information describing the status of project-related conflict. This may help explain why both the User Liaison Officer and the project manager were so popular with users – they had set up effective communication channels: between ITS and the external users (the User Liaison Officer); and between the project team and other project stakeholders (the project manager).

Feedback mechanisms, especially reporting functions to both management and those governing the project, were effectively used in some cases (e.g. the project manager reporting on project progress to the PSG on a monthly basis), and did not exist in others (e.g. with the original development of the web strategy).

Other governance mechanisms had been set up prior to the project's inception. However, even these established mechanisms were either manipulated (such as the

CTO's creation of multiple proposals to avoid the PMO involvement) or overridden (where the first business case was abruptly abandoned).

The preliminary analyses addressing the second research question are briefly described in the summary table found in Appendix F (Table F-3). These results are condensed in Table 6.7.

Table 6.7: A summary of the impacts of governance arrangements on conflict resolution for each conflict incident

#	Incident	Policy	Authority	Mechanism
1	Relationship conflict between ITS and Comms (anticipated)		NZHIS/the NZHIS Chief Advisor – given project budget authority as independent	
2	Original web strategy too expensive	E-govt compliance	PSG decisive	NZHIS – poor feedback;
3	Risk of Lotus Notes based CMS (Pre-decision)	E-govt compliance		Comms – poor consultation
4	First business case abandoned		the CTO – internal ITS	the CTO – corrupted business case process PSG – poor feedback
5	Comms losing control over web content		PSG – rubber stamp the CTO decision	
6	Control over Ministry web presence.		PSG – rubber stamp the CTO decision	the Comms Manager – poor communication to staff;
7	Web resources for Comms	No resourcing policy	PSG – unwilling to act the NZHIS Chief Advisor: “outside scope”	No resourcing mechanism
8	Business owner of the implemented system		PSG – the Comms Manager already agreed to ownership	
9	Risk of Lotus Notes based CMS (Post-decision)	E-govt compliance		Demonstrations & road show for users
10	A common approach to project management and governance	Policy – PMO governs if project large	the CTO/PSG – authority to repackage project	Budgeting mechanism; PRINCE2

11	User resistance (anticipated)	Tackle ext users one by one (project-level policy) E-govt compliance	PSG – <u>no</u> authority over ext users the CTO – frequent escalation from the project manager/the User Liaison Officer re: poor ITS response/communications	Good communications: - the User Liaison Officer : between ITS & ext users - the project manager: between project team & stakeholders
12	specifying a new CMS		PSG – agreed to temp resources	
13	Looking for a website conversion champion	Strategy – need a champion	PSG – no authority, even over Comms via the Comms Manager	
14	ITS fail to keep promise: IP addresses	No client prioritisation / support policy	the CTO – escalation point for ITS-induced conflict	ITS – poor feedback / communication

6.15. Analysis Addressing Research Question 3

The third research question also focused on control effects, but in this case, the controls are directed towards environmental effects on the resolution process.

RQ3: In what way, and to what extent, can governance moderate negative effects from environmental elements?

Each of the environmental elements identified in the research framework (culture, power, history, individual behaviours) is now examined with respect to the moderating effects of governance arrangements.

Culture has already been found to have had significant impacts on conflict resolution (Section 6.13). For example, Comms played a major role in many of the conflicts, involving a mixture of reluctant acceptance and passive resistance. But the degree to which Comms' attitudes and likely behaviours were taken into account was variable. The DDG set up a project governance structure that sought to minimise the ongoing relationship conflict between Comms and ITS. Importantly, senior management also made sure Comms were well-represented at the PSG level. The PSG, in turn, devised the client liaison role so that the User Liaison Officer could deal more sensitively with Comms. While these authority measures demonstrably helped with both anticipated and actual conflict in many cases, many of the measures were ad hoc and did not address the longer term issues that drive Comms' sense of their place in the organisation. Furthermore, communication channels were either poorly designed or poorly used, frequently leaving Comms staff puzzled over the way events unfolded.

ITS had a more pronounced group culture that isolated them from the rest of the organisation. Their values (technical achievement over customer satisfaction), attitudes (centred on the generally unpopular Lotus Notes), and behaviours (client indifference) were generally well known among those who had to deal with them. Governance measures described above applied equally well to ITS (representation on the PSG, a neutral PSG chair), with the User Liaison Officer brought in as a 'friendlier' face than ITS had shown in the past through their user support practices. Again, while this worked well at a higher level, it was not always successful at the operational level of the project. Consequently, even ITS front line staff such as the

User Liaison Officer and the project manager were concerned about ITS development staff and their approach to their work.

The PSG was the key authority structure, both responsible for project governance (appointing the project manager, receiving monthly reports, setting up subcommittees, setting policy, etc.) and becoming directly involved in conflict resolution decision-making. Despite its representational membership, ongoing issues both within and between Comms and ITS remained a problem, many of them due in part to culture clashes. This failure can be put down more to the personalities of the individuals on the PSG (see below) than the existence of a representational steering group. Even so, in spite of occasional dysfunctionality and ad hoc approaches to decision-making, the PSG continued to push the project forward successfully.

The PSG recovered from many early setbacks largely thanks to two key appointments. The creation of a client liaison position enabled the secondment of the Knowledge Manager to the project as the Client Liaison Officer – someone who would act as a successful communication channel between ITS and the users. The appointment of the project manager was also successful, as he too had the ability to communicate well with the users, working in tandem with the Client Liaison Officer. However, this dependence on having the right personalities involved suggests the governance arrangements put in place did not prove sufficient in themselves. By circumventing the PMO, the PSG was the authority structure that essentially had the freedom to oversee the project the way its members saw fit. There was little by way of either policy or communication mechanisms that may have helped translate what was intended at the project level into the attitudes and behaviours of those housed within strong cultural groups.

The PSG were able to exercise the **power** fortuitously accorded them when given responsibility over the impending deadline on e-government compliance requirements. As they had no authority over the external users, this capability for the PSG to oblige many of the external users to migrate to the new system proved to be decisive. Typically, either the User Liaison Officer, or the project manager, would first explain to the external user that they were responsible for ensuring that their website became e-government compliant by the deadline. But then ITS would point

out that if the external user migrates to the ITS platform, they would no longer need to worry, as ITS would ensure the user's website was e-government compliant.

In terms of **history**, two issues that led to conflict in the past had both appeared once again as conflict during this project. First, Comms had made their concerns (under resourcing, under appreciation, overwork, etc.) plain over several years, but remained feeling neglected by senior management. Comms was represented within the PSG, yet its hope to receive more recognition and resources was built up by early consultation, only to be disappointed when their views were ignored when the project was redefined. Comms had some support from ITS, particularly when the User Liaison Officer was involved, but in the end the arrangement of including the Comms Group Manager within the most senior project governance and decision-making authority proved insufficient to prevent these same issues recurring. Further, poor communication channels meant Comms, and other project staff, were largely unaware of any justification for their views to continue unheeded.

The other historical issue involved ITS, and its disdain for customer service when processing work requests. Those in the Ministry who had experienced ITS' lack of process transparency and communication tended to balk at committing to ITS again. This is one reason why so many Ministry users sought website independence from ITS. Yet the CTO appeared either unaware or unconcerned over this reputation. When ITS effectively took over the project, the project manager frequently had to escalate the same issues with ITS development staff to the CTO. This is surprising, given how urgent and important this project became for the CTO. There was no evidence of any attempt to pre-empt these conflicts by the PSG in general, or the CTO in particular.

Comms, being ITS' most significant website client, were a case in point, as for the most part they were either neglected or treated indifferently. However, for this project, senior management was both aware and willing to act in order to pre-empt any conflict. But putting an independent party in charge of oversight and budget, and ensuring Comms and ITS representation at the project governance level, were not sufficient to counteract historical relationship conflict.

Individual behaviours interacted with governance arrangements in a variety of ways. Examples included:

- *One individual who subverted established governance practices* – the CTO overrode, and effectively took over, the business case development process; he also went on to redefine the project as a series of smaller projects, thus avoiding the policy to use the PMO’s templates for formal project control.
- *Two individuals who neglected established governance practice* – the NZHIS Chief Advisor was responsible for the first part of the project (development of the web strategy document) but did not monitor its progress adequately; the Comms Manager partially disassociated himself from the project, as he feared the responsibilities of system ownership would include continued under-funding.
- *One individual for whom governance arrangements were established* – the Knowledge Manager was brought in for client liaison specifically due to her positive individual behaviours. In other words, the person was not selected for the position, the position was created for the person.

6.16. Discussion

While the 14 conflict incidents identified for this project involved a variety of resolution approaches and outcomes, a number of themes stand out. These are:

- the importance of addressing anticipated conflict;
- the dynamic relationship between the outcomes of one conflict resolution and their impacts on later conflict incidents;
- the need to learn from history and any pre-existing relationship conflict;
- how governance can moderate dangerous culture clashes;
- the conflict resolution process should take into account the power of user resistance;
- the risks of relying on project authority structures for governance, with few project-specific policies and mechanisms;
- the risks of placing key governance and management responsibilities on the same individuals; and
- the risks of individual behaviours distorting governance arrangements.

The following considers each of these themes in turn.

The **importance of ‘resolving’ anticipated conflict** (by adopting either preventive or moderating measures) cannot be underestimated, as illustrated by the two incidents in this case. The first, at the project's inception, saw the DDG anticipating conflict between ITS and Comms – the two major stakeholders in this project (#1). Consequently, she broke with tradition by appointing a third-party (NZHIS) as project sponsor, with the NZHIS Chief Advisor as project overseer and budget holder. The anticipation was based on both historical events (past conflicts between ITS and Comms) and knowledge of the continuing relationship conflict between them. However, despite the action taken, the relationship conflict continued to be a problem throughout the project. Furthermore, the DDG's decision led to consequent conflict incidents. The ‘resolution’ of this anticipated conflict was not successful because the underlying problem of relationship conflict was not addressed.

The second incident of anticipated conflict occurred at the point of implementation, when the external users needed convincing that migration to the new system was worthwhile (#11). The PSG were fully aware that they did not have authority over the external users, and so persuasion would be required. They were also aware of the commitment many of the external users had made to their own website systems, and that there was considerable distrust of both ITS and Lotus Notes. This understanding of the context, the external users' independent culture, their power to resist, and their negative historical experiences with ITS, enabled the PSG to take successful action. They used the upcoming e-government compliance deadline, they brought in two key people with strong interpersonal skills to interface with the users, they dealt with each external user individually rather than en masse, and they found a suitable project champion to promote the project. In this way, the underlying issues were addressed, and the anticipated conflict was mostly resolved.

The **dynamic relationship between conflict incidents** was highlighted by the conflict incident map (Figure 6.2). A relationship between conflict incidents is established when the resolution outcomes of one incident either cause or complicate the follow-up incident. That all but two of the 14 incidents identified should be part of this web of conflict is testimony to the need for contextual understanding and effective governance arrangements. Ad hoc decision-making was frequently

employed to deal with immediate problems, ignoring or underestimating underlying issues, and with less consideration towards longer term consequences.

The need to **learn from history and any pre-existing relationship conflict** is important for project risk management. To mitigate this risk, those responsible for project governance must understand as much as possible about the major stakeholders, including how well they interrelate, incorporating knowledge of relevant events from the past. Furthermore, project governance arrangements reflecting this knowledge should be in place as early as possible. This means more than just establishing authority structures such as the project steering group, the project manager and the project owner. For example, the appointment of a third-party project overseer was done specifically to contain anticipated conflict, but was not always successful. On the other hand, the project-specific appointment of the Client Liaison Officer to help bridge the communication gap between ITS and its users proved very effective. Even so, ITS continued to be relatively uncommunicative, and Comms continued to feel neglected, suggesting not enough was learned from the past.

Culture clashes helped explain why the underlying relationship conflict between website users (especially Comms) and ITS had persisted for so long. The Communications and Information Directorate was unlike any other directorate in the Ministry. Whereas other directorates were responsible for areas directly related to health, the CID was an eclectic collection of service-oriented Ministry support groups and semi-independent business units, including the three major stakeholders for this project: ITS, NZHIS and Comms. Each serves a different purpose, involves quite different skills, and employs people with different backgrounds. Each is relatively isolated in its own way: ITS supports many website users, including Comms, yet is unwilling to communicate effectively; Comms has felt orphaned from the rest of the Ministry for some time; and NZHIS is a separate business unit, including its own website and publications support. It is therefore no surprise that, not only has each developed its own culture, but there appears to be little understanding of each other's cultures. This project brought the three units together, and a consequent clash of cultures contributed to both relationship conflict and difficulties in resolving task-oriented conflict. As long as the communication

between these and other groups remained poor, both before and during the project, culture clashes continued unabated.

While resistance is not an unusual form of conflict in IT projects, the **power to resist** can still be assessed early on (and reassessed over the duration of the project) as part of a risk management process. Once identified as anticipated conflict, appropriate governance arrangements can be put in place to either eliminate or at least reduce the impacts of resistance. This was well illustrated when resistance was anticipated from the external website users (#11). As discussed above, a thorough understanding of the context laid the platform for the successful actions taken, including the creation of the position of Client Liaison Officer (and the corresponding appointment) as an effective communication mechanism, the identification of a project champion as a promotional mechanism, and the policy of dealing with each external user one by one. As a direct result, the majority of the external users had agreed to migrate to the new system.

Placing the role of governance into the hands of **a single authority structure, without sufficient project-oriented policies and mechanisms to back it up**, is a serious risk. Governance is a three-pronged approach, requiring authority structures to be guided, directed or constrained by policy, and supported by established mechanisms. These three components should be balanced and complimentary. The anticipated resistance from external users described above (#11) provided an example of this balance leading to a successful outcome for the PSG. However, this was partly forced upon them because they had no authority over the external users. Other attempts at conflict resolution tended to rely solely on authority decision-making on an ad hoc, reactive basis. In some cases, conflict occurred *because* an established process was subverted by decision-makers. Ad hoc decision-making, coupled with poor levels of communication and transparency, created an air of uncertainty for stakeholders, including those who had representation at the PSG level. Many simply did not understand what was happening, or why.

Allowing the boundary between governance and management to blur made the PSG's job even harder. As the DDG chose not to be involved, the PSG was given full responsibility for project governance. There are times when a governance body needs to take on a management role, such as the escalation of conflict for resolution.

However, in this case, the PSG were heavily involved in the conduct of the project throughout. As they were frequently reactive and ad hoc in their approach to issues as they arose, there was little incentive for the PSG to think in the longer term, or in a broader context, than whatever the immediate issue presented. This would help explain the extensive web of causal conflict throughout the project (Figure 6.2). Furthermore, governance requires a certain degree of objectivity, and a focus on the bigger picture. Two of the PSG members (the CTO and the Comms Manager) each had a strong interest in the outcomes of the project, making it difficult for the PSG chair to exercise either objectivity or a focus on the bigger picture.

Finally, there is the risk that, for reasons of their own, **individuals may neglect, interfere with, or even subvert, governance arrangements.** Although the NZHIS Chief Advisor was given overall responsibility for the project, he brought in the senior managers from two of the major stakeholders (ITS and Comms) to form the PSG. On the face of it, having a project steering group made up of senior representatives from the two biggest stakeholders, plus a neutral third party as chair, appears reasonable. Furthermore, according to the NZHIS Chief Advisor, the group seemed to work well together much of the time. But this was not always the case, as personal agendas arose over the course of the project. Each of the three PSG members is discussed in turn.

The NZHIS Chief Advisor was provided with a lengthy timeframe and a budget that could be rolled over from year to year. Over the first year he appointed the Web Team Leader to create a web strategy document. But the NZHIS Chief Advisor prioritised other, non-project activities over this period, and failed to monitor the Web Team Leader's work until the first draft of the strategy document was presented. Later, once it was agreed that ITS would develop the new system, he was again happy to leave most of the decision-making to someone else, this time the CTO.

The Comms Manager, fearing what he perceived to be the onerous responsibilities involved in being the new website system owner, withdrew significantly from involvement in the decision-making within the PSG. While he may have hoped that disassociating himself from the decision-making might, in some way, have reduced his responsibilities, there were undesirable flow-on effects. First, he was no longer

representing Comms' interests, nor was he communicating what was happening to his own staff. Second, through voluntary withdrawal of interest, he no longer provided a separate voice in the governance process.

As both the Comms Manager and the NZHIS Chief Advisor withdrew from much of the decision-making process on the PSG, this effectively left the CTO to oversee the project. At this point, the boundary between governance and management dissipated. The CTO had so much at stake that he personally wanted to ensure the project was a success. For example, when he discovered the first draft of the new business case did not fit with his own objectives, he stepped in and removed the senior ITS representative and personally took his place. The CTO announced the first draft would be abandoned, and he was then able to ensure the new draft would support ITS' development of the new system. The project manager, who chaired the business case development team, was stunned over these events and did not understand why they happened.

It was this lack of communication and feedback that recurred as a problem throughout the project. One telling example was the arrangement made between the CTO and the other two members of the PSG, wherein ITS was told that they would be allowed to develop the system only if they paid for the development costs themselves, out of their operational budget. They would only be reimbursed from the project budget if they could complete the system satisfactorily by the tight project deadline. While this safeguarded the project funding, it put at risk a significant portion of ITS' operational budget. Had ITS failed to meet these criteria, it is likely this would have affected ITS' ability to do the kind of development and support work it would have normally done. Having ITS develop the system in-house was a critical decision for the future of the project, but there was no consultation beyond the three members of the PSG and no transparency in the decision-making process. Nor was the DDG formally told, and the Comms Manager doubted she was aware of it at all, in spite of the fact that all three PSG members report to her either directly, or through one extra layer of management.

6.17. Conclusions

There were 14 conflict incidents identified for the Web Consolidation Project in this case study. Focusing on the nature of conflict and its resolution in these incidents yielded two striking results. The first is the important role of conflict anticipation and its incorporation into project risk management. There were two anticipated conflict incidents. One involved an action taken to reduce the risk of relationship conflict flaring up during the project, which was only partially successful. The other involved a series of actions taken to reduce the risk of user resistance, which proved very successful, because those actions were based on a more considered analysis of the situation and its context. In both incidents, the decisions made had significant effects on the project. Secondly, the degree to which 12 of the 14 incidents were linked dynamically over time was surprising, where at least one of the conflict resolution outcomes for an incident had a negative impact on one or more follow-up incidents. While some might have been expected anyway, many were results of ad hoc decision-making and ineffective project governance, with insufficient consideration given to the relative situations and their contexts. These issues were investigated by addressing three research questions.

The first research question (RQ1) focuses on contextual elements and their effects on conflict resolution. Each of the environmental constructs identified in the research framework (culture, power, history, and individual behaviours) had significant negative impacts on conflict resolution at one stage or another – some on several occasions. In particular, three issues stood out: the need to learn from history to anticipate conflict, including pre-existing relationship conflict; the potentially damaging effects of culture clashes; and the anticipation of resistance. In any contextual analysis, historical events can be particularly important as they can be used as manifest evidence that history could repeat itself again unless action is taken. In this case, senior management were aware of historical relationship conflict, but did little to address it on a proactive basis. Consequently, the relationship conflict continued to negatively affect conflict resolution over several incidents. Secondly, culture clashes – particularly those between the IT function and the website users – were major contributors to problems with conflict resolution. The users, a collection of independent groups within different directorates, were diverse

and very protective of their individual cultural ‘brands’, making it difficult to work with them in any homogeneous way. ITS was internally cohesive, but quite isolated in terms of its external support relationships, with quite different cultural values, attitudes, and behaviours. Finally, the power of these external users to resist the system implementation in favour of their own solutions was of paramount concern, as even the senior representatives involved in project governance did not have any authority over them.

The second research question (RQ2) focuses on governance and its effects on conflict resolution. Of the three project governance arrangements available (policy, authority, and mechanisms), little was done beyond setting up a single individual as the overseer of the project, who in turn set up a three-person authority structure (the PSG) to govern, and frequently manage, the project. But there was little policy to guide them, nor were there many mechanisms available to help them make and implement decisions. Communication mechanisms, both vertically through the hierarchy, and horizontally across functional areas of the Ministry were either ineffective or non-existent. This was particularly true of formal feedback mechanisms. This led to a reactive, ad hoc approach to conflict resolution in terms of decision-making and implementation, with variable success. Furthermore, the key authority structure (the PSG) frequently struggled to operate as a unified entity. Each of the three members had their own personal agendas, and as a result, sometimes one, and frequently two PSG members were simply not active in terms of oversight. When this happened, project governance was less apparent, and ad hoc management through the CTO was the only control available.

The third research question (RQ3) focuses on governance and its capacity for moderating contextual effects. Clashes of culture, as discussed earlier, were established as major contributors to conflict within this project. The PSG demonstrated either a poor understanding of these cultures, or a poor sense of their importance. It was not until two people who were capable of understanding cultural differences were appointed to critical roles in the project (project manager and client liaison officer) that the clashes became less frequent and less serious. Considerable understanding and thought was applied to the issue of the external users’ power to resist, with consequent success. However, the capability of governance

arrangements to help safeguard against abuse of decision-making authority by individuals was poor. There were several instances where each of the three members of the PSG was involved in either neglecting or subverting existing governance measures. That they were able to do this highlights the lack of governance, including receiving and monitoring feedback from the PSG, in terms of overseeing the project as a whole, including the performance of the PSG.

This case study, as a consequence of focusing on conflict and its resolution, illustrated the importance of project governance, not only to help control the project, but to help moderate the effects of any negative contributions from contextual elements. However, attempts at moderation will only succeed if there is a clear understanding of what the contextual elements are and how they might affect the project. Furthermore, expecting one authority structure to oversee the project without support from policy or mechanisms represents a project risk. In this case, the critical authority structure engaged more in ad hoc management than oversight, and there was no effective oversight at a higher level, in spite of project sponsorship residing there.

The following chapter describes the outcomes of case research conducted on the third case organisation.

7. CASE 3: The Hutt Valley District Health Board

This chapter provides an account of the third case study for this research. It begins with a brief description of the Hutt Valley District Health Board, the case organisation. The organisational setting for the project is described, including the organisational decision-making structure and broad descriptions of the major project stakeholders. The Electronic Medical Record (EMR) Project, including the relevant project authority structures, is described. The interviewees are introduced, followed by a chronological overview of the conflict incidents they identified. The findings of the preliminary analysis are presented for each conflict incident. Each of the three research questions is addressed, and the results are discussed in terms of their implications for IT projects.

When this case study was conducted, the Hutt Valley District Health Board (referred to hereafter as the ‘DHB’) was responsible for planning, prioritising, funding and providing government-funded health care and disability support services for the 135,000 people that lived in the Hutt Valley. The Hutt Valley consists of a series of mostly small townships stretching along the Hutt River, partially isolated from the neighbouring Wellington City (New Zealand's capitol). The DHB employed a little over 2,000 people, most of whom were clinicians and administrators that worked for either Hutt Hospital or various community and regional health services. Thus, ‘the DHB’ was a phrase used to describe the collective organisation, including all of its employees. However, technically, a district health board was a group of people (eleven in the Hutt Valley) that had strategic oversight, or governance, over the DHB. For clarification purposes, this group will be referred to hereafter as the ‘Board’.

Hutt Hospital opened on 15 May 1944, providing secondary services to the Hutt Valley district and a range of services to the Wellington region and lower half of the North Island. At the time the interviews were conducted, Hutt Hospital had a capacity of 250 beds. In addition to general medical, surgical and emergency services, Hutt Hospital provided specialist tertiary services for rheumatology, burns

and plastic surgery for the wider south and central North Island and upper part of the South Island.

The DHB had been in existence since 1 January 2001, when the government reallocated responsibility for health services by decentralising the network of regional health boards down one level to district health boards, with the intention of achieving a better response to local community needs. The goals of each district health board were specified in the New Zealand Public Health and Disability Act, which included: to improve, promote and protect the health of their communities; and to better coordinate health services in the district (e.g. general practitioner and hospital-based services, and reduction of disparities in health outcomes).

This involved contracting services from a wide range of health and disability service providers, including general practitioners (GPs), mental health providers, rest homes, pharmacies, private laboratories, and both public and private hospitals.

7.1. Organisational Setting

A simplified representation of the organisational hierarchy at the DHB is provided in Figure 7.1. What follows are the descriptions of selected organisational groups representing stakeholders of the IT project that is the focus of this case study. An external stakeholder is also described.

Figure 7.1: *The organisational hierarchy for Hutt Valley DHB.*

As outlined in Figure 7.1, the **senior management** positions within the DHB all reported to the CEO. Like most district health boards across New Zealand, the Board and senior management had very limited funds to allocate to IT projects, and were anxious to avoid cost overruns. There was also an understanding among senior management that quality is paramount with information systems affecting clinical practice.

The **IT Department** was responsible for IT development, implementation and support at the DHB. When Hutt Hospital was separated administratively from Wellington Hospital in the early 1990s, the information systems used at Wellington were provided for Hutt Hospital as well. However, the infrastructure for IT development and support, including the staff, remained at Wellington. The Hutt Hospital Board decided to outsource information processing to a local company. In addition, the head of that company, who was a friend of a Hospital Board member, gave Hutt Hospital advice about IT, so there was a potential for conflict of interest. The IT manager at Hutt Hospital was an external consultant as well, who offered them little by way of IT leadership – focussing primarily on system maintenance and the upcoming Y2K issues.

The Hospital Board would not approve funds for IT projects without a business case, but there was no process in place for someone to develop and present one. However, by the late 1990s, the Board drafted an information systems strategic plan, approving a budget of \$2.7 million (over an initial two-year period) to realise the plan. In 1999, the position of Chief Information Officer (CIO) was created, reporting directly to the Hospital Board. The CIO originally appointed remained in that position up to the time of the study. His job was to oversee the implementation of the strategic plan, and he was given considerable freedom to set up the necessary governance and management structures. In 2001, management of Hutt Hospital was subsumed into the new DHB structure, the Hospital Board was replaced by the DHB Board, and the CIO then reported directly to the CEO.

The **IT project team** referred to the IT Department's staff assigned to work on a particular project. This normally included a project manager and IT specialists, who would be responsible for working with both the users (e.g. eliciting requirements,

prototyping, acceptance testing, support, and training) and the vendors (e.g. conducting gap analysis, software adaptation, system testing, and technical support). The IT Department was also responsible for operating and maintaining a new information system, post-implementation.

The **clinicians** were the front-line personnel responsible for patients within the DHB system, still predominantly focused on the activities of Hutt Hospital. ‘Clinician’ was a general term for a person who held a professional qualification relevant to the assessment, treatment, and care of patients, for example, doctors, nurses, psychologists, midwives and occupational therapists. There was a shortage of clinicians, especially senior clinicians, in New Zealand, and they were difficult to attract and retain. This group, especially doctors, had ultimate responsibility for patient safety and treatment. For these reasons, clinicians held considerable respect throughout the organisation, and their perspectives on clinical practice were normally paramount.

Administration was the collection of DHB staff responsible for the administration of Hutt Hospital and its relationship with the broader clinical community. Specifically, they were responsible for maintaining the paper-based patient record management system. Increasing pressure for performance, accountability and accurate financial planning meant that the DHB senior management required extensive statistical reporting on patient management; for example, bed numbers and length of stay. This was not necessarily a high priority for the clinicians that needed to provide the information.

The external vendor **Orion Health** was a major provider of technology for the healthcare sector. Orion specialised in workflow, messaging and integration software to support primary, secondary and tertiary healthcare providers to manage patient care and the exchange of healthcare data. Orion had been involved in the IT project of this case study from the inception. An Orion account manager was allocated to the project, and remained the point of contact with the DHB for higher-level issues.

7.2. The Electronic Medical Record (EMR) Project

World-wide, there has been a trend towards digitisation of medical records and workflows (Jensen & Aanestad, 2007). For example, several years ago the U.S. government “unveiled a plan to implement EHRs [electronic health records] for every American within ten years” (Swartz, 2006, p. 19). Key drivers for this include automating routine services (prescription writing, scheduling appointments, invoicing), data exchange with other health care providers, increased data accuracy, and possibly even cost reduction (Dansky, Gamm, Vasey, & Barsukiewicz, 1999; Poston, Reynolds, & Gillenson, 2007).

An international 2001 survey found that New Zealand was second only to the United Kingdom in terms of both the percentage of physicians who sometimes used EHRs and the percentage of physicians who often used electronic prescribing (Swartz, 2006). District health boards across the country had gradually, independently been adopting EHRs in one form or another. Implementing an EHR was a major thrust of the new IT strategy at the DHB.

However, integrating complex, interrelated processes across an organisation had historically proven to be difficult, as implementation challenges with both business process reengineering (BPR) and enterprise resource planning (ERP) systems have demonstrated in the past. EHR systems were no exception, with problems regularly encountered, including high-cost, process disruption (with corresponding risk to patients), confidentiality issues, and in particular, organisational and social issues, including conflict and resistance (Baron, 2007; Carr & Dimitrakakis, 2003; Kleinke, 1998).

At the DHB, the EHR initiative was given the overall title of the Electronic Medical Records (EMR) Project²¹. While the concept of the electronic medical record was not new, the majority of the clinicians did not initially fully understand the effects it would have on their clinical practice. This meant that the project evolved over time, with more and more features added to encompass the range of information that makes up a medical record. The EMR project was developed as an incremental programme of work, with a number of phases, each of which added new software

²¹ Note that, while all the interviewees regularly referred to the EMR initiative as a ‘project,’ in fact it was a programme of projects, all based on the fundamental concept of an electronic medical record.

and functionality. These phases were typically seen as separate projects, and staffed accordingly.

After a selection process, a third party vendor, Orion Health, provided the basic patient management system package, and undertook (by contract) to work with Hutt Valley's IT project teams to adapt and implement the software.

At the time of investigation, the DHB had implemented a number of EMR-related projects, but were still some distance from the ideal of the paperless medical record that can be used not only internally, but would also be accessible by primary health providers such as general practitioners. It was envisaged by the CIO that the rate of change may slow down over time, but was unlikely to completely stop, as there would be a steady stream of new ideas and new features emerging.

Clinicians were identified by senior management as the primary user group for the EMR project. Administrators were also important users, but were nevertheless seen as a support function to the clinicians who were ultimately responsible for patient safety. It was considered extremely important for clinical acceptance that the system behaved consistently, with a usable interface given the context. A defining feature of clinical staff was that they moved around, and may have used ten or twenty different terminals, to either enter or retrieve information, within a single day. Clinicians were always busy, working under pressure, and in many cases were not very computer literate. Once the basic functionality had been agreed, there was extensive discussion and refinement of the interface.

The original budget for Phase 1 of the EMR project was \$1.1 million over 2 years. Phase 2 was \$800,000. The budget was contestable against other major capital expenditure (such as medical equipment), which meant it needed to deliver value for money.

7.3. Project Authority Structures

During the 1990s, IT governance was largely ignored in the DHB. Operationally, the DHB was satisfied with the IT Manager's management of the outsourced information processing, but there were no processes available to promote major new IT initiatives. This situation changed with the development of the IS strategic plan, and the appointment of a CIO to implement that plan. Initially, there were few

policies, authority structures, or mechanisms available to help govern both the IT function and IT projects. With a specific focus on the EMR project, the CIO worked with senior management to develop the following project governance structures, including membership, and project-related processes they would be responsible for (summarised in Table 7.1 and described below). Policies emerged over time, and at differing levels in the hierarchy; these are described further into the chapter.

Table 7.1: Authority structures involved in governance and decision-making for IT-related projects

Body	Level of Focus	Membership	Main IT Project-Related Roles
The Board	Corporate	Both locally elected and NZ government appointed representatives	Approving IT strategic plan, including budget for EMR implementation
The Executive	Corporate	CEO (chair); Other executives (including CIO)	Broad oversight of EMR progress (report from CIO)
Information Systems Steering Committee [ISSC]	IT/Project	CFO (chair); Selected executives; Senior clinical staff; Senior administration staff; CIO	Annual project prioritisation & budget distribution; Project approval; Monthly monitoring via project status reports
Project Steering Group [PSG]	Project	CIO; EMR sponsor; External QA; Senior project manager; Chair of CUG	Scope & business case (proposal from Sponsor); Oversight of project progress (schedule, budget, quality, etc.) – reports received from project managers
Clinical User Group [CUG]	Project	IS clinical advisors; Clinician reps (dominant group); Administration reps; Other reps	Project prioritisation from operational perspective; Analysis of operational impacts
Project Implementation Team [PIT]	Project	Project manager; Clinical practice Reps.; IT development / implementation staff	Develop and implement a specific EMR project; Work with Orion to integrate the project with their patient management system

At the time of interviewing, neither the **Board**, nor the **Executive**, had been directly involved in project decision-making once the project had begun. The Board had agreed to adopt an EMR-based system as part of their IT strategic plan, and agreed on a budget. The Executive members, and particularly the CIO, worked together to put the project authority structures in place. Beyond that, the Executive remained chiefly involved in broad oversight of the EMR project, primarily through monthly reports from the CIO.

Four authority structures were involved in the governance and decision-making over the duration of the EMR project: the Information Systems Steering Committee, the EMR Project Steering Group, the Clinical User Group, and the Project Implementation Teams.

The **Information Systems Steering Committee (ISSC)** was the highest level authority in the DHB specifically focused on IT-related systems. The ISSC was made up of executives and senior managers, including both the Chief Financial Officer (CFO) as chair, and the CIO as the executive representing the IT-function. Other executives and senior managers represented clinical and administration staff.

The purpose of the ISSC was “...to approve, guide and direct [the DHB] on all information technology projects. ... [including those] encompassed by the IS strategic plan” [*ISSC Terms of Reference*]. The committee oversaw the implementation of all IT-related strategy and investment, including the EMR project, which had been the major budget item since 2001. The ISSC was responsible for conducting a number of project-related processes, including: annual project prioritisation and budget distribution, project approval, and monitoring current projects. The committee received monthly summarised status reports on all projects currently under way. Each summary report included achievements for that reporting period, plans for the next period, and major issues (referred to as “red flags”).

The **EMR Project Steering Group (PSG)** specifically oversaw the EMR programme of projects. The membership, balancing the interests of both clinicians and the IT function, was based on key individual positions spanning the EMR project structure (see Figure 7.2), including:

- the CIO;
- the EMR Project Sponsor (normally a senior clinician at executive level);
- the Senior Project Manager, who oversaw the project management of individual projects;
- the Chair of the Clinical Users Group, normally a senior clinician representing the interests of all clinicians at the DHB; and
- an external Quality Assurance (QA) contractor, who conducted an independent external audit every quarter.

The PSG received regular, detailed monthly reporting from project managers on project progress, checking against: objectives, budget, risk management, risk mitigation and user satisfaction.

The **Clinical User Group (CUG)** was established to provide a communication conduit between the IT Department and the clinicians within the DHB. The support of the large, diverse, and powerful community of clinicians was considered essential for the success of the project from the outset. The CIO established an early version of this group to select the vendor for the EMR project. It was his intention that this would encourage clinicians to take ownership of the project. However, the recognised value that this group provided meant it survived and evolved over time as a forum for consultation with the clinician community.

The CUG had encouraged inclusive representation of different viewpoints, wide-ranging and open debate, and consensus building. Potential issues could be ‘headed off’ through debate within the CUG. Once consensus was achieved, their recommendations could then be implemented through formal project mechanisms.

“Everybody’s view is able to be expressed. It sounds pretty basic, but it was actually relatively innovative...The IT team were able to pull the threads out of that, to ensure that the developments, as best we could, had everybody’s needs represented. The CUG had some pretty spirited debates”. [*Chair of the CUG*]

Ensuring the membership of the CUG was fully representative had been challenging.

“We are constantly working on the make up of the group...we are always cutting a balance between having too many people representing a particular group and not having enough”, and “membership wavers between 15 and 20...we also have

IS people in the group, because it is very much informal feedback”. [*Chair of the CUG*]

The CUG was not a formal decision-making authority structure in the sense that any decision about the project emerging from a CUG meeting still had to be considered and formally ratified by the PSG. However, the strength of the CUG was that as well as serving as a forum for consultation and discussion, it was also brokered agreements, which were then largely rubber stamped by the PSG. This semi-formal status provided considerable flexibility. On the one hand, CUG membership was not controlled by management, but by the clinicians themselves. The Chair of the CUG was always a clinician, and CUG members were typically clinicians who had an interest in IT and its medical applications. The IT representation on the CUG was normally small (2-3 members) but important, as they advised clinicians about the implications of the EMR project, along with any queries or suggestions put forward during an ensuing debate. On the other hand, the PSG treated CUG decisions as formal proposals, being well aware that the prior consensus reached between major project stakeholders made PSG approval considerably easier.

The **Project Implementation Team (PIT)** was an operational authority structure at the project level. The PIT was responsible for the development and implementation of the project. Every PIT had a project manager, along with IT staff and user representation. Each subproject of the EMR project was allocated a PIT to oversee it.

The hierarchy of IT project governance is outlined in Figure 7.2.

Figure 7.2: *Organisational hierarchy governing IT-related projects.*

7.4. Interviewees for this Study

Five individual project stakeholders were interviewed for this case study (Table 7.2). The CIO was approached first, who agreed to support the research project and identified suitable candidates for interviewing. Note that at the time of interviewing, the ex-Chief Operating Officer (Ex-COO) had only recently stepped down from his tenure as Chief Operating Officer, and had consequently relinquished his position as EMR Sponsor and PSG member to the new Chief Operating Officer. Prior to that, he had been heavily involved in the EMR project from its inception.

Table 7.2: *EMR Project Interviewees for this study*

Interviewee Position	Textual Referral²²	Body Member	Focus
Chief Information Officer	CIO	ISSC; PSG	IT management
IS Clinical Advisor	Chair of CUG	PSG; CUG (Current Chair)	Clinical user
Ex-Chief Operating Officer	Ex-COO, ex-sponsor	Ex-EMR Sponsor; Ex-PSG	Clinical management
Senior Project Manager	Senior Project Manager	PSG; some PITs	IT practice
Orion Health Account Manager	Orion Account Manager	None at DHB	Vendor

7.5. Conflict Incident Overview

The following provides a précis of events as the project progressed over time. Note that the unit of analysis for this research is a conflict incident. Therefore, as an aid to link contextual, historical events (from the project's inception) to the analysis that follows, specific conflict incident numbers, corresponding to those used in the analysis, have been included within the text in parentheses. These are summarised in the conflict incident map below (Figure 7.3), focussing on conflict incident identification and their interrelationships in terms of the impacts of conflict resolution over one incident on the development and resolution of one or more other incidents. These impacts form a part of the analysis of each conflict incident in the sections that follow.

The CIO was appointed in 1999, charged with the responsibility of overseeing the implementation of the new electronic medical record. Over the next two years, he prepared the IT infrastructure for the new system, while collecting informal data about how well an EMR might be received. As a result, by 2001 the CIO was aware of just how resistant both clinicians and administrators were likely to be once the transition to an EMR-based system began. Furthermore, he knew that EMR systems were notoriously difficult to implement unless the majority of clinicians were fully

²² 'Textual Referral' implies these 'shortenings' will be used in the text of this study for (albeit limited) relief to both the reader and the writer.

supportive. Therefore, he had to find ways to help encourage buy-in from the clinicians and administrators.

Prior to 1999, Hutt Hospital had very little exposure to IT. Basic IT-based, non-clinical administration systems were maintained by an externally contracted IT manager. Clinicians and clinical administrators continued to employ traditional, paper-based processes. Therefore, the CIO was fortunate in that he had not inherited any lingering relationship conflict between IT and the clinicians. However, he was also aware of the risk to their working relationship, should clinician resistance become a major problem.

This anticipated conflict (#1), based on the mutual threats of significant resistance, accompanied by an increase in relationship conflict, led to the creation of a variety of governance arrangements to mitigate these threats. Their general purpose was to encourage a sense of clinical ownership and involvement with the EMR from the outset. Clinicians were responsible for patient safety, and so their concerns about significant change to clinical processes were generally seen as valid throughout the DHB.

IT project governance authorities such as the ISSC (EMR oversight, budgets and timeframes) and PSG (project prioritisation and operational oversight) were created to ensure effective representation from both clinicians and the IT Department. The CIO also oversaw the emergence of the CUG, a semi-formal authority dominated by clinicians, and to a lesser degree, clinical administrators and IT advisors that made key decisions over the design, use and management of EMR data and processes.

Policies were also employed as a way of dealing with potential resistance. Two were particularly significant. A positive, informal policy came from both the CIO and the Senior Project Manager requiring the PITs and IT advisors in the CUG to be as collaborative, patient and accommodating with the clinicians as possible, until a consensus decision was reached. Another policy came from the ISSC – that no one will be exempt from the transition to the EMR system. In this way, any recalcitrant clinical departments would ultimately have to accept it.

Finally, a variety of project governance mechanisms were created. Formal feedback mechanisms were used extensively: the PITs report to the CUG and the PSG; the

CUG reports to the PSG and the staff in clinical and administrative departments; and the PSG reports to the ISSC. Informal communication mechanisms such as both formal and informal meetings between different stakeholder groups, along with IT road shows and presentations, were used on a regular basis.

The most important mechanism was the CUG, which served not only as a decision-making authority, but was also used as a forum for consultation, debate, design, and communication (both vertically and horizontally) to all relevant EMR stakeholders through feedback reporting and dissemination by CUG representatives.

The conflict incidents that followed were characterised by their relative isolation from each other. All of them occurred at different (possibly overlapping) times, with respect to various EMR projects, but exactly *when* they occurred is immaterial to this study. Therefore, local groupings of conflict incident types such as those involving resistance, or the vendor Orion, have been listed (and numbered) together. Otherwise, the following nine conflict incidents are listed in no particular order.

Having put governance arrangements in place to help prevent or mitigate resistance, they were tested on three occasions identified by the interviewees. One of these occasions centred on the receipt and timeliness of lab test results, which used to be sent as paper documents to the doctors for checking and further action (#2). An EMR project required these results to be recorded in the EMR and forwarded to the doctor electronically. The clinician concern was how would doctors be alerted to the availability of the lab test results, and how could they be confident it will go to the right doctor? The clinicians resisted implementation until they were confident these issues could be addressed.

A similar concern emerged over the sign-off of diagnostic results and other patient information (#3). Senior clinicians were particularly reluctant to abandon the paper-based system which they understood and trusted. But an EMR project had created a modified clinical process based on electronic sign-offs, and there was prolonged, generally passive resistance over design and implementation issues.

There were a number of small, semi-autonomous clinical units within the DHB. One particular unit were determined to avoid the EMR completely (#4). The unit's senior

clinicians argued: the risks of new processes were too high; training would require too much time & effort; and there were no perceived benefits for them.

Two incidents involved EMR project prioritisation issues, though there was little similarity between them beyond that. One incident focussed on the changes to the clinician *alerts* system, where originally paper alerts, or special notes attached to the patient file that highlight critical issues about the patient, such as a drug allergy (#5). An EMR-based alerts system would need to provide these clinical warnings electronically – technically achievable, but the challenge centred on the processes used to collect and maintain the currency of the alert information. Getting agreement among different clinicians was proving difficult, and opinion was divided as to whether other EMR projects should be given higher priority, or the EMR alerts system should be given more resources (i.e. an even higher priority). Some saw it as essential, while others saw it as too hard at present – wanting to move on with other projects.

The other project prioritisation issue involved a single senior clinician who was head of department for his clinical unit (#6). He was particularly determined to see an EMR project that would have benefited his unit to be given a higher priority than the PSG had allocated. He lobbied hard, even somewhat aggressively, to have more resources fast-tracked to his project.

Two other conflict incidents were raised by interviewees as well. The first demonstrated how powerful clinicians, and surgeons in particular, were. Surgeons had always collected data about their own operations, so that their performance could be reviewed by their peers (#7). The data was never available to anyone outside the group of surgeons involved in the peer review, encouraging honest reporting and appraisal. An EMR project involved the development of an electronic surgical audit system – performing essentially the same function, but improving data collection and dissemination for peer review. However, once data is electronically stored, it can be readily employed in other areas. DHB administration responsible for areas such as surgical quality and risk assessment could see great value in accessing the data to improve their own effectiveness. The surgeons had made it very clear the data must be secure; otherwise the value of the peer review would be lost.

The other incident was based on differing perspectives on IT use due to the cultural divide between senior and junior clinicians. A discharge summary is the document given to the patient on discharge from the hospital. Originally, it was dictated to someone from the typing pool, and then signed off by a senior clinician (#8). An EMR project had changed that, where the information required for the discharge summary, stored electronically, could be used to generate one automatically. This had the unexpected outcome of enabling junior clinicians to sign off discharge summaries without involving a senior clinician. Given increasing GP use of discharge summaries to treat patients, the senior clinicians argued that the process needed to be changed for patient safety purposes.

Two conflict incidents were markedly different from the others, as these involved the external software vendor, Orion, who were contracted to work closely with the DHB's IT Dept. to develop and implement the EMR projects. The DHB stakeholders were happy with the quality of the software product, but grew increasingly dissatisfied with Orion's support, gradually increasing the level of relationship conflict between them (#9). Orion support staff were not responding as quickly, or diligently, as was expected by the IT Department. The CIO became increasingly involved in an attempt to resolve the conflict and recover the previously strong working relationship.

One particular incident involved a very serious problem that required urgent attention from Orion's support team, whose response was found inadequate (#10). Although one of many incidents that contributed to the relationship conflict, this incident was significant, requiring escalation further up Orion's hierarchy, beyond the authority of their Account Manager (who normally dealt with the DHB).

Finally, several interviewees raised the problem of delays in the EMR projects' timeframes (#11). This was a generic problem, in that many of the conflict incidents discussed above contributed to delays and missed timeframes. However, the PIT project managers were frustrated that they could not meet the deadlines, due mostly to the extensive consultation and debate surrounding many of the projects. Many of these led to requests up to ISSC level to provide further resources. The ISSC had to explain to the Board why the timeframes were being missed. This conflict was ongoing, and yet largely accepted as the price to pay for consensus.

The conflict incident map below (Figure 7.3) places each of the conflict incidents referred to above in a chronological context, as indicated by both the directional arrows and the increasing value in the conflict incident numbers. This map also highlights relationships between the resolution outcomes of conflict incidents and their corresponding impacts on following conflict incidents. The arrow labels identify the specific resolution outcomes of interest.

Figure 7.3: A conflict incident map outlining incident numbers and brief descriptions, as well as their interrelationships in terms of initiating/fuelling other conflict incidents.

In this case, the conflict incident map above demonstrates little interaction between the conflict incidents. Furthermore, the relationships that are identified were both expected and regarded as an acceptable cost by the PSG and ISSC, given the way decisions were made. When they devised the policy that there would be no exceptions to conversion to the EMR, they knew it would need to be enforced on

occasion. This explains the fact that the policy led to a conflict incident through resistance (from #1 to #4).

The remainder of the conflict incident relationships depicted in Figure 7.3 all emerged from a number of isolated cases of conflict. In each case, the resolution approach took considerable time – contributing to the delays that often required extended timeframes and occasionally more resources (#11). Even so, the occasional delays had become an accepted part of the process if consensus was to be achieved.

7.6. Anticipated Clinical Resistance to the EMR Project (#1)

In 1999, the CIO was appointed by the DHB executive to oversee the design and implementation of an EMR system, a key part of the Board's strategic plan. However, the CIO anticipated possible resistance from both clinicians and administrators. There were several reasons for this:

- As noted earlier, clinician resistance to an EMR system has been a common feature in many hospitals, including the United States and the United Kingdom.
- Informal discussions with several clinicians indicated: many clinicians were apprehensive about using IT; and others were concerned about the stability of patient management. There were even questions over the cost:

“There have been people who have asked: why are we spending all this money on this, when we could be spending it on replacing our medical equipment?” *[CIO]*
- Informal discussions with several administrators indicated: a reluctance to abandon a paper-based system that is known to work; and some felt that time would be better spent incrementally refining the paper-based system.

The CIO knew that it was important to gain buy-in from the clinicians and administrators, and he also knew the consequences if he didn't. “Well, if I don't get people to jump on board, then I am out of a job!” *[CIO]*

The following outlines the background to the risk of resistance, and the actions taken to mitigate that risk. First, the contextual roles of history, culture, and power are explained. This is followed by a description of the project governance measures put in place specifically to help mitigate the risk of resistance.

7.6.1. History

Until 1999, when the CIO was appointed, Hutt Hospital had very little exposure to IT. Mostly focused on data gathering and reporting, the automated information processing had no impact on the all-important patient management processes, which remained paper-based. The externally contracted IT manager maintained the existing systems, but did nothing to promote any further use of IT over many years. Consequently, clinicians were not exposed to IT-based systems in their work over this period, and remained largely indifferent to the IT function.

“There was [prior to EMR] probably a culture of IT being an overhead, about IT not really being relevant – that is probably the best way to describe it. What does IT do? ... [Many thought] ‘it provides computers, that’s all. It doesn’t really have any strategic significance to me’.” *[CIO]*

With historical indifference towards IT, and the perception that IT was of low value to their work, clinicians were identified by the CIO as a significant risk in terms of resistance.

7.6.2. Culture

Generally, clinicians were very concerned about any potential disruption to their work practices – particularly those with an uncertain outcome, such as the introduction of the EMR. Clinicians felt comfortable with the current patient management system, and would be likely to resist any threat to its stability.

“[If the clinicians were unhappy with the project’s direction, they] would vote with their feet, and not use the system. So, for us, that would probably be the bottom line. If someone says, if that goes ahead, we will not use it, then we go back and look at the circumstances around that. We haven’t, yet, had that.”
[Senior Project Manager]

However, all the interviewees indicated that the clinicians were not seen as pariahs ready to exercise their dominant power to deliberately obstruct the EMR project. Instead, clinician suspicions were seen as mostly valid, and had to be taken into account. There were three reasons for this. First, there was a strong culture of conservatism over changes to patient management, given many had ultimate patient responsibility.

“The key responsible clinicians are the doctors. They are the people, at the end of the day, who, if something happens to their patient during a course of treatment, they are usually the ones who are called to account.” *[Senior Project Manager]*

Second, clinicians would need to be convinced that the IT Department staff properly understood how complex patient management systems were. For example, while management and administration would have regular access to the system from their office,

“...a lot of medical staff don’t quite know where they’re going to be, and over the course of the day, may actually use 10 to 20 different terminals. It took a while for the IT Department to get their head around that simple fact, let alone starting to actually look at some of the software. Even just the issues around logging in to a terminal are critically important to the acceptability, or the usability, of an EMR.” *[Chair of the CUG]*

Third, the needs of senior clinicians and junior clinicians were quite different, and this would also need to be taken into account. Generally, older clinicians had found it harder to adapt to an electronic information system.

“You basically have one layer – the senior layer – which are people that will be here for decades. Then you have two or three further layers of what we call junior doctors, who may work here for their training, over a period of months – at least three months, and up to several years. You may eventually work here as senior staff, but the bulk of the junior doctors you will only see for one stretch of five to six months. So, you have a group of medical staff who are extremely ‘long-service’, and you have another group, at the other end, who are extremely ‘short-service’. And so you have a very divergent group of people just within one career group. ...It is particularly important to get it right for the senior staff, because they are going to be here for their life, if you like. So, it is quite important that we work well with them. Whereas our junior staff...are probably tapping on their computers all day long.” *[Chair of the CUG]*

“But, what we have had, is very, very slow pickup of the system by some senior medical staff – very, very slow. People have a private practice, as well as their public practice, and they come into the public system for two or three sessions a week – in which time they will be operating, or they will be in outpatient clinics, and validly or invalidly, they are reluctant to log in and use our electronic system. They keep relying on the paper.” *[Senior Project Manager]*

The CIO also identified the administrators as a group that may also offer resistance to the EMR. Administration staff had developed ideas for improving the current paper system for patient management, and saw the EMR as a needless threat to their safer, incremental improvement objectives:

“The people who wanted more clerical staff to embed organisational use of paper medical records probably weren’t at that meeting [promoting the new EMR initiative]. ...They wanted colour-coding in the medical record, they wanted every bit of information to be sorted in the paper record, ... they felt that by focusing on more filing effort, they could improve clinical practice – which is probably true, to some extent. But, the organisation had to weigh up: was it

better to invest in a hundred more filing clerks, or are we going to go down the way of using electronic systems to organise data, and do away with paper?" [CIO]

Although potential culture clashes were a concern, there were also positive cultural norms at an organisational level.

"In this organisation, there has sort of been a tradition... of communication, working together...I think that has got to be the reason why it all works, really. Having people enjoying what they are doing, and getting on with the job, communicating well with each other, trusting each other, and generally working well together. It's pretty simple..." [Chair of the CUG]

"Also, the retention of staff is very important. ...Certainly with our IS staff, and our IS project staff, we have people who have been here for many years. But that is really a cultural thing, throughout the organisation." [Chair of the CUG]

There was a collaborative environment within the DHB. Originally, the Hutt Hospital was a rehabilitation hospital after World War II, and some of the traditions of working together had endured since those days. The rehabilitation ethos was still present, including current specialisations in burns and plastic surgery.

7.6.3. Power and Influence

There was a significant power imbalance between the clinicians and the IT Department. Clinicians were well educated professionals with a strong collective voice within the DHB over clinical matters. This power to resist initiatives that affected their clinical practices was well recognised within the DHB and generally supported by management. Consequently, the Clinical User Group, representing the interests of the DHB clinicians with respect to the new EMR system, would typically have the final say over non-technical issues.

"The Clinical User Group is in charge. They would not accept anything that they weren't happy to live with. ...They need to be able to discuss the ramifications of any situation that there is, and what they say needs to go [ahead]." [Senior Project Manager]

The CUG provided a forum for constructive discussion on project issues. The CUG was an organisational mechanism to air stakeholder views and reach a decision transparently, by consensus.

"I think [politics have] largely been circumvented by the CUG...Knowing there was a way to put their issues out, there was no need to play politics...They could engage with the issue as opposed to playing games." [ex-COO, Project Sponsor]

The CIO's first step was to rebuild and modernise the IT infrastructure, so that there would be technical capacity to run the new EMR system.

“So, the opportunity was there to really move into... clinical information systems. In order to do that, we had to fix up some of our infrastructure, which was to upgrade the back end networks, replace dumb terminals, upgrade Windows, etc. We spent about 18 months doing that. ...For me, it was to build a solid infrastructure that would last for five years. And we are too small an organisation to do both major infrastructural change, and major application change. Get the infrastructural stuff out of the way, and that gives you a stable platform... It took us until the end of 2000, beginning of 2001.” *[CIO]*

This also gave the CIO time to informally discuss what some of the issues might be with users, visit other hospitals that had implemented an EMR system, and learn more about the complex patient management processes at Hutt Hospital. He was well prepared for the first promotional meeting.

“The first thing I did, is I gave a talk to a large audience of a variety of clinicians and clerical people from all around the place about where we were going, ... where we could possibly go with some of the technologies for clinical information systems.” *[CIO]*

Because clinicians, and to a lesser degree administrators, had considerable power over a proposal that could radically alter their work practices, the CIO and Senior Project Manager needed to convince them that the benefits of the EMR would outweigh the risks and costs. However, the CIO and Senior Project Manager did possess the capacity to influence clinician thinking – partly through their IT knowledge and expertise, and partly through the use of good communication and interpersonal skills.

The CIO began this long-term process by juxtaposing the implications of two options: further enhancements to the paper system, or full commitment into the EMR.

“If we go down this [EMR] path, we face a number of risks, but we have the potential to do the things that we could never do on paper. To me, that was just to get the buy-in to the concept of moving forward. In other words, a zero assumption on what you want to do. Because then, people jump on board, they start to own it, and say 'yes, we want to go down this path', rather than me, as IS manager – because I obviously have a bias in that area ...” *[CIO]*

The Senior Project Manager was selected by the CIO to lead the overall EMR project for a number of reasons.

"... to shout softly is what we do. There is a certain amount of purposive personality, purposive approach, a certain amount of soft skills that I, actually, personally use to influence staff to move along, to get going." *[Senior Project Manager]*

A sign of success with this approach was that the Chief Operating Officer (COO) at the time, although computer illiterate (by his own admission during his interview), became enthusiastic from the promotion meetings, and agreed to sponsor the project at an executive level. However, it took time for the clinicians to appreciate how their work practices would be affected as the new EMR system steadily grew with increasing functionality.

"The concept of the electronic medical record was pretty well accepted – accepted by the majority. But the implications of what the fully electronic medical record was about – I don't think they were completely understood by anybody except for the very IT-literate." *[ex-COO, Project Sponsor]*

7.6.4. Project Governance

The CIO pointed out the important role of project governance and its close relationship with system ownership.

"The issue for me was how to move forward with clinical information systems, when you needed strong clinical ownership of that, strong business ownership. So, this is where the beginning of the governance stuff comes in. ... certainly for clinical information systems, it was going to be the major issue, as far as I could see." *[CIO]*

The CIO was involved in the creation of all the important authority structures for the EMR project. This included the Information Systems Steering Committee, the project steering group, the project implementation teams, and ultimately, the Clinical User Group.

Although mainly focused on IT governance, the **Information Systems Steering Committee (ISSC)** made the original commitment to implement an EMR-based system, and continued to receive monthly reports from the CIO ever since.

"Around governance, unless you've got people who are willing to govern, and willing to champion the system, you don't have governance, you only have figurehead. The best way to achieve governance is to get the governance body to actually select the system in the first place – because then it becomes their system." *[CIO]*

Formally, the ISSC was the highest level of problem escalation (including conflict) should the PSG be unable to resolve it. However, in practice, the ISSC rarely needed

to be involved for the duration of the project. To the CIO, early successes meant the ISSC remained fully supportive of the project, and so managing problems effectively at the lower levels was important.

“If you tackle stuff down at the lower levels, the people up here in the ISSC have a degree of confidence that the process is rigorous further down, because you are also getting buy-in – all the time you are getting buy-in, at the user group level, and the steering committee level as well. So, once you have started delivering a few results, the people in the ISSC tend to have a lot of faith in the process, and so they keep supporting you, because they haven’t had the failures come up to them. So that by the time I come to speak to them at an ISSC meeting, they are fairly sure that I have been through a reasonably rigorous process. ...For me, there is a clear accountability here, at the steering committee level, for me to deliver. But their accountability is to say, yes, do this project, and not that one. That is not my choice. The sponsor has to be strong and behind it, and there has to be the whole framework in there.” *[CIO]*

The **Project Steering Group (PSG)** was the highest level decision-making authority that specifically focused on the EMR project. The PSG closely monitored each of the EMR projects.

“I have had, in my role as Chief Operating Officer, an oversight role with the EMR since its inception. And I have had, up until recently, the role of Project Sponsor. There, I had a role that interfaced with the key IT people delivering the project, and sought to have project control through the clinical people at the direct system use level, and just to receive regular feedback, and then enter my input into the project. We did that on a monthly basis. We exercised, through that, the usual project control mechanisms of measuring progress against time for key objectives, measuring progress against budget, identifying the risks, and identifying mitigations for those risks, and getting feedback on the satisfaction by the users, and conversely by the developers on the project itself.” *[Ex-COO, Project Sponsor]*

The PSG was balanced across the two major stakeholders: the IT function (CIO, Senior Project Manager), and clinicians (the Project Sponsor, the CUG Chair). It was also balanced across hierarchy: the executive level (CIO, the Project Sponsor), and the operational level (Senior Project Manager, the CUG Chair). Finally, an independent, part-time fifth member, an external auditor acting in a quality assurance role, was there to report on project performance.

“...at the moment, 3-monthly, we have an external auditor sitting on the [PSG] as well. So, that is where the formal processes – the reporting, the risk evaluation, the issues evaluation, and change control - happen for the electronic medical record. ... So every three months [the external auditor] comes out here and spends either half a day, or a whole day, depending on what our needs are at the time, including spending some time with myself. I usually book times (for him)

with leaders of other projects that are happening at the moment, within IT. Generally, we have two or three projects happening at once, within the EMR, ... or, aligned to the EMR. So, he will spend time with those project leaders, ... and he may spend time with the Manager of Operations, or the Manager of Application Support as well – usually about half an hour. That gives him a chance to get a feel for the progress of the project, and the pressure points, where there are contentions for resources, those sorts of things. Then, he will prepare a report for us, [which goes to the CIO] and myself.” *[Senior Project Manager]*

As noted in the literature review (Section 2.11), the existence of a project steering group at the DHB, and the responsibilities it held in this case, are relatively commonplace across many organisations in recent years. What was more unusual was the relationship the PSG had with a semi-formal user representative group (the CUG), and how this user involvement with the PSG decision-making process, according to all of the interviewees, had become essential to the PSG’s success in terms of resistance management.

The **Clinical User Group (CUG)**, ultimately a key factor in the reduction and/or elimination of resistance-based conflict, did not even exist when the project began. In 2001, the time came when the new EMR system was to be announced, and a vendor with a suitable product had to be found. The CIO saw this as an ideal opportunity to involve clinicians in the decision-making, and thus promote a sense of ownership.

“So, I had a cunning plan. We got an enthusiastic group of about 10 or 12 clinicians, we met, and we said this is the way we are going to do it – we agreed on that. We drew up a set of requirements around what we wanted, including prioritising the top 10 requirements. Then we had another list of about 20, but really focusing on some key, simple requirements. [For example], a single log-on to provide secure access to patient information in a very easy, user-friendly way. We then put those requirements out to a selected market – New Zealand vendors who already had installations in hospitals around the country. We went through an evaluation process – my evaluation team had 10 people: three doctors, three nurses, three IT people, and one manager. The key thing was that the clinical people could outvote the so-called administration side of things. But I really worked it as a team. ...It was a risk for me, because I could not control the outcome.” *[CIO]*

After the vendor was selected, all the major stakeholders (clinicians, administrators, the IT Department and management) were generally pleased with the outcome.

“By following that robust process, we came out with a good answer, and then we moved forward with that vendor. And that vendor has turned out to be extremely successful. That decision came from the right process.” *[CIO]*

This collaborative approach to decision-making proved so successful, it had continued to be used ever since, evolving into what became known as the Clinical User Group. While the CUG grew in size, adding a range of clinical representatives with an interest in IT, the IT Department representatives remained members as advisors only. The clinicians dominated the CUG decision-making, but they were always mindful and respectful of the IT advice they received.

“[The CUG] does act as a very important point of communication between the clinical staff and IT staff, because they are often quite poles apart, in their views of the hospital.” *[Chair of the CUG]*

The clinical CUG representatives went back to their own departments and promoted both the decisions, and the reasons why. Any serious objections at that point could be returned to the next CUG meeting for further assessment, given that they met regularly (weekly, initially, but they had since settled on fortnightly) .

“The clinicians are an interesting group of users. Where we have seen very successful implementation, and well-received implementations, a lot of that has been led by clinical groups, by clinical leaders who might have an interest in IT, but they are not IT people. It is an important success factor, overall.” *[Orion Account Manager]*

“The Clinical User Group...would not accept anything that they weren’t happy to live with. They need to know the full picture. They need to know what we know, if you like. They need to be able to discuss the ramifications of any situation that there is....” *[Senior Project Manager]*

Even so, the IT Department had to retain that positive relationship by ensuring that each new addition to the EMR system worked well.

“The IT people, here, are seen as being part of the team. Their relationship with clinicians, on the floor, is very strong, and they have given a good service, from the help desk end to the solving problems end. There is a high level of trust and confidence in what they do. That has added to the confidence people have had in pushing a barrel quite a long way. ...I think having the strong Clinical User Group, which a number of the IT people are part of, has also added to the teamwork concept. It has also added to that dimension that reduced seeing IT people as somewhat removed from the real world – what really goes on in a hospital. I think it is the visibility of a number of the IT people has also added to that. ...If there is no relationship between the frontline clinicians, and the key provider, such as the IT unit, then what we have achieved would not have been possible.” *[ex-COO, Project Sponsor]*

When things did go wrong, the users were generally better informed about IT projects – demonstrating how effective the CUG was as a communication

mechanism. Not only did the IT Department learn a great deal about the issues facing clinicians, but the converse applied as well.

“[The users] are very realistic about IT. They are very aware that you can design functionality and think that you have covered everything ... and you go over it a number of times, and you get sign off by a number of different people, who say, yes that is what we want. Then, further down the track, they are aware that things break. Things don’t always work the way you believed they would work.”
[Senior Project Manager]

Consequently, disagreement over how best to improve the patient management system had all but vanished, and the focus had shifted to how best to implement the EMR. Clinicians had become generally satisfied that if done properly, the implementation of an EMR would not necessarily lower the quality of patient management, and in fact could improve it. Similarly, administrators were convinced that paper-based improvements were not necessarily the best approach in the long run.

Several **policies** were devised to support EMR implementation. First, the strong organisational culture valuing and promoting cooperation and transparency was effectively translated into an informal policy that EMR-related decision-making would be representational, open, and consensus-seeking. This included the way management and the other EMR stakeholders approached conflict resolution.

“I think that most disagreements about how to approach things next were tackled in a fairly open way – particularly with [the DHB]. I can think of other examples of conflicts, but I think with [the DHB], for the large part, with most issues, it is the way we behave. Most issues are tackled in a way that we want to get a general agreement on the way forward, that doesn’t result in compromise, or one party feeling like they lost.” [Orion Account Manager]

Second, the PSG approved a formal policy requiring *all* clinical departments, and relevant administration, to migrate to the new system. It reflected the fact that although clinicians were capable of acting in concert on important issues, they were nevertheless distributed across different clinical departments – and each of these departments was managed largely independently of each other. They varied in size, number of staff, function, approach to management, and various cultural attributes. Therefore, even where agreement was reached within the CUG, pockets of resistance from individual clinical departments, or even just senior individuals within a department, were still always possible. The policy emerged from the EMR

proposal, signed off by the ISSC, that clearly encompassed the whole organisation, including all clinical departments.

“...we wanted one system to operate within the organisation. We didn’t want to have islands that retained a different system. We didn’t see any department as being so special, that they had an opt-out option. ... It would become inconceivable, to me, to run two medical records systems.” [*ex-COO, Project Sponsor*]

The PSG did accept that there would be unique requirements within individual departments. For example, clinical audit systems differed across most clinical departments. These would require future enhancements to the EMR system, but the essential concept of the EMR remained unchanged across all departments.

Third, an informal policy of accommodation, communication and patience when working with users (particularly the clinicians) applied to IT staff across all project implementation teams. From the outset, the CIO, and the newly appointed Senior Project Manager, both consistently made efforts to listen to, and ameliorate where possible, user concerns. This policy was simply an extension of their approach, demonstrating the effort required to engage busy, and possibly indifferent clinicians.

“I am prepared to put a presentation together, and take a laptop and a datashow around, and just fit in [to their timetable]. Now, I could have said ‘I’ve got this presentation, over in a meeting room here, between such and such, and such and such, please send your staff.’ It doesn’t work. ... You know where the power is. So you go there. ... [Even the CIO] is prepared to go and sit in the doctors’ offices and listen to them.

We have a lot of lunchtime meetings, where we provide a light lunch to get them to look at these implementation teams, to make decisions along the way. We run them from half past twelve to half past one, and provide lunch, so that the doctors come between their theatre session, and the outpatient session. You have got to get them somehow.” [*Senior Project Manager*]

A variety of project governance **mechanisms** were employed to support both making and implementing decisions, including the reduction of the risk of resistance. However, two mechanisms stood out: the Clinical User Group, and the extensive range of feedback mechanisms.

The CUG did more than make decisions that were inevitably ratified by the PSG. Although clinician dominated, the CUG’s representative membership ensured broad consultation with different stakeholder groups. Further, it was used by the IT Department to present issues that could be both debated and decided upon. Finally,

its cross membership with both a variety of stakeholder representatives and different authority structures such as the PSG, meant effective communication about important issues both vertically (to management) and horizontally (across stakeholder groups) throughout the DHB.

“The Clinical User Group is not just medical. It actually represents all of the clinical professions across the board, including administration. ...So, while it is called a Clinical User Group, its focus is about the clinical activity, but it isn’t restricted to clinicians. It ensures there is quite wide-ranging debate. Everybody’s view is able to be expressed.” *[ex-COO, Project Sponsor]*

With a slight shift in focus from the solely clinical implications, to the broader effects on the entire clinical system, it took time for new voices in the decision-making process to gain confidence.

“It sounds pretty basic, but it was relatively innovative. It has taken some people quite a while to be comfortable in putting their view across. Like a clerical person, or a secretary, debating with some of the medical or nursing people, about *their* requirements for a system to be effective, as opposed to the medical requirements. The process ensured that everybody’s view was kept tabled, and could be debated, and the IT team were able to pull the threads of that, to ensure that the developments, as best we could, had everybody’s needs represented. The CUG had some pretty spirited debate. Some of their discussions progressed over a number of meetings, but they were able to reach decisions, which added a lot of value to the process.” *[ex-COO, Project Sponsor]*

This last point from the above quote is particularly important. Even when conflict was apparent, the CUG was driven by the need to reach a consensus, so that the project was not impeded. To ensure this happened, sufficient time to reach a consensus was made available. Time was important, but reaching some sort of agreement was always a top priority.

The formal project status reporting structure extended from the PITs to the ISSC.

“[The project] gets monitored – there are monthly reports that go to ISSC. [These are provided by] the project managers. They get reviewed by me, before they go up. They get reviewed by the sponsor as well....The implementation team reports regularly to [the CUG] every two weeks, and brings any changes in the scope, or issues, to discuss and resolve.” *[CIO]*

However important formal reporting is, in terms of project monitoring and management, it does not necessarily keep all stakeholder participants fully informed about the project. A variety of mechanisms were employed to achieve this. For example, informal meetings and discussions frequently occurred between

stakeholder groups to help prevent, or reduce, the impact of conflict, before issues were considered formally. Even if the issue was then raised with the CUG, the participants were generally well-informed for the debate.

“[Resolving disagreements] is done in a fairly robust sort of way. We do use the Clinical User Group to sign off on those things. But then a lot of hard work has gone in beforehand, to try and sort that out. There may be some issues as to why one project should get put in front of another. It is ultimately presented at the Clinical User Group. ...I guess we try to follow the courses of fairness, and ensure that one group is not getting everything that they want, at the expense of another. I think, overall, we try and make it as balanced as we can. Certainly, in the sequence that we run projects, we try to ensure that if one group got something one month, they may not get something else for several other months.” *[Chair of the CUG]*

“Within this organisation, anyway, certainly if there is tension around, it gets well thrashed out [within the CUG].” *[Chair of the CUG]*

The CUG was also used as a centralised communication mechanism, where most stakeholder opinions are freely discussed, keeping others informed on developments.

“[We collected the feedback] verbally. ...The feedback is given through the project people, and is relayed back, verbatim, to the [PSG], all through the CUG. This, through my time, started off with weekly meetings, and then went fortnightly. They provided the clinical input and clinical governance into the requirements of this, and other, IT projects that were being operationalised at the front line.” *[ex-COO, Project Sponsor]*

7.6.5. Anticipated Conflict Outcome

An array of governance arrangements were put in place, making the most of a cooperative organisational culture, and strengthening stakeholder communication, feedback, representation and consultation, all supporting the overall objective of minimising conflict and maximising an inclusive, cooperative approach to making the EMR work. Every single interviewee declared the approach to project governance was very successful, inevitably citing the CUG as the linchpin to its success.

This anticipated conflict ‘incident’ was examined in considerable detail, as opposed to the other incidents identified in this case study, partly because of its significance in laying the groundwork for managing future conflict incidents, and partly because it involved the creation of a wide range of project governance arrangements.

7.7. Resistance to the EMR Project (#2, 3, 4)

All three conflict incidents (#2, 3, 4) involved resistance to some aspect(s) of one of the EMR projects. They are grouped together because they share many of the characteristics of both the environmental elements involved and the effects of project governance. This section begins with a brief description of each of the three conflict incidents. These descriptions are followed by an examination of the common factors involved across all three incidents.

7.7.1. Receipt and timeliness of lab results (#2)

Hutt Hospital laboratory ('lab') test results used to arrive on paper for doctors to check, who would either take further action or sign them off and file them in the paper-based patient record. One of the EMR projects required the relevant data to be fed into the new computer system. But the receipt of physical lab results served as a trigger for the doctor in charge of that patient to check the results and determine what should happen next. Furthermore, a sticky label attached to the lab results ensured the right doctor received them. Clinicians were concerned about the implications of using electronic data instead:

- How would doctors be alerted that the lab results were now available?
- How could they be confident the right doctor would be alerted about the lab results?

The IT project team determined the solution would require considerable change to current practices across both clinicians and the lab administration staff. Both groups were unhappy, and declared they would resist this part of the implementation unless they could be satisfied the new lab result system would work and that all users would be able to adapt to the new processes.

“That was a lot of change management right throughout the hospital – because it was in-patients and outpatients, it was nurses and doctors, and it was admin staff, who all had to change what they were doing. Then, the laboratory system had to be changed, to ensure that it could manage those event numbers, and send it through into the electronic record, which was reading all that. So, the doctors needed to know, and the nurses who looked after the clinics, needed to have the right clinic codes in their personal parameters, to make sure that they saw the results coming out.” *[Senior Project Manager]*

The PIT, along with the Senior Project Manager worked hard to accommodate user concerns by visiting small groups of doctors, nurses and lab administrators, and discussing the issues:

“We spent quite a bit of time around the hospital educating staff about having a specific event number coming through with the result.” *[Senior Project Manager]*

The PIT also came up with a process redesign solution that incorporated a technical interface that was secure, able to be used anywhere in the hospital, and easy to use – all by creating the concept of a doctor's homepage.

Once the PIT had gathered their information, and presented a range of options for discussion within the CUG, the decision was eventually reached over both content and process. This was very time-consuming, as was the implementation, given the high priority attached to the need for accuracy and timeliness of the lab results presented to the doctors. “We had to go through all the scenarios, and listen to what they said...” *[Senior Project Manager]*

7.7.2. Electronic signoff of patient information (#3)

One of the features of the EMR was the electronic signoff of diagnostic results and information by clinicians, in place of the traditional paper signoff. There was resistance over the introduction of electronic signoff, particularly from senior clinicians. However, this resistance had been anticipated by the PSG at the project's inception, and project governance arrangements, along with pro-active discussions with clinicians (see Section 5.6), meant this stage was not a surprise. Even the senior clinicians reluctantly accepted these changes must eventually happen, but they were anxious about the implications regarding their clinical processes. This was well understood by the PSG, as the senior clinicians understood the current paper-based system well, and used it to maximum effect – making the uncertainty of the electronic version a serious concern.

“I think it was identified that there would always be resistance. The concept of the electronic medical record was pretty well accepted by the majority. ...It was just a matter of weaning people off one process, and gaining their acceptance of another over time.” *[ex-COO, Project Sponsor]*

The PIT's patient, accommodating approach to the senior clinicians significantly reduced the risk of more serious conflict.

“[Even the most resistant senior clinicians] were not putting in major roadblocks. ...It took a long time, and it took a lot of examples of some departments moving faster than others, and why was that? Slowly, acceptance grew. And I think it also grew with more and more practices, external to this organisation, utilising fully electronic systems – private hospitals, particularly.” *[ex-COO, Project Sponsor]*

The CUG proved to be the key mechanism for conflict resolution.

“[Resolution involved] communication, through the Clinical User Group process, through more dialogue, including examples of where it was working well, more discussion around the reasons why people were reluctant; keep asking the ‘why’ questions.” *[ex-COO, Project Sponsor]*

Although pockets of resistance remained, the PIT was then able to focus its attention on those who were still not comfortable with the use of IT in clinical processes.

7.7.3. A clinical unit resists (#4)

One particular clinical unit rejected the entire concept of introducing an EMR system to their department. They felt that there were risks to their ability to function effectively, and that it would require valuable time for training – yet there were no perceivable benefits to them. However, the PSG had already determined the absolute policy of 100% conversion to the EMR.

The PIT, in spite of their accommodating efforts, found they were making limited progress, and finally escalated the issue to the PSG.

“I suppose we reflected it as being obstinacy, or just a department being difficult, because they wanted to be difficult. It did take some intervention, with [the Senior Project Manager] coming in wearing a health professional’s hat and interacting with the staff in a non-threatening way, getting underneath the issues more. Then it started to become apparent what the problem really was. ... Their resistance wasn’t necessarily about the concept, even though that was what they were saying; it was really an embarrassment that they had very low IT skills and knowledge.” *[ex-COO, Project Sponsor]*

Consequently, led by the ex-nurse Senior Project Manager, the PIT was able to shift the emphasis and spend some time helping the unit improve their skills and familiarity with IT.

“I was prepared to accept a slower introduction, or slower utilisation rate, but not being part of [the EMR] was not an option. We did have those discussions, and some of those were difficult, but we got there. The major impact was really the people, at a much softer level, working closely with that department, and those people building their confidence and really getting underneath the issue.” *[ex-COO, Project Sponsor]*

Even so, the senior members of the unit remained reluctant, and the Project Sponsor had to exercise his power as the Chief Operating Officer (COO) to influence their thinking.

“I did apply a little bit of management leverage, if you will. I had to talk to several key leaders in that department about my concerns. This wasn’t something that was going to stop [by itself].” *[ex-COO, Project Sponsor]*

At the time of interviewing, the unit was still not completely comfortable with EMR developments in their area, but the efforts made to gain their ‘buy-in’ resulted in sufficient acceptance and cooperation to at least ensure the project could move forward.

“I think that department still struggles – basically older people, with little need to have a high level of IT knowledge, and we are trying to drive them to a greater utilisation of something from which they could see the benefits, for them and for their unit. They have come a long way from there.” *[ex-COO, Project Sponsor]*

7.7.4. Factors common to all resistance-based incidents (#2, 3, 4)

In all three incidents, overall conflict levels had been reduced or eliminated (see Table 7.3). For each resistance incident, each of the three conflict dimensions either improved (in the majority) or remained unclear. This is in spite of the recognised collective power that clinicians possessed, where both the threat and the act of resistance, influenced other EMR stakeholder behaviour considerably (including CI #1, as noted in the previous section). This effectively obliged all stakeholders to take clinician views into account.

In response to both the threats and acts of resistance, the IT project teams continued to use extensive consultation (typically through the CUG) and collaboration (through the PITs) to both meet clinician requirements and to influence how they saw each project. Only once was escalation required (#4), but the ‘softer’ approach still played a major, ongoing role. In this incident, the CUG was not an effective mechanism, because the issue stemmed from an individual clinical unit, which had its own culture based on age and inexperience with IT. Historically, the successful approach towards controlling resistance can be traced to the initial governance arrangements put in place prior to these incidents (#1), including authority (PSG, CUG), policy (no exceptions to EMR implementation; escalation), and mechanisms (CUG, feedback, communication).

Several interviewees also praised the work of the Senior Project Manager. Her patient determination to keep the projects moving forward, while working carefully through any user concerns, was identified as another significant success factor. She encouraged the other project managers to do the same. Critically, her personal background gave her a significant additional advantage – she was a nurse for many years prior to developing her IT career. This provided her with the sort of insights into the issues affecting clinicians that promoted a positive working relationship.

7.8. Project Prioritisation (#5, 6)

Both conflict incidents (#5, 6) involved disputes over the prioritisation of different EMR projects. This section provides a brief description of each conflict incident.

7.8.1. Clinician disagreement over prioritisation of alerts system (#5)

Alerts referred to overriding critical warning systems – something within the medical record warning the clinician that there was an urgent note attached about the patient that the clinician must read (e.g. a drug allergy). This was done via the paper-based medical record.

“The alerts are particularly important in the emergency department. ...If someone rolls up, it might say that they have a history of violence, if you like, towards medical staff. It will tell you if this patient is potentially within a child abuse scenario. It will tell you if the patient has a significant drug allergy. It will go right down to whether that family live in a home that has a dangerous dog, which has been known to harm visitors, such as community nurses, going in to give a vaccination. They sound quite disparate, but they represent significant bits of information.” *[Chair of the CUG]*

The EMR ‘alerts’ system would involve setting up flags on individual patient records that drew the attention of any clinician treating that patient. The original design was that alerts would be represented as flashing lights on the computer screen as the patient's record was being displayed. The technology was fairly straightforward, but the challenge centred on the processes used to collect and maintain the currency of the alert information. The conflict was based within the clinician community at the DHB, as they could not agree what priority an alerts system project should have, given the inherent difficulties with design and maintenance.

Some clinicians saw the system as essential.

“There were some concerns from a number of clinicians that this wasn’t being given a high enough priority. ...We saw it as a ‘must-have’ – a bit like requiring all cyclists to have safety helmets, or everyone should wear seatbelts. I personally think that alerts should be a fundamental part of an EMR.” *[Chair of the CUG]*

Even so, while they wanted the system up and running, they could not agree on specific design issues which involved compromises some were not happy with. Still other clinicians felt that, given the project was dragging due to disagreements, there were better ways to use the resources by focussing on other projects.

Extensive, consultative approaches at resolution saw some of the issues resolved. This included attempts at reaching consensus through considerable debate within the CUG. Those clinicians seeking an agreement collaborated with the IT Department to see what technical options were available that might meet the objectors’ requirements. “There is constantly a push from clinicians to get it up and running.” *[Chair of the CUG]*

The PSG were aware that clinician concerns had some validity, as past attempts at setting up alerts systems (both nationwide and in other hospitals) were generally unsuccessful.

“There is a national computer system, [where] any hospital in the country can log in and see where anyone in the hospital has had an admission. ...Attached to that was an alerts system. That alerts system is basically regarded as useless. Why is that? Basically, because the information on it is unreliable. So, the whole alerts problem has evolved around the question, how do you make an alerts system which people trust, and are willing to participate in it?” *[Chair of the CUG]*

At one stage, the conflict reached the point where escalation was required. As the clinicians saw this as an internal, clinical matter, it was escalated to the DHB Clinical Board, as opposed to the PSG.

“So, that was taken to the Clinical Board, which is a completely different group of people, who are basically charged with hospital governance issues, because, we saw it as almost more than an IT-related, EMR project issue.” *[Chair of the CUG]*

Several major decisions were made by the Clinical Board.

“The final conclusion that we have come to, is that it must be easy. This has been iterated, and discussed, quite a lot at Clinical User Groups, with senior medical staff, Head of Department meetings, etc. So, the conclusion was that it

had to be reasonably easy to put the data in, but the data must be regularly reviewed.” *[Chair of the CUG]*

At the time of interviewing, it was still an ongoing issue. Clearly, many were still unhappy with either the system’s design flaws, or its lack of progress.

“So, that is an issue that we have never really [resolved], from my own point of view, and you might say that perhaps I was just not getting my own way, but it is not only me...” *[Chair of the CUG]*

7.8.2. Senior clinician wants higher priority for ‘pet’ project (#6)

One senior clinician insisted that a particular project be given greater priority, in terms of resources, than it was initially allocated by the ISSC. As an ex-head of department, he was used to wielding power, and knew how the system worked. He made it clear he did not agree with the priority funding the project received. The senior clinician lobbied hard for the CIO to increase funding. Although his tactics were not always subtle, they did have some effect.

“So, he shouted, and stamped, and he certainly had some response out of our Chief Information Officer, to the extent that he might have got a little more funding than he might have otherwise got.” *[Chair of the CUG]*

It is not clear why the CIO increased the funding, albeit by a modest amount, but it may be that the CIO felt prolonging the conflict further would be more trouble than it is worth.

“... it does exemplify the fact that people can move and shake, even in an organisation like this, if they really want to.” *[Chair of the CUG]*

The formal process was seen as fair, insofar as no other complaints were raised about it in the interviews, and the ISSC appeared to be respected for their impartiality on IT-related matters. However, the clinician did not accept the outcome of the formal process, and changed the result as a direct result of exercising power. In this case, the senior clinician's personal qualities (as evidenced by his behaviour – highly unusual in this environment) outweigh the impact of the clinician culture he belongs to.

7.9. Issues with the Vendor Orion (#9, 10)

Both conflict incidents (#9, 10) involved the DHB’s relationship with Orion, the software vendor for the EMR project. This section provides a brief description of each conflict incident.

7.9.1. Orion providing fewer development resources over time (#9)

Orion is the software vendor for the DHB's EMR project. Several interviewees commented that Orion's product was of high quality and was well-suited to the DHB's objectives. Once selected from a vendor shortlist, Orion was engaged to help implement the package. This meant Orion staff had to work closely with the IT Department staff. The relationship started off well, with several early EMR projects successfully implemented. However, gradually Orion became increasingly unresponsive – in terms of both providing technical resources for development work and responding to technical problems raised by the PITs.

“Very often, [progress] is reliant on our vendor being able to release resources to enable us to do our work. We have had, in live applications, problems and issues that have arisen within the application, that have had to wait longer than we wanted to have resolution. When it comes to implementing the project, we go through the stage of developing the functional specifications with them, and with our stakeholders here. So, we have a very clear understanding that when we get to the end of those functional specifications, and we sign off – that is the functionality we expect to be delivered.” *[Senior Project Manager]*

The option to see this apparent neglect as a contractual issue, including penalties, was always open to the DHB. On one occasion, frustration levels were such that the DHB felt compelled to exercise those penalty clauses.

“[Orion] are constantly failing to meet deadlines, and they are, consequently, penalised legally – well, financially – because of the contractual elements that are related. That is, probably, one of our biggest frustrations, in terms of timeliness.” *[Chair of the CUG]*

However, this was not the path they wished to take – preferring to find some way of bringing Orion back to the level of activity and service they had started with.

“For myself, as the project manager, it's time, time, time. It's [Orion] being able to give us the resources that we need at the time to meet our deadlines. That is, for me, where the major conflict is.” *[Senior Project Manager]*

As a direct result of the delays, the working relationship between Orion and the DHB's EMR stakeholders went from one of strength to one of tension and frustration. This was compounded when it was learned that Orion was using the DHB as a 'reference' to facilitate growth.

“We also felt that they were probably using their experience here to gain further contracts. So, we felt a bit miffed, I think, that they were seemingly not as responsive to us, as we thought, and that as a key client, they were leveraging this relationship to gain further contracts.” *[ex-COO, Project Sponsor]*

“The availability of [Orion's] resources for us has been a problem over the years. I think a lot of it has got to do with the fact that they are a very successful company. They have expanded globally - yet they were just a NZ company five or six years ago. ...what's a \$2 million contract over 'X' number of years, compared to a \$50 million contract over 12 to 18 months overseas? That is the market forces [at work].” *[Senior Project Manager]*

Orion's Account Manager, overseeing the DHB client relationship, admitted there had been problems, but put them down to “structural changes”.

“There was, for a period of time, certain aspects of the project that had already gone live. We went through some structural changes, and got behind in terms of our support. So, for whatever reasons, there were a number of support issues that were not being resolved as quickly as they should have been. This created a backlog of support issues...” *[Orion Account Manager]*

The CIO, who dealt directly with Orion's Account Manager as the DHB's representative, employed a combination of persuasion and obligation (ethically, because they should meet their contractual obligations in good faith, and morally, because they are using the DHB as a reference to get new contracts).

“[The CIO], in particular, spent a lot of time putting our view, and putting our concerns to Orion to improve that responsiveness.” *[ex-COO, Project Sponsor]*

While the DHB had legal power to enforce penalties, this did not prevent Orion from putting their priorities elsewhere – presumably because it was more advantageous for them to do so. The DHB had little power to affect Orion's priorities beyond legal, ethical and moral arguments.

Negotiations between the CIO and the Orion Account Manager took place on a number of occasions to address the deterioration in the working relationship between the DHB and Orion staff. The PSG and the CUG were not directly involved, but were kept informed. The DHB culture of openness and cooperation was reflected by the CIO's approach.

“At the end of the day, I can't think of any specific examples where there has been a specifically hidden agenda, or something like that. I think I understand people's motivations and behaviours. ...on the whole, for most of the interactions that I have seen, I think that [the DHB's motivations are genuine and transparent].” *[Orion Account Manager]*

“I think that was pretty well managed by [the CIO].” *[ex-COO, Project Sponsor]*

The communication mechanisms established between EMR project staff and Orion staff were not seen as effective by the DHB.

“But, again, it was working with big software vendors, and understanding what requirements were needed, and communicating with them, and them communicating back, and not understanding some of the specific details that were going on.” *[Chair of the CUG]*

Ultimately, the issues were still not resolved, and the CIO felt it necessary to formally escalate the issue.

“There are channels that myself, and [the CIO], can use through our account manager, and then further up to their resource allocation people, and to the Australasian manager, and those sorts of things. So, we escalate our concerns up there, when we feel we are getting a raw deal.” *[Senior Project Manager]*

“The escalation process – well, there was a combination of issues being raised in account relationship meetings, and formal escalation through, or semiformal escalation through an email, for example, identified the issues, and what needed to happen. So we had meetings to resolve those. *[Orion Account Manager]*

Orion’s attentiveness did improve after escalation, but not as much as the DHB wanted. At the time of interviewing, it was still an ongoing issue. However, Orion’s Account Manager appeared satisfied with the outcome and that they were ‘moving forward’.

“...we worked through [the backlog of issues] and found a way forward. We implemented that, to move forward, and caught up on the backlog, and moved forward into a more normal project relationship.” *[Orion Account Manager]*

7.9.2. Orion disagrees with DHB over technical problem (#10)

This conflict incident was a specific example of Orion’s general increase in relationship conflict documented above (#9). Specifically, this was the incident that finally triggered the escalation process described above.

One of the EMR subsystems was performing poorly, and end-users were getting increasingly unhappy. It was raised as a support issue with Orion, who did not initially respond.

“...it needed resolution, and there were various responses – initially, it stuck around for a while, and didn’t get resolved.” *[Orion Account Manager]*

Finally, Orion technical support was made available, but only through the formal process, which added to the frustration, as the advice was remotely provided and didn’t appear to work.

“Initially, there were a number of suggestions that [the IT project team] can raise through normal support processes, and we [Orion] can give suggestions back as to the various things that can be done. There were various attempts to do that.

...It eventually got to a point where the IT department felt that they were in danger of losing customers (i.e. their users). So, that was a significant issue.”
[Orion Account Manager]

While Orion’s delayed response was symptomatic of the broader issue (#9), the conflict over their apparent inability to resolve the technical issue was a different worrying sign, raising the question as to the quality of the support staff assigned to the DHB client. However, the Account Manager insisted there was a good reason why the attempted repairs did not work.

“The fact that both the test environment and the development environment were different from the production environment is an issue. It means that, unless you can replicate, faithfully, the issues and their resolutions in the other environments, it is a stab in the dark as to whether it actually addresses it in the production environment. ... if you are in a detailed, technical view, then you look at the normal day-to-day things that you do to resolve an issue. But, if you have got a base problem, then those things won’t solve the problem.” *[Orion Account Manager]*

Orion’s account manager suggested the problem was not straightforward, but accepted (post-escalation) that they had to work more closely with the DHB’s IT staff.

“The end result was that users were unhappy with the system. ...[And so] things became escalated. We put a hit team in place, with a wide range of expertise. We took a few steps back, ensuring that problems could be replicated in their test environment. Prior to that, we put a number of fixes in place that addressed issues in the test system that turned out not to work in the production system.”
[Orion Account Manager]

The escalation process worked in the following way:

“From our perspective, the regional manager was involved, I was involved as the account manager, one of our operations managers was involved – for a particular line of business that it was acting on. To ensure that those meetings were held, the DHB’s CIO, the Applications Support Manager, and the Senior Project Manager [would all attend].” *[Orion Account Manager]*

In hindsight, the Orion Account Manager thought the escalation process was useful as it made it clear to what degree the business-as-usual (BAU) processes for technical support were no longer working, and that a more focussed approach was required to resolve the issue.

“So, I guess the escalation involves stepping outside of that, and recognising what the base problems are [in this case, the differing software environments], and working together to resolve those issues, and getting back to business-as-usual types of issue resolution. ...I think it is often useful to have the right kind

of framework to enable that to happen. I guess that is a consistent theme across most issues that arise. Then most issue resolution comes down to the relationship, and being able to work through things together, and sometimes step outside, if things aren't getting solved in the usual way, whether they are part of the project or part of support." *[Orion Account Manager]*

Although the problem was eventually fixed, the relationship conflict between the DHB and Orion had been elevated by the need to escalate before the issue was addressed.

7.10. Other Incidents (#7, 8)

Two conflict incidents (#7, 8) that do not share many characteristics with other conflict incidents are examined here.

7.10.1. Access to surgical performance data (#7)

There is a long-held tradition of peer review among surgeons, examining reports about operations and discussing them. Surgeons collect data on their own surgery for this purpose. One of the EMR projects involved the development and implementation of an electronic surgical audit system, providing an automated way to collect and review surgical data for regular peer review sessions.

"The surgical service were prime drivers for an electronic audit system, so that they could put their operations, and complications, and things like that, into an audit system, that they could pull out for their regular meetings where they looked at and evaluated their practices, and looked at, maybe, the infection rates, deep vein thrombosis rates, or whatever they do following their surgery – it's what doctors do. ... The development of that system wasn't one that I was specifically involved in, but it was one that the general surgeons – led by [the Chair of the CUG] – were very keen to get up and pilot within the hospital." *[Senior Project Manager]*

The surgeons, who proposed the new system, also made it clear that this information was for their own internal use, and lobbied to ensure that the system was made secure.

"But a lot of advertising, discussion, and then decision-making, and promulgating really, went on to say this is information that is collected by us, in our service, for us, and we have the sole right to that information. So, that system is a very secure system. The reports are very secure – they go only to the surgeons." *[Senior Project Manager]*

However, DHB administrative departments would have found the information very useful as well, but they were barred from seeing it.

“Now, from my point of view, with my background, I can see that there would be a lot of information in there that could be used by both the Quality and the Risk Departments of the hospital – but, as yet, that is not available to them.”
[Senior Project Manager]

The surgeons’ main concern was that the data could be used by management as an assessment of personal performance. They argued that surgeons would not be as free and frank during surgical audits if the data was available to management. However, such was the power of clinicians within the DHB, and particularly the surgeons among the clinicians, no one (including management) challenged this argument.

“Just observing in the hospital, it is accepted that that is [the surgeons'] information.” *[Senior Project Manager]*

7.10.2. Junior clinicians going it alone with discharge summaries (#8)

A discharge summary is a document generated once a patient has been discharged from hospital. Such medical documents used to be dictated by senior clinicians, and then typed through a typing pool. The EMR project changed this, allowing the details to be entered into the information system, and a discharge summary generated. This enabled junior clinicians to generate discharge summaries without involving a senior clinician. Senior clinicians objected to this, pointing out discharge summaries were increasingly used by the patients’ GPs to guide them on patient treatment.

“[It] has not been totally resolved. Some people believe that senior medical doctors should check every discharge summary, before it actually gets sent out. Although, the way that wards and teams work now, that virtually never happens.” *[Chair of the CUG]*

This was an unexpected consequence, as the new system was already in place, and the objecting senior clinicians, concerned about patient safety, were seeking a compromise. Senior clinicians used to be in charge of dictating discharge letters, but IT had enabled this tradition to be changed through new processes.

“Essentially, the discharge summary was designed as a sign-out bit of paper for a patient to have, as it had their current medications on it, and their instructions over the next week or two. It wasn’t designed to be a complex review of their inpatient stay. ...[But] because it is now readily available to the GPs, it has become a very ready source of material for the GP. ...but it was never designed to be that, in the early days. Traditionally, the more senior doctors always used to write a discharge letter, not a discharge summary, for all discharges. That actually slipped by the wayside a number of years ago. So, you now have house surgeons writing documents, which were previously illegible, because of the fact

that they were written in triplicate, and the patient normally got the third copy, whereas the first copy went in the hospital notes. You now have them writing more legibly, but not necessarily as competently, as their seniors might.” *[Chair of the CUG]*

The cultural gap between senior and junior clinicians has already been discussed (Section 5.6). Essentially, senior clinicians were typically long-term employees of the DHB, whereas junior clinicians were often at the DHB on short-term contracts for the experience, and were likely to move on afterwards. Further, most junior clinicians were regarded as IT literate, whereas the senior clinicians were often uncomfortable and unfamiliar with IT – particularly in the workplace.

“We still have senior medical staff that probably don’t ever really log in to e-mail, as it is at the moment – although, that has changed significantly over the last five years, where we have gone from about a 10%, to an 80%, [usage of computers]. ...It’s really an age, and a generational fact. I think a lot of our older doctors have never really been brought up with computers.” *[Chair of the CUG]*

The question was whether or not junior staff should be formulating and sending complex discharge summaries without them being checked. The CUG had played a major role in the search for a consensus decision.

“So, that particular issue is quite a complex issue, which is debated, not infrequently, at many different forums throughout the hospital.” *[Chair of the CUG]*

Senior clinicians were certainly aware that the process would benefit the junior clinicians as far as clinical experience was concerned.

“The formulation of [the discharge summary] is not only a technical exercise for a young doctor – there is also quite an educational, or learning, component, where they are formulating their own thoughts in a new way, which, hopefully, is going to benefit them, and be with them, for all their years in training, to think about what the problems were, what the issues were, and get it down on paper.” *[Chair of the CUG]*

But, being ultimately responsible as the senior clinical advisors, they asked how would mistakes get picked up, and what risks were there for the patients?

There were also concerns that management favoured junior clinicians writing the discharge summaries, possibly to make the process more efficient and reduce the need for a typing pool.

“As [the discharge summaries] get more complex, we move to the scenario where these doctors come on to do the clinics, and there is a pressure from

management, potentially, to be pushing them to type [using computers] their own letters.” *[Chair of the CUG]*

As a power struggle between two clinical factions (junior vs. senior), the outcome had been difficult to predict. Senior clinicians had considerably more power and authority than junior clinicians, partly due to age and seniority, and partly due to longevity as DHB employees. Even so, with the onset of EMR projects, it was the junior clinicians who felt most comfortable with the new IT-based systems.

In this case, the status quo in terms of the discharge summary and its purpose, appear to have changed without formal appraisal. This apparent (albeit unintended) *fait accompli* had put the senior clinicians in a more difficult position, as they were arguing for change post-implementation. Furthermore, most of the junior clinicians liked the new IT-based system.

7.11. Regular conflict over EMR project delays (#11)

Many of the conflict incidents discussed previously led to delays in the various project timeframes. But resources were limited and delays could be costly (often trading off time vs. money). Furthermore, large projects such as the EMR must be reported to the Board. This put a great deal of pressure on the project managers involved in the PITs – on the one hand, they were expected to meet their project timeframes, but on the other hand, there were many issues beyond their control.

“We have had issues around the project – generally in the contention for resources, either at the software developer’s end, or at our own internal programming end, and sometimes with our operations staff, where they are unable to meet the [original project] deadlines.” *[Senior Project Manager]*

Particularly challenging was the time required to resolve clinical process issues. The clinicians, placing quality of patient management information as a paramount concern, preferred less urgency and more caution – including wide consultation and debate. However, the policy of collaboration by the IT group, working with the clinicians and administrators, meant that, through the CUG, IT advisers could work with them in support of their recommendation, so that the necessary resources (typically time) could be identified and proposed to the ISSC for approval.

“We listened to [the clinicians], and we delayed. But also, we were empowered by this group to say ‘we delay’, because this group said it was better to delay delivery than to deliver a poor quality result that would have a worse effect on [both] them and the organisation as a whole.” *[CIO]*

Consequently, once the IT project managers were aware delays were likely (they received regular feedback), they went straight to the CUG for their views on which way to go:

“It’s over to the Clinical User Group to say, what is the bottom line? What is the functionality we must have, to go to pilot with? What can we live without, and wait for later development?” *[Senior Project Manager]*

In summary, the process undertaken to manage project delays involved the following steps:

- a) regular project feedback alerted the PIT project manager that delays were likely;
- b) the PIT project manager reported this to the CUG – who debated the issues and eventually agreed upon the best approach, incorporating suggestions from the IT advisers;
- c) these recommendations were forwarded to the PSG, who normally approved them; and
- d) the PSG finally promoted the recommendations to the ISSC, who made the final decision – usually favourable for extending the deadlines or finding more resources.

“So, when we are looking for more extra money, going back to the ISSC, it is generally for the ongoing costs of the resources.... Last year, we ran over, with some work that we were doing, and it is the same with the project that I am doing at the moment ... if more dollars were needed, it’s generally for resources rather than for software, and rather than for external spending. So, how do we deal with that? Because we are continually evaluating where we are, we know quite early on, if we are going to be running over, or if we can’t meet the functionality for the stakeholders ... they are the two things we have to deal with. The Clinical User Group is a group that we go to, that I would go to, very early on, and say that because of either time, or skills, or availability of [Orion’s] time, we haven’t got the functionality that we wanted to go ahead with.” *[Senior Project Manager]*

As the entire resolution process typically incorporated a series of opportunities to widely consult, in an open and transparent way, persuasion was the dominant influence approach. Clinicians drew on their collective professional power, while IT drew on their expertise as a source of power.

“Part of that may be because of the way that we have approached working with that group. And I say that we work with them – we don’t give them information, and talk down to them. It’s a joint effort between me, as project manager, a project leader, and the members of the Clinical User Group. [The Chair of the CUG] is supportive of that process – he will take a lead in that area. Before he was the chairperson of the Clinical User Group, it was the Medical Director, and he would take a lead role in discussions around where we had come up against something that we were unable to solve technically within [budget] and time, and we needed to negotiate something.” *[Senior Project Manager]*

In spite of a PIT’s frustrations over delays, the policy of having the clinicians work through the issues with IT had been maintained throughout –a direct consequence of the personal leadership of, first the CIO, and then the Senior Project Manager, who both set the high standards.

“When I took over the role of project manager, and even when I was leading some projects earlier than that, it would be [the CIO] who sets that platform. As long as we can identify, exactly, what is the reason, and we’ve taken as many steps as we possibly can to mitigate it, or to alleviate a problem that will cause the time to blow out. So long as we have done those steps, and we have been diligent in doing that, then it is acceptable to him.” *[Senior Project Manager]*

In terms of decision-making, the ISSC, PSG, and CUG all had important roles in the process of delay management.

“I guess one of the things that we rely on [both] the CUG and the PSG [for], is how to deal with delays in the project. ... Sometimes we have had to go to them and say that we are not going to meet this timeframe, what would you like us to do?” *[CIO]*

At the time of interviewing,, in spite of considerable, and largely successful (according to *all* the interviewees) progress on the gradual construction of the EMR system, there were still critical issues requiring further debate, with further delays likely. These were all related to the fundamental question of how best to design, use and manage electronic patient records.

For example, debate had continued over the way in which paper medical documents should be represented in the corresponding electronic medical records. Scanning the documents would be easier and faster, but entering the relevant data through a data entry screen would provide more usable data.

"That is something in the organisation that we have often debated – to the point that we have not actually managed, yet, to get one document scanned into our electronic medical record, ...One of the reasons that we have resisted it, is that we have tried to ensure that any documentation we do have on the EMR, we

have it as rich information, so that the data can be queried, or structured in such a way that we understand what the data is, and where it is. Whereas, with a scanned document, you would fail to have that.” *[Chair of the CUG]*

7.12. Conflict Resolution

The following examines the assessment of the dimensions of conflict, the corresponding resolution outcomes, and the primary targets across all conflict incidents. Recall that the level of conflict involved in a given conflict incident can be accessed through an examination of each of the three key dimensions of conflict: disagreement, negative emotions, and perceived interference with objectives.

Conflict resolution outcomes are determined by comparing the level of pre-resolution conflict with the level of post-resolution conflict. First, each dimension of conflict is assessed for each conflict incident, both before and after resolution. Each assessment leads to one of the following allocations: **YES** (there is clear conflict with respect to this dimension); **Some** (there is evidence of conflict with respect to this dimension, but the level is not clear); **NO** (there is no evidence of conflict with respect to this dimension); and **Uncert** (there is insufficient information to make an assessment).

There are five possible outcomes for each dimension of conflict comparison: **E** (conflict has been eliminated); **R** (the level of conflict has been reduced); **U** (the level of conflict remains unchanged); **T** (conflict has been terminated – that is, no further resolution attempted); **S** (the level of conflict has escalated); and **?** (uncertain).

For each conflict incident, a **positive outcome** can be defined as one where each dimensional level of conflict is either reduced (R) or eliminated (E). Conversely, a **negative outcome** can be defined as one where each dimensional level of conflict is one of: unchanged (U), escalated (S) or terminated (T). A **partially positive outcome** can be defined as one where two dimensional outcomes are positive and one is negative. A **partially negative outcome** can be defined as one where two dimensional outcomes are negative and one is positive.

The **primary target** of a conflict incident can be any combination of three types: task content (conflict over the nature of the task itself), task process (conflict over

how the task should be carried out), and relationship (conflict due to an awareness of interpersonal incompatibilities).

For this case study, the assessments of levels of conflict, both before and after resolution, along with the corresponding resolution outcomes, are briefly described in the summary table found in Appendix G (Table G-1). These results are condensed in Table 7.3.

Table 7.3: A summary of the changes in levels of conflict after resolution for each conflict incident

#	Incident	Target	Conflict (Pre-Resolution)			Conflict (Post-Resolution)			Resolution Outcome		
			Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference
1	Serious resistance from both clinicians and administrators to EMR (anticipated)	Task (content / process) & Relationship	YES	Some	YES	Some	NO	Some	R	E	R
2	Resistance over new clinical lab result processes	Task (Content)	Some	Some	YES	Some	NO	Some	U	E	R
3	resistance to electronic signoff of patient information	Task (Content)	Some	Some	Some	NO	NO	Some	E	E	U
4	A clinical unit resisted EMR	Task (Content)	YES	Some	YES	Some	Some	Some	R	U	R
5	Clinician disagreement over prioritisation of alerts system	Task (Content)	YES	Some	YES	Some	Some	Some	R	U	R
6	senior clinician wants higher priority for 'pet' project	Task (Process)	YES	YES	YES	NO	NO	NO	E	E	E
7	Disagreement over access to surgeon performance data	Task (Content)	Some	Uncert	YES	NO	Uncert	YES	E	U	C
8	junior clinicians going it alone with discharge summaries	Task (Process)	YES	Uncert	YES	Some	Uncert	Some	R	U	R
9	Orion providing fewer development resources over time	Task (Process) [Relationship]	Some	YES	YES	Some	Some	Some	U	R	R
10	Orion disagree with DHB over major technical problem	Task (Process) [Relationship]	Some	YES	YES	NO	Some	Some	E	R	R
11	EMR projects suffer delays	Task (Process)	YES	Some	YES	Some	NO	Some	R	E	R

Resolution Outcome: T = Terminated; E = Eliminated; R = Reduced; U = Conflict unchanged; S = Escalated; ? = Uncertain (in terms of direction & degree of change)

The frequencies of resolution outcome types are related to primary target types in Table 7.4. The outcomes of conflict resolution were either positive or partially positive on 10/11 occasions, and even the other outcome was only partially negative. A success rate of 91% is high and suggests conflict resolution is a strong competency of IT project governance in the DHB. The primary targets were evenly distributed between task (content) and task (process), excluding the key anticipated conflict incident (#1), which focused on all three primary target types. Conflicts over task processes were resolved particularly well, perhaps indicating how generally satisfied stakeholders were with the way tasks were carried out.

Table 7.4: *The frequency of resolution outcomes across all 11 conflict incidents, categorised by primary target*

Resolution Outcome	Primary Target	1. Relationship	2. Task (content)	3. Task (process)	4. Task (content & process)	5. Task (content & process) & relationship	TOTAL
Positive				3		1	4
Partially positive			4	2			6
Partially negative			1				1
Negative							0
	TOTAL	0	5	5	0	1	

The inter-stakeholder **relationship** was the primary target of one incident (#1), where the conflict was anticipated. The only relationship conflict to ensue was between the DHB and Orion. It is not possible to know to what degree relationship conflict would have been a problem if it had not been anticipated, and acted upon, from the beginning. Even so, relationship conflict had not been a problem within the DHB.

Drawing from the preliminary findings, the following three sections examine the contributions of each of the constructs identified in the research framework. Each section focuses on a different research question.

7.13. Analysis Addressing Research Question 1

The first research question focused on contextual, or environmental, effects.

RQ1: In what way, and to what extent, do environmental elements affect the conflict resolution process and its outcomes?

Each of the environmental elements identified in the research framework (culture, power, history, personal qualities) are now examined across the conflict incidents identified in this case. A summary appears at the end of this analysis. These effects are then considered holistically, testing the framework for completeness, and identifying interactive and dominant effects.

Culture was an important factor in every single conflict incident. Several significant cultural characteristics appeared in many incidents:

- The DHB had an enterprise-wide culture based on internal co-operation, transparency and communication between different parts of the organisation. [3 incidents]
- Clinicians, being responsible for patient safety, have a dominant culture within the DHB – they generally get their way where clinical issues are concerned. [3]
- IT Department developed a culture of: consultation and collaboration with stakeholders, and accommodation of clinical user requirements. [4]
- Semi-independent clinical units were typically small and had developed their own subcultures of the DHB clinician culture. This also applies to other subclasses of the clinician group, including surgeons, who were considered the most dominant among clinicians. [4]
- Senior clinician culture based on experience, long service with the DHB, but mostly IT illiterate. This includes culture clashes between senior and junior clinicians, who are more comfortable with IT. [3]

The most significant stakeholders in most of the conflict incidents were the IT Department and the clinicians. Other conflicts involved either clinical administration or subsets of the clinician collective – of which the most significant was the culture

clashes between senior and junior clinicians. Table 7.5 describes the cultures of these four important stakeholder groups, by applying the four dimensional model based on assessing their respective: beliefs, values, attitudes and behaviours.

When the CIO was appointed, the clinicians' belief that patient safety overrode all other concerns with respect to clinical processes was accepted by the DHB. By developing a culture of consultation, collaboration, and communication within the IT Department, both the CIO and the Senior Project Manager created a culture that meshed, as opposed to clashed, with the clinician culture. Clinicians wanted ultimate control, and the IT Department was happy to provide advice and support without threatening clinician dominance. Further, the DHB had long had a culture of consensus decision-making and transparency in management. The IT Department employed the same principles with EMR design and implementation, and earned respect from its users.

There was also cultural variation within the clinician collective. As each clinical unit was small and partly autonomous, some still provided pockets of resistance and conflict. For example, the surgeons were one of the most powerful subgroup of the clinicians, and used to getting their own way on surgical issues.

There were no clear indications provided by interviewees as to what Orion's culture might have been like, or whether or not it had any effect on their actions – particularly where conflict with the DHB occurred.

Culture clashes did occur between the senior and junior clinicians on occasion. Senior clinicians felt their views should be accepted, as they were typically experienced, long-serving employees of the DHB who would become regular users of the EMR system. However, as senior clinicians had not been exposed to much IT in the past, they felt uncomfortable and uncertain about bringing IT into their clinical processes. Junior clinicians were typically transient in nature, working at different hospitals for six months to a year in each to learn and gain experience. As they were much younger, they normally felt comfortable with IT use, and supported the objectives of the EMR projects.

In summary, in spite of varying attitudes towards IT and the EMR project, there was a strong sense of shared beliefs and values across the internal stakeholders within the

DHB which helped drive the consensus decision-making and often successful resolution of conflict.

Table 7.5: *Cultural dimensions and relevant context of each of the IT Department, clinicians, and the clinical subgroups senior and junior clinicians*

	IT Department	Clinicians	Senior Clinicians (subgroup)	Junior Clinicians (subgroup)
CONTEXT				
ISSC Representation	CIO	Appointed senior clinicians	Appointed senior clinicians	none
PSG Representation	CIO, Senior Project Manager	Project Sponsor, Chair of CUG	Project Sponsor, Chair of CUG	none
Project Representation	Senior Project Manager, PIT project managers	Clinician representatives on CUG; Clinician representatives on PITs	Clinician representatives on CUG; Clinician representatives on PITs	Clinician representatives on CUG; Clinician representatives on PITs
Capability	Authority to make decisions on IT infrastructure; CIO authority to make decisions over Orion negotiations; Power to persuade through IT expertise	Considerable power to resist EMR changes – a defacto authority to make decisions on clinical issues	Authority through membership of highest decision-making bodies; Power to influence decisions through seniority and respect	Power to influence decisions through collective action – as demonstrated by junior doctor strike (unrelated to EMR) at DHB during interviews

	IT Department	Clinicians	Senior Clinicians (subgroup)	Junior Clinicians (subgroup)
CULTURE				
Beliefs	Consultation & collaboration with EMR users, and accommodation of their requirements (subject to funding and technical constraints)	Patient safety is paramount with regard to clinical processes; They should always have the final say over clinical issues	See 'Clinician' beliefs; Also, typically long-term employees who want to see the DHB processes work well over time	See 'Clinician' beliefs; Also, typically short-term employees who are focussed on learning and gaining experience
Values	Meeting task and project deadlines; Providing the quality clinicians require from the EMR systems, and the respect they earn as a result	Clinical processes that work properly all the time; Respect of their perspectives on clinical issues	See 'Clinician' values	See 'Clinician' values
Attitudes	Mostly in full support of users and their requirements; Some frustration at the sometimes lengthy delays that occur in individual projects	Lack of confidence in EMR changes until proven both useful and safe; Respect for IT Dept as it has developed a positive working relationship	See 'Clinician' attitudes; Also, distrustful of processes involving IT due to own lack of confidence and experience with IT	See 'Clinician' attitudes; Also, accepting of IT-related changes as they are confident with IT use & are more willing to trust automated processes
Behaviours	Respect clinician work pressures by meeting them at places & times they prefer; Provide advice to clinicians over technical issues (e.g. capability, feasibility, and cost), and leave final decisions to them	Mostly positive support for EMR, but insist on full consultation, close collaboration, and regular communication, and consensus decision-making to determine the outcome; Willing to accept delays until consensus reached	See 'Clinician' behaviours; More likely to resist, or only reluctantly cooperate	See 'Clinician' behaviours; Less likely to resist

Clinician **power** to influence decision-making was recognised by the CIO before the EMR project began. Clinician resistance was seen as the biggest potential threat the IT Department was likely to face. While the CIO instituted many measures to minimise this threat, it was the CUG that proved most effective. The CUG enabled clinicians to weigh up the impact of EMR design and implementation on their practices, and listen to IT project managers for advice, before making a joint decision incorporating their views and those of other stakeholders. According to the ex-Sponsor of the project, the wide consultation and transparency of decision-making meant that internal politics had “largely been circumvented by the CUG”. Even so, the dominant clinician culture and power to resist remained, and was regularly exercised to influence decision-making – it is just that it was seen to be done in a (mostly) constructive way.

The CUG was also a powerful group, in the sense that they were not a formal part of the decision-making hierarchy in the DHB, and yet most clinicians abided by CUG decisions.

The positive relationship between the IT Department and clinicians was not solely due to the IT culture of respecting clinician opinion and accommodating their concerns. IT staff also had to provide good advice and gain clinician trust. The IT Department was able to wield some power in negotiations based on their IT knowledge and expertise. This proved particularly effective given the previous lack of exposure to IT in terms of clinician practice. The CIO also had considerable power bestowed on him due to the complete backing of the Board and DHB executives. For example, he gained executive agreement to institute the policy of no exceptions for EMR conversion, which reduced the possibility of absolute resistance and consequent escalation to executive levels.

Orion, an external stakeholder that initially fitted in well with the clinicians and IT staff in terms of the DHB’s transparent, consensus decision-making. It was presumed that the contract, incorporating penalties for Orion if their performance was poor, would reduce their power to neglect or under-resource the development and implementation of their software. In practice, Orion’s power in terms of working with the DHB, considerably increased once they started achieving more lucrative, overseas contracts. This weakened the DHB’s contractual power to the point where

Orion was content to accept the penalties rather than increase attention and resources. This growing power imbalance was only eased when the DHB found out they were being used as a reference for Orion to gain further contracts.

Consequently, Orion backed down, somewhat, and increased both support and resources. At the time of interviewing, the problems with Orion had settled, but the CIO (chief negotiator with Orion) remained wary of what may happen in the future.

The **history** of clinicians' paper-based systems, including little exposure to IT, presented the CIO with both a problem and an opportunity. The problem was that the clinicians were understandably uncertain and suspicious of the likely impact of IT on their clinical processes. This made resistance more likely. However, this lack of IT exposure meant that clinicians in the DHB also had no pre-existing relationship conflict with the IT Department, which provided the CIO with an opportunity to build a positive relationship with them right from the outset.

Occasionally historical practices were changed with unexpected outcomes. Senior clinicians had always signed off discharge summaries – partly to check junior clinician treatments and recommendations. But with the implementation of automated summaries, the senior clinicians were no longer part of the process. More broadly, the CIO was also aware that historically, many past attempts at introducing an EMR system in other hospitals in many parts of the world had failed, with authors of case studies concluding that gaining clinician 'buy-in' was the most important critical success factor.

While many **individuals** were considered instrumental in making the EMR a success, two were repeatedly singled out by the interviewees. The first was the CIO, who put in place many supportive governance measures for the EMR project (without guidelines or direction from the Board or CEO), and had a vision as to how the development process might work. He initiated the culture of a collaborative, accommodating IT Department, which was promulgated by the Senior Project Manager – the other individual receiving high praise. She ensured all the PITs were aware of the policy of support for the clinicians, and helped transform it into becoming part of their culture. Her nursing background and strong interpersonal skills meant she was able to work with the more resistant clinicians, appreciating their concerns, and help them understand what was happening.

One conflict incident involved an individual clinician who, as head of his department, wanted his own EMR project to be given a higher priority in terms of resources. As the CUG had already agreed to a set of project priorities, this clinician was acting on his own. Acting quite aggressively, he insisted on the reprioritisation, and the CIO responded by granting him a small increase. However this was an isolated and relatively minor conflict, with clinicians normally abiding by CUG decisions.

The preliminary analyses addressing the first research question are briefly described in the summary table found in Appendix G (Table G-2). These results are condensed in Table 7.6.

Table 7.6: A summary of the impacts of environmental factors on conflict resolution for each conflict incident.

#	Incident	Culture	Power	History	Individual Behaviours
1	Serious resistance from both clinicians and administrators to EMR (anticipated)	DHB culture of internal co-operation and communication; Clinicians responsible for patient safety – have dominant say on clinical processes; IT built up trust through collaborative & accommodating approach.	Clinicians major power in DHB over clinical matters – incl. EMR (can & will resist if necessary); IT Dept uses power base of IT expertise, along with accommodating approach, to persuade clinicians; Once CUG makes decision, most clinicians feel obligated to accept outcome.	Clinicians have resisted changes to clinical practices in past, unless convinced safe; Clinicians had little exposure to IT, no prior relationship with IT Department; Though mostly IT illiterate & suspicious of clinical process change, no prior relationship conflict gave CIO opportunity.	CIO had vision & leadership to build governance arrangements in preparation for EMR; Senior Project Manager, with nursing background & good interpersonal skills, also insisted on collaborative approach from PITs.
2	Resistance over new clinical lab result processes	Dominant culture of clinicians; Collaborative approach of IT Department	Clinicians oblige other stakeholders to accept their concerns; IT Department sought to be persuasive.	Traditional paper-based processes trusted to work – leading to clinician uncertainty over changes.	
3	Resistance to electronic signoff of patient information	Dominant culture of clinicians; Senior clinicians IT illiterate; Collaborative approach of IT Department	Clinicians oblige other stakeholders to accept their concerns; IT Department sought to be persuasive.	Traditional paper-based processes trusted to work – leading to clinician uncertainty over changes.	
4	A clinical unit resisted EMR	Semi-independent clinical depts.; Senior clinicians IT illiterate; Collaborative approach of IT Department	Senior management obliged unit to accept change; IT Department sought to be persuasive.		Senior Project Manager used background (ex-nurse) and strong interpersonal skills to help unit.
5	Clinician disagreement over prioritisation of alerts system	Semi-independent clinical depts.	Both pro- and anti-alerts system factions sought to be persuasive;	Past attempts at automated alerts generally failed (e.g. Health Ministry tried for a national alerts system)	

#	Incident	Culture	Power	History	Individual Behaviours
6	Senior clinician wants higher priority for 'pet' project	Semi-independent clinical depts.	Senior clinician sought to oblige CIO to increase funding priority.	Historically, individual clinicians rarely went against decisions largely agreed on among clinicians.	Senior clinician – acted aggressively in pursuit of own interests. CIO settled quietly rather than enforce decision & risk conflict.
7	Disagreement over access to surgeon performance data	Surgeons dominant subculture of the clinician culture. Administration part of general DHB acceptance of surgeon dominance.	Surgeons applied considerable persuasive arguments over data; Surgeons also obliged other stakeholders to accept their uncompromising stance.	Traditional paper-based surgical audits were known to be secure, but the ease of electronic access to their data worried them.	
8	junior clinicians going it alone with discharge summaries	Senior clinicians (IT illiterate) vs. junior clinicians (comfortable with IT).	Senior clinicians sought persuasion (not obligation, given system already implemented).	Senior clinicians always did discharge summaries, but now junior clinicians taken over function.	
9	Orion providing fewer development resources over time	DHB culture of co-operation, transparency and communication; Orion culture unclear.	DHB were able to exercise contractual power, but effectiveness was limited; Orion had power to ignore DHB, by accepting penalties & continue to focus on more lucrative contracts.	Originally, before they sought overseas contracts, Orion had built a reputation with DHB of attentiveness and collaborative behaviour at the operational level.	CIO, acting for DHB, negotiated with Orion transparently and constructively – but was always prepared to use escalation & penalties if necessary.
10	Orion disagree with DHB over major technical problem		CIO sought to both persuade and oblige Orion Account Manager.		CIO tried, first persuasion, then escalated to Orion regional manager – successfully.
11	EMR projects suffer delays	Clinicians responsible for patient safety – willing to trade time for quality.	Clinicians oblige other stakeholders to accept time delays; IT Department sought to be persuasive, in spite of time delays.		

The following extends the above analysis by examining the environmental elements holistically, as part of a broader, interactive system. This is done by considering, in turn, each of completeness, interactive effects, and dominant effects.

Completeness, in terms of environmental effects on conflict resolution, refers to the identification of any significant effects that could not be explained by those already identified in the research framework. Orion, as an external software vendor, was directly involved in two of the identified conflict incidents. Resolution was sought through negotiation between Orion's representative (the Account Manager) and the DHB's representative (the CIO). This perspective sees Orion as a stakeholder in the resolution process. But Orion's senior management had an impact on the conflict and its resolution, without being directly involved (with the exception of escalation to the Regional Manager by the CIO on one occasion). Therefore, Orion represents a new environmental element to be added to the framework for this case.

Interactive effects refer to those environmental effects on conflict resolution that occur due to the combined effect of two or more environmental factors. The most important resolution of all the conflict incidents was the collective actions taken in anticipation of clinician resistance against the EMR. Clinician culture was dominant on clinical matters, and because they had little exposure to IT in the workplace, they were likely to be wary of the uncertainty over changes to practices that could affect patient care. But instead of a culture clash, the IT Department was able to create a cultural belief that they must be supportive of the clinician perspective at all times. There had been no indications of relationship conflict between them over the duration of the EMR (up to the point of interviewing). This approach was made possible by the fact that prior to 1999, the IT function was small and headed by a contractor who simply maintained basic, non-clinical systems. Thus clinicians and clinical administrators had little exposure to IT staff. With no prior relationship conflict to inhibit the CIO's approach, the new IT team – established only since 1999 – were part of the new culture from the beginning. However, the clinicians' historical lack of IT exposure meant it also increased uncertainty over the impacts of the EMR. The strong clinician culture was backed up by considerable power within the DHB on clinical matters. The IT Department responded with a gentler exercise of power through persuasion, typically through either small clinical unit meetings or

the larger CUG meetings. Finally, it was the individual actions taken by both the CIO and the Senior Project Manager that galvanised the IT Department into developing a strong, mutually respectful working relationship with the clinicians.

This mixture of culture (clinician responsibility, IT Department accommodation), power (clinician dominance, IT Department expertise and persuasion), history (no past relationship conflict, always used paper-based systems & lack of exposure to IT), and individual behaviours (the CIO and Senior Project Manager) appeared in most of the other conflict incidents, in various combinations but similar in effect.

A **dominant factor** is one that considerably outweighs others in terms of its effects on conflict resolution. In this case, dominant factors included not only the cultures of the clinicians and the IT Department, but also the pervasive (and historical) organisational culture of cooperation and transparency. If clinician culture was the basis behind their concerns about the EMR, then their power to carry out effective resistance was also a dominant factor. All the other environmental factors covered above can be seen as important, including the role of individual behaviours, but it is difficult to objectively compare them in terms of the significance of their impact – particularly as they also acted interactively.

7.14. Analysis Addressing Research Question 2

The second research question focused on control effects, specifically regarding the manner in which governance both guides and directs management decision-making.

RQ2: In what way, and to what extent, can governance control the management of conflict resolution?

Each of the governance control elements identified in the research framework (policy, authority, and mechanisms) is examined in turn across the range of the eleven conflict incidents identified in this case. A summary appears at the end of this section (Table 7.9).

The following three **policies** were set before the project began, partly in anticipation of conflict (#1), and were identified by the interviewees as critical to both conflict prevention and conflict resolution.

- CIO responsible for IT infrastructure; clinicians will own & preside over clinical information systems;
- Issues can be escalated, but only if resolution at lower levels unsuccessful; and
- No exceptions to conversion to the EMR.

The first clearly delineates responsibilities, and encourages clinicians to get more involved in design and implementation. The second encourages collaborative approaches to decision-making, seeing conflict escalated only as a last resort. The third, right from the start, shifted the question away from “do we have to do this?” and towards “how should we do this?”

Other important policies were developed over the course of the project.

- Contractual arrangements with vendors will include penalty clauses;
- Implicit policy to run issues past CUG if clinically-related; and
- Implicit policy to accept that project delays are preferable to any threats to clinical system quality.

The first was determined before a vendor had been selected. The second grew over time, as the CUG developed in size, capability, and finally responsibility. The third, while never formally stated, simply became the accepted norm, which helped the clinicians remain confident their concerns were considered.

Before the project began, new **authorities** were set up to explicitly govern and/or manage the information systems in general, and the EMR project in particular. Each PIT, led by a project manager, managed operational issues. The PSG governed project operations and managed project-level issues. The ISSC governed the overall project, and managed project approval and funding. The CUG emerged as the decision-making authority managing user-level issues.

While clinicians and the IT Department are well represented throughout the project authority structures, this representation is overlapped at the individual level. Table 7.7 demonstrates how stakeholder representatives and other key individuals to the project are consistently represented at more than one level of decision-making. These overlaps of representation range from operational levels up to executive

levels, and help ensure a broad understanding and consistency of decision-making throughout.

Table 7.7: *Key individuals and stakeholder representatives, and their membership of authority structures*

Key Individuals	Focus regarding EMR Project	ISSC	PSG	CUG	PITs
Clinician representatives	Clinical interests; Project design & implementation			X	X
IT Department representatives	IT interests; Project objectives			X	X
Administration representatives	Administration interests; Project design & implementation			X	X
Senior Project Manager	IT interests; Project control		X	X	X
Chair of CUG	Clinical interests; Project control		X	X	
Project Sponsor	Clinical interests; Project control	X	X		
CIO	IT interests; Project control	X	X		
Executive representatives	DHB interests; Project oversight	X			

Orion, as a major EMR stakeholder, is notable by its absence from Table XXX. In fact, there were many times when Orion development staff were represented on the PITs, but they had no representation on any of the other management and governance structures.

A variety of communication **mechanisms** was employed, and these were generally of two types: those that provided formal feedback to management, and those that kept all stakeholders (particularly at the operational level) well-informed and well-consulted.

Formal project status reporting structures were available to all three major stakeholder groups, ranging from operational to managerial levels (Table 7.8).

However, feedback was not confined to just vertical reporting up the decision-making hierarchy. As proposals and issues were also raised at an operational level, they also received feedback. Similarly, communication was also organised between clinician departments, and horizontally between EMR stakeholder groups. The majority of this was achieved through the Clinical User Group. As Table 7.8 demonstrates, the CUG was a centralised intermediary that funnelled different stakeholder issues through a broadly consultative process, and reported back to operational staff. Once the CUG had made a decision, the outcomes were forwarded to the PSG for formal ratification.

Table 7.8: *Feedback reporting mechanisms between major stakeholder groups*

Stakeholder Groups	Level of Feedback	Clinicians	The IT Department	Administration
Clinicians	Operations	Clinicians report clinical issues to CUG; CUG (forum & report back)	PITs report IT issues to CUG; CUG (forum & report back)	Administration report clinical process issues to CUG; CUG (forum & report back)
	Management	CUG reports to PSG	CUG reports to PSG	CUG reports to PSG
The IT Department	Operations		PITs report to CIO, Project Sponsor & Senior Project Manager	PITs report IT issues to CUG; CUG (forum & report back)
	Management		CIO & Senior Proj. Manager report to PSG; CIO reports to ISSC	
Administration	Operations			Administration report admin issues to CUG; CUG (forum & report back)
	Management			

There were other mechanisms for encouraging communication between stakeholder participants, providing them with opportunities to stay fully informed and respond to issues accordingly. For example, informal meetings and discussions frequently occurred between stakeholder groups to help prevent, or reduce, the impact of

conflict, before issues were considered formally. Even if the issue was then raised with the CUG, the participants were generally well-prepared for the debate.

While the consensus-seeking approach to decision-making was a cornerstone for successful conflict resolution within the DHB, it was always understood by management that, in some cases, it might have reduced the level of conflict, but not necessarily resolved it. Where persuasion alone was not enough, escalation processes were always available. They were used in two incidents within the DHB.

Not all mechanisms were completely successful. The relationship between Orion and the DHB was managed jointly by the CIO and the Orion Account Manager. But governance of this relationship proved difficult. Neither policy nor authority was feasible for the DHB when working with an external organisation. Instead, the DHB sought to control the relationship through the key mechanism of the legal contract. The contract specified the DHB's expectations from the working relationship, and included financial penalties should Orion fail to meet them.

While legal contracts such as this were commonplace when organisations contracted software vendors, they were not always successful. Initially, Orion worked well with the DHB, providing resources for development and good support. Over time, this relationship deteriorated to the point where penalty clauses were exercised.

Unfortunately for the DHB, they discovered Orion had gained more lucrative contracts overseas, which increasingly pulled Orion's resources and support away from the EMR project. Orion was finding it easier to simply suffer the DHB's penalties. Escalation to a higher authority (the Orion Regional Manager) did help resolve one major conflict, but the DHB remained uncertain over the development and support resources Orion would provide in future.

The preliminary analyses addressing the second research question are briefly described in the summary table found in Appendix G (Table G-3). These results are condensed in Table 7.9.

Table 7.9: A summary of the impacts of governance arrangements on conflict resolution for each conflict incident

#	Incident	Policy	Authority	Mechanism
1	Serious resistance from both clinicians and administrators to EMR (anticipated)	<p>CIO will make decisions over IT infrastructure, but IT applications to be owned & presided over by clinical users, with IT as advisors;</p> <p>Eventually CUG would more formally serve as the user-dominated gatekeeper for clinical IT initiatives;</p> <p>Issues (including conflict) to be dealt with at lowest appropriate hierarchical level, but escalation to ISSC & PSG available;</p> <p>No exceptions to conversion to EMR.</p>	<p>Initially, complete delegation of decision-making to CIO;</p> <p>New governance structures (PIT – operational issues, CUG – user level issues, PSG – project level issues, ISSC – major IS/IT level issues, project approval and funding);</p> <p>NOTE: CUG was a semi-formal governance decision-making body.</p>	<p>Set up reporting mechanisms; discussion forums; presentations; collaboration processes;</p> <p>CUG was effectively a mechanism for communication, consultation, debate & discussion.</p>
2	Resistance over new clinical lab result processes	Implicit policy to run such issues past CUG, who make the decision.	CUG most important; PSG generally confirmed CUG decision formally.	CUG; Reporting mechanisms; discussion forums; presentations; collaboration processes
3	Resistance to electronic signoff of patient information	Implicit policy to run such issues past CUG, who make the decision.	CUG most important; PSG generally confirmed CUG decision formally.	CUG; Reporting mechanisms; discussion forums; presentations; collaboration processes
4	A clinical unit resisted EMR	No exceptions to conversion to EMR.	PIT escalated issue to PSG; PSG enforced policy.	Escalation process from PIT -> Senior Project Manager -> PSG; Reporting mechanisms; Direct involvement of Senior Project Manager to understand source of resistance.
5	Clinician disagreement over prioritisation of alerts system		CUG unable to resolve; CUG escalated to highest clinical authority group (Clinical Board) and <u>not</u> ISSC (seen as purely clinical issue).	CUG; Reporting mechanisms; discussion forums; presentations; collaboration processes; Escalation process from CUG -> Clinical Board.
#	Incident	Policy	Authority	Mechanism

6	Senior clinician wants higher priority for 'pet' project	Policy to use formal process for funding.	PSG puts up business case proposals; ISSC makes funding decisions; CIO negotiated appeal decision in this case (too small for ISSC involvement).	Initially, formal funding process; Informal negotiations between CIO & senior clinician (<u>not</u> escalated).
7	Disagreement over access to surgeon performance data	Implicit policy to run such issues past CUG, who make the decision.	CUG used by surgeons to make position clear; PSG agreed with CUG decision.	CUG; Discussion forums.
8	junior clinicians going it alone with discharge summaries	Original clinical policy that senior clinicians always sign off discharge summaries; Original policy (inadvertently) subverted by outcome of EMR project.	CUG, though still unresolved.	CUG; Reporting mechanisms; discussion forums; presentations; collaboration processes
9	Orion providing fewer development resources over time	DHB's policy to set contractual arrangements with penalty clauses.	Orion staff may be part of some PITs, with PIT project managers having operational authority; Higher level authority structure based on two representatives: the CIO, acting for the DHB, and the Orion Account Manager; Project-specific authorities (PSG, ISSC) not involved – Orion not represented on these.	Communication channels from Orion support to PITs of variable quality; Escalation process from PIT -> CIO -> Orion Account Manager; Negotiation (between CIO & Acct. Manager).
10	Orion disagree with DHB over major technical problem	DHB's policy to set contractual arrangements with penalty clauses.	PIT project manager; Higher level authority structure based on two representatives: the CIO, acting for the DHB, and the Orion Account Manager.	Communication channels from Orion support to PITs considered very poor; Escalation process from PIT -> CIO -> Orion Account Manager; Escalation process from CIO -> Orion Regional Manager; Negotiation (between CIO & Acct. Manager – later Regional Manager).
11	EMR projects suffer delays	Informal policy to run such issues past clinician-dominated CUG. Informal policy that project delays more acceptable than threats to clinical system quality.	PIT, CUG, PSG, ISSC.	CUG; Reporting mechanisms; discussion forums; presentations; collaboration processes.

7.15. Analysis Addressing Research Question 3

The third research question also focused on control effects, but in this case, the controls are directed towards environmental effects on the resolution process.

RQ3: In what way, and to what extent, can governance moderate negative effects from environmental elements?

Each of the environmental elements identified in the research framework (culture, power, history, individual behaviours) is now examined with respect to the moderating effects of governance arrangements.

Culture has already been found to have had significant impacts on conflict resolution (Section 5.12). It was in direct response to the dominant clinician culture that the CIO created policy that encouraged IT staff to be collaborative and accommodating, from which their own culture grew. The clinicians were very well represented on every EMR project-related authority:

- ISSC: majority
- PSG: half
- CUG: majority
- PITs: minority

In this way, governance and management of the EMR project remained firmly in clinician control. This reflected (and respected) the clinicians' culture – if they were ultimately responsible for patient safety, then they should have had the final say over changes to clinical processes. For example, the policy of no exceptions to EMR conversion was agreed to by the ISSC, PSG and even the CUG. This made it very difficult for isolated clinical units to resist without collegial support. Even senior clinicians, a dominant clinical subgroup, accepted the inevitability of EMR conversion – a significant step considering their widespread uncertainty over the use of IT.

Similarly, the mechanisms enabling consultation, dissemination, debate and consensus decision-making created an environment of transparency, openness, and involvement with the ongoing development of the EMR. These are features that clinicians, along with other DHB stakeholders, value and believe in.

Consequently, in spite of the immense **power** held by the clinicians within the DHB, there were few attempts to influence conflict outcomes through obligation. Instead, each stakeholder group (particularly the clinicians and the IT Department) was able to influence through persuasion, making use of the variety of mechanisms that encouraged it. The original Project Sponsor, who also held the post of Chief Operating Officer at the time, attributed the lack of destructive politics to the governance arrangements put in place, singling out the CUG as an excellent example, where transparent, representative decision-making processes rendered politics both difficult and unnecessary.

History was an important factor in that, prior to 1999, both the clinicians and clinical administrators had virtually no exposure to IT in their work. This made it much easier for the CIO, the Senior Project Manager, and others to put in place the governance arrangements necessary to encourage a positive working relationship. The IT Department policy of clinical accommodation helped diagnose the real issue behind one clinical unit's complete resistance to the EMR – the senior clinicians were worried about their historical uncertainty about IT use (what one interviewee referred to as their "IT illiteracy").

By the time the CIO had been appointed, there were already many published case studies detailing the challenges and frequent failures when implementing EMR systems in hospitals. Most focussed on the difficulties of IT staff working with clinicians and clinical processes, and the importance of clinical buy-in. The CIO knew the importance of gaining that buy-in right from the beginning, and acted accordingly.

Individual behaviours stood out in a positive way, with every interviewee highlighting strong leadership skills shown by both the CIO and the Senior Project Manager. Although many others, including senior clinicians with a belief in the EMR concept, helped throughout, it was the CIO who set out to create strong, but collectively supported project governance arrangements. Once the Senior Project Manager was appointed, she ensured all EMR project managers, and their teams, would adhere to the policy of collaboration and accommodation. Her nursing background enabled her to work closely with the most resistant clinicians. If there

was any negative individual behaviour, it was generally softened by the collective, consensus decision-making processes.

7.16. Discussion

While eleven separate conflict incidents were identified, the overwhelming impression left by every interviewee was that the DHB's approach to resolving internal conflict was generally very successful. The following themes emerged from the analysis based on the consideration of each of the three research questions.

- The critical role of addressing anticipated conflict;
- The dominance, in terms of both culture and power, of a major, professional project stakeholder group;
- Gaining buy-in through system user ownership and participation, and positive leadership;
- Using project policies to provide management decision-making with both boundaries and direction;
- Using project authority structures to provide both governance and management at multiple levels, incorporating a user majority;
- Using project mechanisms to help create a positive project culture;
- The key role of the CUG, as both decision-making authority and mechanism for user communication and participation;
- How project governance minimised influence by obligation and maximised influence by persuasion, using escalation mechanisms only as backup;
- Resolution effectiveness can be seen in lack of dynamic relationships between incidents;
- How internal governance practices are not necessarily successful with external relationships;

There can be no doubt that **addressing anticipated conflict** was the single most important 'incident' identified in this case. Being charged with the long-term goal of

implementing an EMR system, the CIO first implemented the necessary IT infrastructure over an 18 month timeframe. This minimised the risk of technical failure, and the consequent risk of increasing relationship conflict with the clinicians, and also gave the CIO time to informally gauge opinion on how an EMR system might be received. He was aware, by then, that historically the implementation of EMR systems in hospitals was frequently challenged by clinician resistance. He also had time to identify a selection of clinicians that could see the benefits of the EMR, and they were to form an early version of what was to become the Clinical User Group. Finally, the CIO worked with other executives to establish the ISSC, and from there worked on governance arrangements for the EMR project.

The DHB as a whole accepted that **clinician culture was the dominant subculture** within the organisation, and that they had **considerable collective power** to influence decisions involving clinical issues. It was this that concerned the CIO the most, and explains why he went to some lengths to prepare for the initiation of the EMR project. Many of the governance arrangements put in place were specifically designed to accommodate clinician perspectives while still moving the project forward. It could be argued that employing such a powerful, well-educated group of professionals as front-line staff might be unusual for most organisations. However, the concept of treating users most likely to be affected by IT projects as though they had a strong culture and collective power could well be applied to many organisations.

As the CIO noted, the critical success factor was **gaining clinician buy-in**. The CIO employed several methods to achieve this. First, he promoted the benefits through a series of meetings and presentations, but included warnings about the risks. Second, he saw clinician ownership of the system as essential – they were responsible for making it work. Finally, he wanted clinicians involved in the design and implementation of the EMR projects. The CIO also noted that gaining buy-in was a continuous process for each new project. For this reason, both the CIO and the Senior Project Manager were singled out by most interviewees as providing the necessary leadership skills to preserve a positive working relationship between clinicians and IT staff. This serves as a reminder that good governance arrangements

need to be backed up by the individual behaviours of competent people in governance and management positions.

There were **two key policies** set by the ISSC that helped achieve clinician buy-in. The first was a formal policy that was in place as the project began, declaring that there would be no exceptions to the conversion to an EMR system. This set the boundary for debate – almost everything about the new system could be discussed, but there *would be* a new system. The second was an informal policy that developed over time. It became increasingly clear that achieving consensus to produce high-quality solutions tended to delay project delivery. Furthermore, Orion's increasing neglect of the DHB was also causing project delays. Therefore, the ISSC approved most requests for increased resources to ensure project completion within a reasonable timeframe. This policy reflected the fact that effective conflict resolution required time and resources, which was the trade-off senior management were willing to make. This provided project managers with direction over project delays.

The **authority structures** put in place at the start of the EMR project were clearly delineated in terms of governance and management. Each PIT, led by a project manager, managed operational issues. The PSG governed project operations and managed project-level issues. The ISSC governed the overall project, and managed project approval and funding. The CUG emerged later as the decision-making authority managing user-level issues, which usually received PSG approval. The other feature of note was the way individual stakeholder representatives, particularly from clinician and IT groups, were members of authority structures overlapping at multiple levels. Whether by accident or design (it was unclear from the data), the result was a consistency of understanding across operational and management groups about the issues, and there was increased transparency of decision-making as a result. Finally, the composition of each authority structure ensured either a clinician majority (ISSC, CUG) or a significant percentage (50% of the PSG, generally at least two members of each PIT), which was in keeping with clinician ownership and participation.

There were many **governance mechanisms** that performed well in supporting a reduction in the risk of resistance (both the likelihood and the magnitude). Many helped create a positive project culture. These included effective communication

mechanisms, incorporating both formal feedback to higher management levels and information dissemination to stakeholders. There were processes to ensure consultation of affected parties, debate, and ultimately collaboration between IT staff and clinicians over design and implementation.

The **Clinical User Group** was the key mechanism, enabling information sharing across all the main stakeholders, debate over issues, and a consensus decision-making approach. It was outside the formal project governance hierarchy. It was not required to make decisions by any set times, it operated according to its own rules, and was not answerable to management. Yet it also acted as an authority structure, where CUG decisions were mostly rubber-stamped by the PSG. Many issues would not move forward without CUG evaluation. Every interviewee commented on its effectiveness for resolving conflict and preventing resistance.

There was a considerable **power** imbalance between stakeholders, with clinician power dominant where clinical issues were concerned. Clinical administrators also had a degree of power where clinical processes were concerned. Yet another effect of the governance arrangements was the minimisation of negative influence (based on obligation) and the maximisation of positive influence (based on persuasion). Due to transparent processes and considerable user participation, political activity would have been both difficult to hide and probably unnecessary anyway (according to the ex-Project Sponsor). Persuasion was the default approach in most conflict situations. Only on rare occasions did it fail, in which case the issue was escalated to the next highest project authority. Up to the time of interviewing, no conflict had been escalated as high as the ISSC.

With two notable exceptions, there were **no dynamic relationships between conflict incidents**. This is testimony to the successful approaches taken for conflict resolution – that there was virtually no negative flow on effects towards new conflict incidents. The two exceptions are based on the anticipated conflict before the EMR project began, and the long-term effects of successful conflict resolution on project timeframes and resource requirements. The governance arrangements put in place in anticipation of resistance clearly contributed to the successful resolution of most of the conflicts that were identified in the study. These relationships do not appear on the Conflict Incident Map (Figure 7.3), as they were positive relationships that

neither initiated nor exacerbated conflict. On the other hand, resolution of most of the conflict incidents led to project delays, which is represented on the Conflict Incident Map. These were the only exceptions raised.

External relationships were a different matter from internal relationships, which were mostly very positive. All the DHB stakeholders continued to believe they had selected the right vendor, and that the software would work well. Furthermore, the working relationship between Orion, the IT Department and clinicians started well, with Orion fitting in well with the transparent, participative, consensus decision-making that the DHB employed. But over time, Orion used the DHB as a reference to gain more lucrative, overseas contracts. These bigger contracts drew Orion's development resources and support services away from the DHB's EMR project. The DHB's governance of their relationship with the vendor was based on contractual arrangements. However, in this case, even legal constraints were of no avail, as Orion proved willing to pay the penalties. Even so, the CIO, having had to escalate once, was determined to keep Orion focussed on their EMR project. It was difficult for the interviewees to think of an alternative governance structure that might have been more successful in terms of control of Orion's input and commitment.

In summary, the actions taken by the CIO, and others, to put governance arrangements in place before project initiation proved successful in creating a project environment where potentially damaging conflict was prevented, reduced or eliminated. Governance incorporated effective policies, authority structures and mechanisms that were tailored to reflect the project environment, including clinician culture and power, and the DHB culture of consultation and transparency. Governance effectiveness was demonstrated by consistent interviewee support for the policies, authority structures and mechanisms set up and used for conflict resolution. Further, there was consistent admiration for the efforts of the CIO and the Senior Project Manager for both creating and maintaining the positive project culture. The CUG, acting as a semi-formal authority structure and a key communication mechanism for stakeholders, was also unanimously supported as a unique, innovative group that resolved conflict in a way that avoided relationship conflict yet kept the projects moving forward (albeit slowly sometimes). Conflict

with the external vendor created more difficulties, as governance based on contractual obligations did not prove as effective as the DHB would have liked.

7.17. Conclusions

Eleven conflict incidents were identified from interviews with those involved in the EMR project at the DHB. Each of the three research questions were addressed in turn, determining:

- Environmental factors such as culture, power and history were all capable of negatively affecting the project, up to the point of complete resistance;
- Project governance was successfully designed and used to control project stakeholder conflict; and
- Project governance was successfully designed and used to moderate the potentially negative effects of environmental factors.

The results strongly supported the idea that project governance provides the direction and boundaries of decision-making (through policies), the authorities and individuals who must make the decisions (the authority structure), and the means to both make and implement those decisions (employing mechanisms). By being aware of risk factors embedded in the project context, project governance was also found to be successful at moderating potentially negative effects from environmental elements. However, this was mostly due to careful design of the project governance arrangements so that they would fit well with existing cultures and power structures.

The CIO had taken the time to understand the nature of the stakeholders and the project environment. In a traditionally challenging area of change (an EMR implemented within a hospital), combining this sort of knowledge with a long term strategy to create and maintain a positive project culture displayed considerable vision and leadership. Project governance was the framework that enabled both formal project control and encouraged informal project stakeholder collaboration and communication.

The following chapter examines the implications of the findings from the three cases, both individually and collectively, for this research.

8. Discussion & Conclusions

The three case studies conducted for this research involved organisations that were markedly different in some respects, yet quite similar in others. All were public entities. The NZ Fire Service (NZFS) had its head office in Wellington, and fire stations geographically spread throughout the country. The projects were focussed on HO effectiveness, but the firefighters were involved. Conflict was mostly between HO and the frontline staff.

The Ministry of Health (the 'Ministry') had its head office in Wellington, but staff outside Wellington were not involved in the project. The project was focussed on HO effectiveness, but there were many independent stakeholders within HO. Conflict mostly involved various user groups and the IT function.

The Hutt Valley District Health Board (the 'DHB') had its HO at Hutt Hospital, in Lower Hutt (a Wellington regional city), and most of its employees were clinicians and clinical administrators, also based at Hutt Hospital. The project was focussed on clinician effectiveness, but many clinicians were based in small, semiautonomous units. Conflict mostly involved clinical frontline staff, HO, and the IT function.

This chapter examines the three cases as a collective set of data, where the results from each case are compared and contrasted in search of more generalisable findings. These findings are discussed in terms of their implications for our understanding of conflict resolution in an IT project setting.

The chapter begins with an examination of each of the research questions for the aggregated results of the three cases. Patterns and differences from this analysis are discussed, and findings are presented as they arise. Finally, the implications of the findings are discussed; the limitations of this research are identified; how this research can be extended in future is outlined; and the conclusions to this study are presented.

8.1. Environmental Factors

The first research question focused on contextual, or environmental, effects.

RQ1: In what way, and to what extent, do environmental elements affect the conflict resolution process and its outcomes?

Each of the environmental elements identified in the research framework (culture, power, history, individual behaviours) are now examined across the results of all three cases. These effects are then considered holistically, testing the framework for completeness, and identifying interactive and dominant effects.

8.1.1. Culture

Culture was defined in Chapter 2 as basic assumptions that people in an organisation, or in a subset of that organisation, hold and share about the group they are a member of. Those assumptions are implied in their attitudes, beliefs and values, and embodied in aspects of patterned group behaviour.

With both the DHB and NZFS, the major IT project user group was a professional collective involved in front-line, core business activities. If the group felt their professionalism, including their ability to carry out their responsibilities in a safe and effective manner, was under threat from the consequences of an IT project, they would resist project implementation. In both cases, the user groups showed they were capable of refusing to cooperate, thereby seriously affecting project objectives. User resistance was considered the greatest single threat to the project.

Culture played an essential role in two ways. First, in order to understand the nature of user resistance, it was necessary to understand the users themselves, so as to anticipate the likely impacts of the project on the users and their ability to carry out their work. The CIO of the DHB spent considerable time learning to understand clinician values and beliefs and how these shaped attitudes and behaviours, before undertaking the EMR project. Conversely, the NZFS head office, and particularly those on the project steering committee, were largely ignorant of firefighter culture, in spite of incidents of resistance in the past. Only one member of the steering committee had been a firefighter. Firefighters believed in and valued safety in firefighting, and perceived HO's actions as a threat to these.

Not only was the user culture a dominant factor in conflict, but so was the clash of cultures between the professional users and the administrative functions of senior and executive management. This was less pronounced in the DHB, due in part to the

prevalence of senior clinical staff in decision-making bodies. But in the Fire Service, the stark differences between the ‘suits’ and ‘uniforms’ in terms of values, attitudes and behaviours continued to be problematic, due in part to the lack of senior Operations staff on decision-making bodies such as the project steering committee.

In the case of the Ministry, culture played a less dominant role in the project conflict. Culture may well have played a role in at least some of the conflict incidents involving different semi-autonomous user groups, but it was the number and diversity of these groups that created the biggest challenges.

Finding 1: Culture is an important factor in conflict and its resolution where conflict stakeholder groups possess a strong cultural identity, such as those found in professional collectives.

8.1.2. Power and Influence

At the DHB, clinicians have always had the power to resist IT initiatives. Although not unusual for any institution that is made up largely of highly educated, well-paid professionals, the threat of resistance was a major factor in most of the conflict incidents recorded. Their willingness to use this power was amply demonstrated by the junior doctor strike at the DHB during the time of the interviews. However, with the EMR project, the CIO and the senior project manager sought to counter the potential for negative influence (through obligation) by engaging the clinicians with positive influence (through persuasion). This was a strategic approach which slowly built on IT’s power base (based on IT expertise) by establishing a reputation for cooperation, communication and accommodation.

Similarly, the power to resist was identified with the firefighters in the NZFS. Where the cases differ, is that the use of positive influence (through persuasion) was less frequent, haphazard, informal, and less effectual at NZFS. Furthermore, possibly due to a fear of upsetting firefighters even more, HO were reluctant to ‘pull rank’ and oblige Operations to cooperate. Consequently, HO staff, through the steering committee, had neither strategic nor tactical means to comprehensively deal with resistance.

There was a strong power imbalance between users and IT for the Web Consolidation Project within the Ministry. The project steering group were also fearful that user power would be used to resist. ITS sought to counter this by employing positive influence through persuasion, though obligation (via the need to be e-govt compliant) was also used. Unlike the DHB, this was not seen as a strategic, but rather a tactical, project-specific approach to see it through. It is worth noting that one of the primary reasons for the success of persuasive influence was the involvement of two key people in ITS – the project manager and the client liaison officer.

It is important not to confuse the power to resist with the exercise of that power (influence). Where other stakeholders are aware of this power, they may act in such a way as to avoid resistance occurring. So the mere threat of exercising power may be enough to influence outcomes.

Finding 2: Where user groups have the power to resist, that power will be an important factor in conflict resolution. The power to resist does not necessarily imply the power has to be exercised in order to influence outcomes.

8.1.3. History

When conflict arises, the nature of the conflict will not necessarily be dependent only on what is going on at the time. Issues from the past may also affect what happens now and in the future.

For example, within the Fire Service, project-related conflict between HO and Operations (often in the form of resistance) had occurred several times in the past leading up to the events with the AMIS and AVP projects. Furthermore, exacerbated by a pervasive culture clash between the main stakeholders, there remained a lingering relationship conflict that tended to flare up when contentious issues between them arose. The dramatic events from the mid-1990s, in particular, generated so much conflict, the reverberations were still felt at the time of AMIS.

There was also some extant tension between the clinicians and administrators at the DHB. However, in this case, the potential for lingering relationship conflict was ameliorated by actions such as involving clinicians much more in decision-making,

and encouraging them to take ownership of the design and implementation of the systems they would be using.

Finding 3: Historical events, in the form of stakeholder conflict from the past, can have a significant effect on conflict and its resolution in the present. In particular, relationship conflict between two stakeholders, based on these past incidents, may continue to have a confounding effect on resolution attempts in future conflict between these parties.

8.1.4. Individual Behaviours

Interviewees from all three cases referred to individuals who acted in ways that could not be directly explained by any of the other constructs. This factor emerged from the preliminary analysis and was added as a new construct to the research framework as another environmental factor affecting conflict resolution. The emergence of this new construct is described later in Section 8.2.

The differentiation between culturally based behaviour and non-culturally based behaviour for an individual has been identified as an issue in recent research:

“Another challenge in IS-culture research is the assumption that all individuals within a given cultural unit will respond in a consistent fashion based on the group’s cultural values. ...it does not take into account the possibility for individual differences within the particular cultural unit that may lead to different behavioural outcomes. This notion of individual fit with culture suggests ...research may need to consider individual disposition as a factor when studying the impacts of culture on certain outcomes.” (Leidner & Kayworth, 2006, p. 381)

Based on the three cases, individual behaviours that affected resolution outcomes were typically of two types. First, there were individuals in positions of authority. Interviewees singled out some of these individuals as performing extremely well, or poorly, with respect to their responsibilities in relation to the project, including conflict resolution. In all cases these behaviours were attributed to the individuals’ own personal characteristics, including knowledge, leadership, experience, interpersonal skills, etc. These behaviours were not sourced from any cultural group that could be identified. Examples were mostly positive, in the sense that the behaviours generally all had beneficial effects on their projects. These individuals

included the project manager and the client liaison officer for the Ministry project, and the CIO and senior project manager for the DHB project. Two examples of individuals doing their jobs poorly, with adverse effects for their projects (according to the interviewees), included the Comms Manager for the Ministry and the original AMIS project manager in the NZFS. These examples illustrated both good, and poor, capabilities for making the most of the governance arrangements available.

Secondly, there were individuals who sought to resist, or even subvert, governance arrangements such as policies and processes. Interviewees noted that in these situations, the individuals were not acting as representatives of any cultural or organisational group, but rather they were acting for themselves. Examples were almost all negative, in the sense that there were adverse effects from their actions. These individuals included the CTO, the Comms Manager, and the NZHIS Chief Advisor (the members of the project steering committee) from the Ministry, and a senior clinician at the DHB.

When an individual decision-maker makes a decision, or has the power to influence that decision, there is a need to understand their intention, and what drives their thinking. Their behaviour may reflect the culture of the group that they belong to. They may reflect past experience – historical events involving similar situations and/or stakeholders within the same organisation. There might be a strong rational component – perhaps one or more stakeholders have been persuasive.

But each case included important conflict incidents that were significantly affected by individuals whose actions, according to interviewees, were based on either the individuals' ability to perform their jobs extraordinarily well (or badly), or the individuals' intention to achieve personal objectives. A future line of investigation could investigate individual behaviours by applying the same framework used to assess culture. By evaluating an individual's beliefs, values, attitudes and behaviours, it may be possible to differentiate personal qualities from the broader cultural qualities.

Finding 4: There are of two types of individual behaviours that affected conflict resolution. One was based on authority, and the individual's ability to carry out their responsibilities particularly well, or badly, within the governance arrangements. The other was based on personal objectives, and the individual's subverting of governance arrangements to achieve them.

In the DHB, it was the experience, vision, patience and inclusiveness of the CIO that enabled and encouraged both senior management and the clinicians to rise above historical relationship conflict and cultural differences and work together more closely with common objectives, averting resistance. The senior project manager also demonstrated positive individual behaviours that encouraged the same level of cooperation and commitment at a more operational level.

In the Ministry, individual behaviours of individuals had both positive and negative effects on conflict resolution. For example, the CTO felt it necessary to subvert the accepted process for developing a business case, so that his proposal to develop the system in-house would be more likely to achieve acceptance. On the other hand, the positive qualities of both the client liaison adviser, and the contract project manager, were sufficient to avert more serious consequences from conflict.

In the NZFS, the variability of contribution towards conflict resolution from individuals was pronounced. The CEO expected personally preferred IT projects to take precedence over others that may have gone through a more rigorous evaluation process. Similarly, the CFO wielded considerable power to push through certain projects that would help centralise and consolidate the power of Finance. The wholesale adoption of ERP is an illustration of this. Yet, the co-option of the assistant regional fire manager from Wellington into the project steering committee proved to be considerably more helpful to project progress than a token representation of Operations. His skills and operational knowledge, combined with the respect he had garnered within Operations, enabled him to transcend the poor communication channels between HO and Operations.

Finding 5: the behaviours of individual stakeholders can affect the outcome of conflict resolution beyond any formal authoritative position that they might hold. These effects may be positive or negative in terms of the project outcome.

8.2. Complexity and Holism

In chapter 3, it was argued that one useful way to analyse complexity is to begin with a holistic approach. Systems thinking encourages holistic thinking in this study by not only examining the processes involved, but also the context within which they operate. This emphasis encouraged the application of the three principles of holistic discovery through the research framework: completeness, dominance, and interaction.

Completeness, in terms of environmental effects on conflict resolution, refers to the identification of any significant effects that could not be explained by those already identified in the research framework. It had been assumed that some of these ‘leftover’ factors would emerge. It had also been assumed that both the number and the significance of the leftover factors were unlikely to be high. Both assumptions proved to be true, with three notable exceptions.

First, within the NZ Fire Service, the CIO was sure that a major contributor to the decision to finally end the AVP project was a collective ‘weariness’ over the issue. As this effect spanned all the stakeholders involved, the only factor was time, reflecting the dynamic nature of the conflict resolution process. Time was a factor for the Ministry’s web consolidation project, in the sense that the deadline for e-government compliance was used by the Project Steering Group to persuade external users to convert to the in-house system. With the DHB, time was a factor in the sense that conflict resolution was allowed to run its course to successful resolution, even where deadlines were pushed back as a consequence. However, the way time became an issue in each case varied. For the NZFS, time was a characteristic of the resolution process itself. For the Ministry, the deadline set was an external factor (from the NZ Government), but time taken to resolve external user resistance was reduced due to management decision-making, employing the opportunity to use the deadline as a tool to aid persuasion. For the DHB, time taken

to resolve conflict was an accepted cost from those governing the project. So, in one case it was a management issue, in another it was a process issue, and still another it was a governance issue. While management and governance are represented in the research framework, the concept of time as a process issue that affects all stakeholders does not easily lend itself to allocation to existing constructs.

Second, the aforementioned edict from the NZ Government that all government websites will be e-government compliant was an uncontrollable factor that had a direct impact on both the stakeholders of the Ministry project, and the conflict resolution processes used. This environmental factor was sourced outside the organisation, but unlike contractors, consultants and vendors, this factor was also independent of the project, in the sense that the edict was made regardless of whether the Web Consolidation Project existed or not. This was the only external, project-independent factor to emerge from all three cases. As a unique factor, it is represented in the research framework as 'OTHER FACTOR'.

Third, at an early stage of the preliminary analysis (coding the constructs from the research framework and analysing each conflict incident through coding reports) it became increasingly clear that there was a construct missing from the research framework. Interviewees from all three cases referred to individuals who acted in ways that could not be directly explained by any of the other constructs.

Consequently, a new construct was added to the research framework as an environmental factor affecting conflict resolution: **individual behaviours** (see Chapter 4 for more details of the research process used, and Section 8.1 for further analysis about this new construct).

Finding 6: Conflict resolution is a dynamic process, and the effects of time can be significant, yet hard to predict. Examples include: the length of time for the resolution process to conclude; externally imposed time constraints; and internal policy over delays.

Interactive effects refer to those environmental effects on conflict resolution that occur due to the combined effect of two or more environmental factors. Not only was it common for there to be more than one environmental factor involved in

conflict resolution, but there were instances across all three cases where two or more environmental factors interacted in some way.

For example, history and culture had a combined effect on resolution in all three cases. The potential for serious relationship conflict within each of the NZFS (between HO and Operations), the DHB (between clinicians and ITS), and the Ministry (between Comms and ITS) was always there, given the sometimes strong cultural differences between the groups. Relationship conflict between two parties was frequently based on events of the past. As well as initiating the conflict, further events involving the two parties could either attenuate the magnitude of the conflict or exacerbate it.

In the NZFS, events in the mid-1990s created a strongly negative relationship conflict. Events since then have done little to ease the magnitude of the conflict. By comparison, after the CIO joined the DHB, a series of positive events, where the parties worked cooperatively together, appeared to virtually eliminate the risk from debilitating relationship conflict. Within the Ministry there was less consistency, as one time Comms and ITS would work well together, only to see a negative event shortly after. Some relationship conflict continued to exist, with some correspondingly negative effects on the project.

Finding 7: There is a risk that cultural differences between two stakeholder groups may lead to relationship conflict. The initiation and development of this relationship conflict over time are directly dependent on historical events, which may either lessen the magnitude of the relationship conflict (and thus mitigate the risk of further conflict), or exacerbate it (and thus increase the risk of further conflict).

Culture also interacted with power in significant ways. For example, where a group had both a strong cultural identity and a collective power to influence decision-making, then cultural differences presented a risk, as that collective power could be exercised during a cultural clash.

Both Operations in the NZFS, and the Clinicians in the DHB, exhibited that risk in the form of potential resistance, with the NZFS suffering project setbacks due mainly to that risk being realised. On the other hand, the DHB employed

considerable persuasive power, directed through both the CIO and the senior project manager (using individual behaviours well-suited to this), patiently building a level of belief in the project as the clinicians, themselves, became directly involved. Thus the risk of negative politics as a result of a traditional culture clash between users and the IT function was considerably mitigated, particularly as IT pursued a low-key approach when working with clinicians, even within their project teams.

Finding 8: Where a user group has a strong cultural identity and a collective power to influence decision-making, that power may be exercised in the form of resistance should culture clashes occur with other stakeholders.

Individual behaviours interacted with power in positive and negative ways. Within the DHB, the use of positive individual behaviours (from the CIO and the senior project manager) to exercise persuasive power has already been noted. Within the Ministry, both negative and positive examples were apparent. The CTO subverted the business case evaluation process, without having the authority to do so. Instead, his personal determination to make sure *his* proposal worked saw him exercise power derived from being an executive member. No one pointed out he could not do that. Yet, the appointments of both the project manager and the client liaison officer provided the opportunity to use their personal communication capabilities and exercise persuasive power in roles similar to those in the DHB. The NZFS appointed a local assistant regional fire officer to fill in a place on the steering committee as the sole representative of Operations. What transpired perhaps surprised both the HO members of the steering committee, and many of the station chief fire officers. He grasped the implications of the IT projects and fully supported their objectives. However, he also used his unique position to point out how little many HO staff knew about firefighters and what was important to them, and how poorly they communicated with them. On the other hand, he also took many of the resisting fire stations to task for not being more cooperative, and was prepared to ‘bully’ them if necessary.

Therefore, not only does collective power held by a stakeholder group need to be considered, particularly in terms of resistance, but so too does an individual with

power. These individual behaviours may be explained by neither the cultural groups they belong to, nor any governance or management initiatives.

Finding 9: Individuals with power over decision-makers may engage in behaviours (either persuasion or obligation) to influence decisions. The success of the influence process will depend on how much power over decision-makers they possess, whether they employ persuasion or obligation as a tactic, their interpersonal skills, and their personal intentions.

A **dominant factor** is one that considerably outweighs others in terms of its effects on conflict resolution. In virtually every conflict incident, there were one or two dominant environmental factors that had the most significant impacts on conflict resolution.

For example, user power (especially in the form of threatened resistance) featured in all of the cases. In the DHB, the professional clinician culture figured prominently, as did the professional firefighter culture in the NZFS. In the Ministry, culture was less of an issue, as user power was derived more from their semi-autonomous status across Ministry functions.

Finding 10: Where users have a strong cultural identity, user power, in the form of threatened resistance, is likely to be a dominant factor affecting the conflict resolution process.

8.3. Control Factors

The second research question focused on control effects, specifically regarding the manner in which governance both guides and directs management decision-making.

RQ2: In what way, and to what extent, can governance control the management of conflict resolution?

Each of the governance control components identified in the research framework (policy, authority, and mechanisms) is examined in turn across the results of the three cases.

8.3.1. Policy

In all cases, the projects examined reflected the IT strategy that had been set at the organisational levels, but this had not always been filtered down to the IT staff level in all cases. At the Ministry, the NZHIS was tasked with the development of an IT strategy document. However, a lack of oversight led to its abandonment, in favour of using the remaining budget to develop a new system. This may go some way as to explain the dearth of policy in terms of IT and IT projects, particularly when outside the involvement of the Programme Management Office. Policy is based on strategy.

By comparison, the CIO at the DHB was charged with implementing an existing IT strategy, based around the electronic medical record. On that basis, policy was developed to emphasise the importance of clinician perspectives where IT-related change occurs.

The NZFS did not have a working set of policies governing such important processes as business case evaluation, project prioritisation, project selection and project oversight. Nor were there mechanisms available to manage simultaneous projects across the organisation. Consequently, the dedicated steering committee had no structure or guidance to work under, and was left to meet each challenge as it arose.

Finding 11: Where IT strategy is missing, incomplete or unclear, it is difficult to devise useful and usable policy at the IT project level.

Some policies were formally stated, others were more informal, yet still reinforced and applied. In these three cases, formal policies tended to work best when set before the project began – especially where anticipated conflict was considered. Informal policies, however, proved most effective when developed and applied dynamically to help deal with unexpected issues.

Finding 12: Formal policies generally work best when they are determined before the project begins. Informal policies work best when developed and used dynamically in direct response to an unexpected conflict.

8.3.2. Authority Structures

Project-specific authority structures, such as project steering committees and project managers are now commonplace with IT projects of any size or complexity, and the cases in this study were no exception. Project managers tended to have the same responsibilities and reporting channels (e.g. managing project teams, maintaining the project plan, reporting to a project steering committee), but the project steering committees varied widely in membership, representation, degree of governance vs. management activities, and approach to conflict situations.

With the DHB, the steering committee had mostly delegated the major issues involving users (the clinicians) and the IT function to the Clinical User Group, who represented the interests of both stakeholder groups in a way that progress was always likely. The steering committee generally rubber-stamped the outcomes, comfortable in the knowledge this method was both successful and positive in its approach. The consensus approach within the CUG, including the IT function acting in a senior advisory capacity, meant there were few conflict incidents requiring more direct attention from the steering committee. Nevertheless, they would have had to act if any conflict was escalated by the senior project manager.

The Ministry appointed the NZHIS to steer the IT strategy and corresponding projects, including control of the budget. They assembled a steering committee of three senior managers, representing the interests of the NZHIS (as chair), Comms (as the biggest user), and ITS (as the service provider). All had their own agendas, and there were no independent members (from a non-stakeholder group, the senior management team, or a quality assurance advisor, for example). Where their respective agendas clashed, there was debate, but there was also a difficulty in achieving consensus. With only three busy members, meetings required all three to be present, leading to infrequent committee meetings at times. Oversight tended to be haphazard, and occasionally neglectful. They became less involved in strategy and governance, and more involved in management decision-making.

In the Fire Service, the cultural gap between the ‘suits’ and the ‘uniforms’ was apparent as the IT project steering committees were always populated with senior HO and IT personnel. But then the project steering committee for FMIS co-opted a senior Operations manager for a temporary purpose. Having a senior user

representative on the steering committee proved so useful, the same person was appointed to the AMIS project steering committee as well. HO had never seen the need for Operational representation on the steering committees before.

In each of the three cases, the PSC played a major role in both anticipating and responding to resistance-based conflict. While all three accurately predicted resistance could become an important issue, the PSC response in each case was quite different. At the DHB, the PSC created a more elaborate governance/management structure that emphasised stakeholder representation and communication. At the Ministry, the three-person PSC were representative of the three major stakeholders, but only at a managerial level. Stakeholder conflict was difficult to manage, exacerbated by internecine conflict between PSC members, infrequent meetings, and poor communication channels – both vertically and horizontally. At the NZFS, the PSC was unrepresentative and assumed more of an authoritative role than a consultative or collaborative one. Geographical, cultural and hierarchical gaps between the ‘suits’ and the ‘uniforms’ meant a PSC stacked with senior managers struggled to address firefighter-based conflict.

Finding 13: How effective the IT project steering committee will be is dependent on several key characteristics: **composition** (is the PSC truly representative of the major stakeholders?); **communication infrastructure** (do the PSC communicate regularly – both vertically, with senior management and the project team, and horizontally, to each of the stakeholder groups?); **function** (how well do PSC members work together? how do they make decisions? How often do they meet?)

The benefits of running a project management office (PMO) have frequently been noted in the literature. Yet, among the three cases, the role of multiple project oversight was most successful with the DHB. They had a PMO-like function for projects that did not affect clinicians. But both administrative and IT projects had to go through the CUG first. This gatekeeper role ensured that complex projects such as those making up the EMR programme, were handled at an appropriate rate, with

time often becoming the least effective constraint – and yet there was little resistance to what was finally implemented.

The Manager of IT Strategy felt that the NZFS was too small an organisation to warrant the expense of a PMO function. And yet, in the opinion of the QA Advisor for the FMIS & AMIS projects, there were, at times, simply too many projects underway at the same time, stretching resources and in particular, the time of those on the various steering committees, who tended to be the same senior managers. At the time of interviewing, they had just installed a new process for business case evaluation and project prioritisation.

Ironically, the Ministry had a fully functional PMO in operation, yet the CTO had to employ a redefinition of the project to *avoid* satisfying the criteria for PMO involvement. Seeing them as overly bureaucratic, requiring completion of extensive templates, and constraining their decision-making processes, the CTO was convinced they would do better without the PMO's involvement.

Finding 14: A PMO function is important where an organisation, with limited resources, conducts several projects over the same period. If a PMO is seen as bureaucratic and an obstacle to project progress, then it will not be used. The products and services offered by a PMO need to be scalable and flexible, depending on project size, budget, timetable, resource needs, managerial experience, and the nature of the problems that arise.

8.3.3. Mechanisms

A variety of mechanisms were employed across all cases, to varying degrees of effectiveness, but communication was the one that received greatest emphasis. This included mechanisms for both vertical (up *and* down the hierarchy) and horizontal (across stakeholders) communication. Specifically, the mechanisms focussed on: formal reporting, information dissemination, consultation, and information exchange and discussion.

In each case there was **formal reporting** from the project manager to the project steering committee. Who the committee reported to was more variable. In the Ministry, the steering committee reported to the Deputy Director General, though she did not consequently get involved in the project in any way. In the Fire Service, the steering committee reported to the CEO, though he also did not get involved at any point. In the DHB, the steering committee reported to an IT strategy group, which took a strong interest in the project and its progress. Members of the steering committees in the Ministry and the Fire Service were very reluctant to escalate problems any higher, whereas the steering committee at the DHB was able to escalate a major issue (with an external vendor) and put forward requests for further resources.

Dissemination of information down the hierarchy varied considerably across the cases. At the Fire Service, Operations were kept poorly informed about the project, receiving only edicts from HO-dominated steering committee – there were no other communication channels available. At the Ministry, communication channels to the main stakeholder groups were available in the form of managerial representation on the steering committee. But in practice, there were times when each of the three managers did not keep their own groups informed. On the other hand, the DHB had the unique Clinical User Group, which was used as a central point for both receiving and dissemination information down to each of the semi-autonomous clinical units.

Consultation of user groups did not occur at all at the Fire Service. At the Ministry, only the main user group was consulted, but their recommendations were ultimately ignored. At the DHB, the CUG also served as a conduit for relaying user concerns and recommendations to each other, to IT, and to the steering committee.

Information exchange and discussion between stakeholders did not exist in any coordinated form at the Fire Service beyond the lone Operations manager seconded onto the steering committee. At the Ministry, the sole mechanism for information exchange and debate occurred within the steering committee between the three managers of the major stakeholder groups. The groups themselves remained uninvolved in this activity and often uninformed. Whereas a particular strength of the CUG at the DHB was that it served as a discussion forum between clinicians,

with IT raising the issues and providing advice. At the DHB, information exchange and discussion was seen as critical to gaining user buy-in and system ownership.

Finding 15: Extensive communication mechanisms for both vertical and horizontal information exchange and dialogue are likely to reduce the negative effects of cultural gaps, the exercise of power (such as resistance), and the unpredictability of individual behaviours, on conflict resolution. Communication mechanisms that are uniquely suited to the context of the IT project will be more effective.

Finding 16: Feedback mechanisms such as standard reporting lines, consultation processes and information dissemination processes should be developed for both vertical and horizontal communication, particularly when anticipating or resolving conflict.

8.4. Interaction Between Control Factors and Environmental Factors

Several interactions across all three cases were identified.

8.4.1. Governance and Historical Factors

As noted earlier, historical events had a potential role to play in the progress of each IT project. In each case, conflict was anticipated due to these events. The steering committee responses were:

- **DHB:** anticipated resistance from clinicians, and so set up communication channels to conduct vertical and horizontal information exchange, employ patient persuasion to bring round clinician acceptance, involvement and ownership. All interviewees described these measures as successful, with conflict resolution slow but consensus-based.
- **NZFS:** anticipated some resistance from firefighters, but created only a few, almost token communication channels, with mostly unenthusiastic support. In the end, ad hoc approach taken, with strong likelihood history will repeat again in the future.
- **Ministry:** anticipated resistance from independent user groups, but not from Comms (who were meant to be the ‘tame’ users) or NZHIS (who were meant

to be co-sponsors). The NZHIS technical staff were dealt with firmly by an embarrassed NZHIS chief advisor, but Comms was allowed to drift as it was assumed to be their problem.

The CIO of the DHB spent two years not only setting up the technical infrastructure that would be required with an EMR system, but also learning about the organisation, the clinicians as the major user group, and their past relationship with IT and management. The CIO learned from the DHB's history of clinician behaviour, and the past case studies of other attempts to establish an EMR-based system (such as at Auckland's DHB). A project-oriented infrastructure for governance and decision-making was created, and improved over time, to provide long-term security from some of the more extreme effects of conflict and resistance. However, unlike the Ministry, there was no pre-existing relationship conflict between the IT function and the main user groups. Had this not been the case for the DHB, the CIO's job would have been harder, though how much harder is unclear.

By contrast, the NZFS appeared resigned to the culture gap, with a persistent level of relationship conflict and the threat of resistance to projects. Constructive dialogues mostly occurred on an ad hoc basis during crises. No formal attempts at bridging the communication gap were identified, certainly not before the projects began. This issue required consideration at a very high level in the hierarchy, as they would be the only ones with sufficient authority to set up new governance and decision-making arrangements.

The Ministry had useful reporting and dissemination structures, but they were not always employed, or employed adequately. In the end, two interviewees from the steering committee considered themselves very lucky that two individuals were able to consult the independent users, and create the necessary (and persuasive) dialogue to win their support, as there were no other communication mechanisms available.

Finding 17: Learning from history means being aware of what has happened in the past, understanding why it happened, and determining what governance arrangements can help prevent or mitigate the risk of something similar happening again. Persistent relationship conflict is frequently an outcome of poorly resolved conflict in the past.

8.4.2. Governance and Culture

There were pronounced cultural differences between major stakeholders in both the DHB and the NZFS. While it can be argued as to whether an organisational culture can be changed or not, it is clear that issues that bring about a culture clash are going to be more problematic. However, the solution pursued by the DHB did not intend to change cultures, but rather to find ways for them to work together and seek consensus on important decisions. It is instructive at this point to recall the summary of suggestions put forward by the Fire Service interviewees as to how the culture gap could be bridged. The following are grouped according to the governance arrangement.

- **Policy:** Bringing Operations into the policy-making process;
- **Authority Structures:** Placing more Operations people in decision-making and governing bodies such as steering committees;
- **Mechanisms:** Installing effective communication channels between HO and Operations.

Not only are these recommendations complementary, but they effectively follow many of the initiatives undertaken at the DHB.

Finding 18: Traditional approaches to consultation over system design and implementation may not be sufficient in situations where the primary user group has a powerful, collective cultural identity that is at odds with other stakeholder cultures. Involving them more in policy-making, decision-making, and governing, and putting in place effective communication mechanisms, will increase the likelihood of gaining acceptance, trust, and cooperation over time.

8.5. **Key emergent themes**

For each of the three cases, the data analysis finished with a number of thematic results that emerged as the research questions were addressed. The following examines how these themes applied to each of the cases, and their implications regarding IT project-related conflict, and its resolution, over a broader range of IT

project environments. The comparative outcomes across each of the three cases are discussed and summarised in Table 8.1.

Ideally, major stakeholder groups should be represented at operational levels (through project teams), management levels (team leaders, project managers and steering committees), and governance levels (steering committees, project sponsors, and those responsible for IT governance).

The DHB provided the evidence of functional stakeholder participation at various levels, where the majority of each decision-making body was often drawn from the major user group – promoting a sense of ownership and control over the project. Consequently, communication channels between stakeholder groups were strong and conflict could be resolved effectively by the users themselves.

By contrast, despite evident relationship conflict between HO and Operations, the project steering committee comprised exclusively senior staff from HO. Finally, a senior Operations manager was co-opted onto the steering committee, but this token effort still fell short of effective user participation in decision-making processes. Consequently, communication channels between the two major stakeholders were weak, and the steering committee struggled to contain and resolve conflict incidents between them.

The DHB was very supportive, even proud, of their approach to resolving conflict, but the DHB also conceded that greater stakeholder participation in decision-making can slow down the resolution process. Taking into account other perspectives on issues implies time will be used for information dissemination, consultation, and discussion before a decision can be agreed upon. Consensus decision-making can be notoriously time-consuming, particularly where several stakeholder groups are represented. Even so, DHB staff generally accepted this as the cost to achieving progress with the majority of the clinicians backing the project.

<p>Emergent Theme 1: To successfully manage conflict risk and conflict resolution, major IT project stakeholders need to be represented at multiple levels of both decision-making and governance.</p>

This study confirms what many other studies have shown in the past that effective communication channels between stakeholder groups have a positive effect on the resolution of both anticipated and actual conflict. Setting up effective communication channels is a task of IT project governance. When it is left to the authority structures, such as the project manager or steering committee, there is no guarantee they recognise the need for effective communication, or if they do, they may not have the will, knowledge or authority to create the channels. The governing bodies need to make good use of policies and mechanisms – preferably having them in place before the project begins.

Communication mechanisms employed in cases in this study included:

- Presentations and newsletters (encouraging information dissemination);
- Discussion forums (encouraging dialogue);
- Requirements gathering, design meetings and implementation planning sessions (encouraging consultation); and
- Formal representation in project decision-making and governance (encouraging engagement).

The mechanisms on this list are not unusual in practice, nor is the list comprehensive. Yet this raises the question as to how many organisations would combine a set of mechanisms such as these, in a coordinated fashion, before the project began. Further, would they have the senior management support (including resources) to promote and maintain them?

Policies can also be instrumental in improving stakeholder communication. For example, the DHB announced early in the project that there would be no exceptions to migration to the new EMR system. This ensured semi-autonomous clinical units could not isolate themselves from the project – they had to engage. The DHB's CIO also made use of informal policy for the IT staff involved in the project, requiring positive attitudes and behaviours when working with clinicians. As a consequence, the often vexed user-IT relationship was, in this case, a positive one due in part to strong communication channels between them.

Emergent Theme 2: Lack of project-specific policies and mechanisms to support communication can hinder successful conflict resolution.

As the DHB case demonstrated, project governance and management can be organised at several levels. In that case, a hierarchical structure ensured that each level of decision-making authority was governed by the authority immediately above it. At each level governance and management responsibilities were clearly delineated. This is important for several reasons.

The primary role of IT project governance is oversight of the project. This means putting project-specific governance arrangements in place before the project begins, and then monitoring progress over time. For this reason, those that govern must remain relatively detached from the project-related issues that will arise from time to time, including conflict. In this way, events can be dispassionately observed, discussed, and where necessary, acted on.

Another role of the project governing body is to take on emergency decision-making powers if necessary. Escalation is a powerful tool where serious conflict cannot be resolved by those managing the project. This can be particularly effective if the governing body includes senior representatives of the stakeholders involved.

Governance arrangements (particularly policy) need to reflect the strategic objectives of the IT project. Therefore it is in the governing body's interest to think about issues in terms of long-term consequences. Those in decision-making roles are more focussed on the short-term consequences of issues, such as meeting deadlines or getting sign-off, and how to resolve them expeditiously.

In both the NZFS and the Ministry, the governing bodies (a steering committee in each case) charged with project oversight were also deeply involved in decision-making over project-related issues, including conflict. In both cases, few governance arrangements were put in place beyond authority structures. A short term focus on conflict resolution, often with ad hoc approaches, frequently exacerbated or even caused further conflict incidents. There were no escalation points that they felt able to use – no one wanted to escalate problems to the CEO at the NZFS, nor did anyone get the DDG involved at the Ministry. By confusing their governance and

management roles over the project, they ended up providing poor governance (too much focus on resolving conflict) and, at times, misguided management (no effective policies to guide them and few mechanisms available to help with resolution).

Emergent Theme 3: IT project governance and management responsibilities and activities must be clearly delineated. This is particularly true of the IT project steering committee who are in a prime position to both (a) govern the IT project, including conflict management; and (b) take on a key decision-making role to resolve escalated conflict.

Without policy guidance and constraint, and without effective mechanisms for making and implementing resolution-based decisions, determining how to address conflict is generally left to the project-based authority structures. The less support they receive from governance arrangements, the more likely decision-makers will employ ad hoc measures.

In both the NZFS and the Ministry, the IT project steering committees reacted to each incident of conflict in isolation, seemingly unable to learn from past conflict and unaware of the risk of future conflict. Longer term, underlying issues such as relationship conflict, strategic alignment, and communication channels, were left unconsidered as the focus was on tactical problem-solving for each conflict. Further, the consequences of resolution for each conflict incident, in terms of exacerbating or initiating further conflict, were not adequately addressed, as the lengthy chains in the conflict incident maps for both cases demonstrated.

It should be emphasised that the need for governance support for conflict resolution does not imply an overly restrictive decision-making environment is necessary. It is impossible to predict every conflict incident in advance, and many will involve unique contextual elements that will still require a degree of flexibility in resolution approach. Too much bureaucracy and restrictive oversight can stifle that flexibility. For example, the CTO of the Ministry went to some lengths to redefine a large project as a series of smaller ones, so as to avoid the involvement of the template-based processes of the Project Management Office. Governance should provide

decision-makers with boundaries, guidance, and a series of mechanisms to support broader issues such as communication, escalation, and consensus decision-making.

For example, the DHB developed a key authority structure (the Clinical Users Group, or CUG) that also served as a mechanism for communication (dissemination, dialogue, consultation and participation). The CUG operated under a set of policies outlining rules for membership, the lack of time restrictions, and consensus-based decision-making. However, within this governance framework, the CUG were free to debate issues as they saw fit, taking into account any unique features of each conflict incident they considered.

Emergent Theme 4: Ad hoc decision-making increases the risk of exacerbating or even causing conflict.

Anticipated conflict was identified as critical to the levels of ensuing conflict in all three cases. The act of anticipating conflict and responding accordingly falls within the aegis of risk management.

Risk management involves six steps: risk identification, risk analysis, risk prioritisation, risk management planning, risk resolution, and risk monitoring (see section 2.8.4). The question was raised as to how these steps could be used to help reduce or eliminate the risk of conflict. Based on the analysis of the three cases, this question can be addressed, particularly where conflict is anticipated.

For example, as we have seen from this study, **risk identification** would require:

- identification of the project stakeholder groups;
- an evaluation of their cultures (beliefs, values, attitudes and behaviours);
- an estimation of their power with respect to the project;
- identification of historical events and potential relationship conflict;
- identification of individuals stakeholders (beliefs, values, attitudes and behaviours); and
- prediction over how different conflict scenarios might play out, including the potential outcomes.

Risk analysis requires two considerations: the likelihood of each conflict scenario, and the magnitude of the impact it could have on the project. It is the collection of environmental factors, including the way they interact, that must be considered to estimate the likelihood of conflict. The inherent complexity can make this estimation process difficult, although a focus on dominant factors, along with other factors that may reinforce the effects of the dominant factor, may help. The magnitude can be assessed on a scenario basis (best case, worst case, likely case).

At this point, **risk prioritisation** becomes a more straightforward exercise. Most attention will focus on those risks of conflict that are either likely or serious (in terms of impact), or most importantly of all, both.

Having identified the most important conflict risks, a **risk management plan** is required. As this study has shown, IT project governance is particularly important here. More is required than simply setting up a steering committee and selecting a project manager. It is at this pre-project stage that longer-term policies (reflecting corporate and IT strategy) can be combined with effective mechanisms to carry the policies out. Should conflict occur, decision-makers have policy to guide and/or constrain them and mechanisms to help make and implement resolution decisions.

Risk resolution refers to decisions made and actions taken to reduce or eliminate the likelihood and/or magnitude of the risk. In this study, these actions to ‘resolve’ anticipated conflict were, in many ways, analogous to those taken to resolve existing conflict. Putting the conflict risk management plan into action would require both preparatory work (governance arrangements) and management decision-making should conflict arise during the project.

Risk monitoring refers to regular re-assessments of the risk of conflict. As the project progresses, the project context changes, new issues arise, and the conflict risk management plan may need to change. This accepts the dynamic nature of projects, but requires the above steps to be repeated. New instances of anticipated conflict may have arisen, while old ones may no longer pose a risk. The likelihood and magnitude of existing conflict risks may have changed. When that happens, conflict risks may need to be re-prioritised, requiring a modified risk management plan.

The key findings of this study can be collectively framed by this six-step risk management approach to anticipated conflict. The conflict risk management exercise is the responsibility of the IT project governing body, providing management decision-makers with the support and tools they need to cope with both anticipated and unexpected conflict. The nature of this support must be based on the potentially complex relationships between environmental factors and their combined effects on conflict resolution. As seen in just three case studies, a variety of governance arrangements are available in different situations, and careful selection will help moderate the potentially negative effects that environmental factors may have on conflict.

Without this knowledge of the project environment and the stakeholders involved, it is difficult to see how appropriate governance arrangements can be put in place. The entire conflict risk management process would be, in itself, at risk of oversimplifying and/or underestimating the potential problem. This was well demonstrated in two of the three cases in this study.

<p><u>Emergent Theme 5</u>: Addressing anticipated conflict through thorough risk management practices, including governance arrangements, will both lower the incidence and severity of conflict, and moderate negative environmental effects.</p>

Table 8.1: *Exploring five emergent themes across all three case studies*

Theme	<u>Case 1</u> : NZ Fire Service	<u>Case 2</u> : Ministry of Health	<u>Case 3</u> : Hutt Valley DHB
Anticipated conflict	Correctly identified, but underestimated and considerable conflict ensued;	Correctly identified in two situations, but underestimated in the first – and conflict ensued; in the second situation, it was ‘resolved’ more effectively;	Correctly identified, evaluated and acted on – very little conflict ensued;
Ad hoc vs. governed decision-making processes	Ad hoc resolution processes led to a dynamic relationship between resolution outcomes and consequent conflict incidents;	Ad hoc resolution processes led to a dynamic relationship between resolution outcomes and consequent conflict incidents;	Multi-level decision-making processes employed rigorously, which led to very little dynamic relationship between resolution outcomes and consequent conflict incidents;
Stakeholder participation in decision-making & governance	Main user group: poorly informed, poorly consulted and were not well-represented in either decision-making or governance;	Main three stakeholders (IT, the main user group, and an external user group) represented at both decision-making & governance levels by managers – but outside these three managers, all stakeholder groups remained poorly informed and poorly consulted;	All stakeholders well-informed & consulted, and well-represented at various levels of decision-making & governance;
Use of policies & mechanisms to promote communication	No policies & mechanisms available to encourage: dialogue, consultation, or participation from primary user group;	No policies & mechanisms available to encourage: dialogue, consultation, or participation of different user groups;	Policies and mechanisms employed to encourage: dialogue, consultation, and participation from primary user group;
The boundary between project governance and decision-making	Both governance & management roles placed on same individuals;	Both governance & management roles placed on same individuals;	Several hierarchical layers of governance & management, where each management level is governed by the body above;

8.6. Contributions of this Study

The following outlines how this research has contributed to the primary literatures outlined in Chapter 2 (Literature Review). Next, other contributions to the broader (secondary) IS literature are presented, followed by a description of the theoretical contributions to the IS academic discipline.

8.6.1. Contributions to the literature

IS research has rightly focussed increasingly on the impact of human behaviour on IT project outcomes. But it is argued here that a reductionist approach risks oversimplification of the complexity involved. This research aimed to encompass complexity through a holistic approach. This argument is outlined in greater detail in 8.6.3 Contributions to theory in IS.

Systems thinking for analysis of complex social phenomena

This thesis has contributed to the use of systems thinking in IS research, by presenting a systems-based framework designed to encompass not only the conflict resolution process, but its context and control functions as well. This acknowledges the fact that IT projects, IT project governance, and the conflict situations that occur are complex social processes. Represented below in Figure 8.1, the framework provides a number of advantages when investigating the impact of human behaviours on IT projects. Specifically, these advantages include:

- A complete specification of the factors and interactions involved. This framework can be adapted to any context and control environment, accepting complexity leads to different outcomes in different situations. The initial constructs have been drawn from the literature, and were extended as a result of this research.
- The systems framework allows for holistic analysis of the phenomena in context, seeking to identify any of: interactive effects, dominant effects and missing constructs. This approach is novel in the context of IT project governance and conflict resolution research. In all three cases holistic analysis revealed further effects that were not explicitly identified by the

much depth. Stakeholder conflict appears increasingly in risk factor lists, but there are no 'best practice' guidelines for addressing this risk. The concept of 'anticipated conflict' is introduced in this thesis, and is applied to the challenges of both preventing conflict before it occurs and mitigating the effects of conflict once it occurs. This research makes a contribution to IT project governance literature, and to the design and implementation of IT project governance structures.

Traditionally research into IT project processes have focussed on management decision-making, based on the issues and their context, with little regard to the effects, both potential and actual, of IT project governance. This research shows that IT project governance acts as a control process that influences the management decision-making in projects.

Conflict

Large, complex IT projects in medium to large organisations typically involve many different groups and individuals as stakeholders in both the conduct of the project and its outcomes. Key stakeholder groups generally include: the IT function, senior management, and one or more user groups. Key stakeholder individuals generally include the project manager, the project sponsor, and representatives of the stakeholder groups.

The greater the number of stakeholders involved the more likely conflict between groups and/or individuals will arise. Past research has shown that stakeholder conflict generally has negative effects on project conduct and outcomes. Conflict escalation is a risk and may increase the magnitude and/or frequency of negative outcomes.

This research found that governance arrangements, when put in place before conflict ensued, were relatively successful in terms of moderating the negative effects of conflict. Where conflict was anticipated, but little or no governance arrangements were established, ensuing conflict proved more challenging to address. Further, while environmental effects such as power, culture and history were not under direct control of organisational decision-makers, governance arrangements were

successfully employed to ameliorate the negative effects of contextual factors on conflict resolution.

8.6.2. Contributions to secondary literatures

Other contributions have included minor innovations and additions to a cumulative research archive. The most important of these involves governance.

Governance

Although the focus of this thesis was on IT Project Governance, some insights are relevant to the wider governance literature.

The rise in interest in IT governance arose from an increased focus on corporate governance, again in both the academic and practitioner literatures, particularly after the failure of large corporate institutions, and the introduction of the Sarbanes-Oxley Act in the US. However, academically, the concept of governance (and particularly IT governance) has been difficult to pin down in terms of: definition, principles, governing arrangements, effects of governance, relationship between governance and management, and best practice, to name but a few. This research provides a more comprehensive perspective on governance that encompasses authority (both position and specific appointment), mechanisms (processes to help the management function), and policy (drawn from strategy and implemented in the form of guidance or requirement for management when making decisions). The elevation of policy to become a major governance tool is explained and emphasised in the thesis, and is new to the governance literature. The sequential model demonstrating how the three components link strategy to action is also new to the governance literature.

8.6.3. Contributions to theory

The concept of theory has proven to be difficult to standardise, as demonstrated in Shirley Gregor's seminal work on the nature of theory in IS research (Gregor, 2006). Drawing on a wide range of current thinking, particularly in the philosophy of science, Gregor created a taxonomy of theory types in IS research. Table 8.2 provides a brief summary of the five theory types.

Table 8.2: *A taxonomy of theory types in IS research (from Gregor, 2006)*

A Taxonomy of Theory Types in Information Systems Research	
Theory Type	Distinguishing Attributes
I. Analysis	Says what it is. The theory does not extend beyond analysis and description. No causal relationships among phenomena are specified and no predictions are made.
II. Explanation	Says what it is, how, why, when, and where. The theory provides explanations but does not aim to predict with any precision. There are no testable propositions.
III. Prediction	Says what is and what will be. The theory provides predictions and has testable propositions, but does not have well-developed justificatory causal explanations.
IV. Explanation & Prediction (EP)	Says what it is, how, why, when, and where, and what will be. Provides predictions and has both testable propositions and causal explanations.
V. Design & Action	Says how to do something. The theory gives explicit prescriptions (e.g. methods, techniques, principles of form and function) for constructing an artefact.

A summary of the contributions of this research to theory is outlined below, expressed in terms of the theory types outlined in Table 8.2.

One of the broadest contributions is based on the challenge to the IS academic community to take a holistic approach to studies of large, complex IT projects where human behaviours do not lend themselves so well to reductive research approaches. Too many studies have focussed on a limited array of factors, often only one (power, culture, and project management are all popular topics in this regard). While they provide many useful insights, conclusions drawn must be tempered with caution, as they typically put aside the confounding effects of other factors. This is reflected, frequently, in relatively low predictive power on the dependent variable. This research demonstrated that in all three cases examined, holistic analysis revealed not only a wide variety of factors at work, but that some could dominate at different times, and that they can either reinforce or counteract the effects of each other. Frequently IS research does not fully or consistently address context. Partial system

deconstruction through reductive methods risks missing the whole ‘story’ of what happened and why.

In the search for generalisability and causality, this issue of reductionism has more recently affected quantitative studies as well. A string of important publications examining conflict in IT projects, spanning 20 years and primarily involving respected IS academics such as Daniel Robey, Henri Barki, and Jon Hartwick, considered many (but not all) of the factors identified in this research, related to conflict and its resolution in IT projects, through increasingly sophisticated quantitative models. Often their research yielded a few surprising results that necessitated further explanation. Quantitative data does not provide descriptions of why or how things happened, and so the explanations provided by the authors remained plausible conjecture. However, the problem may actually lie with the specification of the quantitative model itself. Again, there is a risk that incompletely specified models will confound the data and hide other factors at work. It has been argued that the dependent variable in quantitative studies is often influenced by “experiential residue” that represents unmeasured contextual factors (Tate & Evermann, 2009). This, too, could be an explanation for the unexpected results.

The following describes the theory put forward as a result of cross-case analysis described in each of the emergent themes. This places theory development in this research as type II in Gregor’s taxonomy of theory types. It provides explanations as to why project events occurred the way they did in the three cases.

Information systems theorists have argued that an understanding of rich context is an essential step in information systems theory building. Lee (1991) distinguishes between three ‘levels’ of understanding. Understanding at the first level is the every day common sense of people acting in a context. Understanding at the second level is the researcher’s interpretation of this common-sense understanding.

Understanding at the third level involves the development of testable and falsifiable hypotheses. This research develops understanding at the second level, which can potentially be used as a basis for developing novel hypotheses.

However, we note that operationalising and testing these propositions quantitatively is challenging on many fronts. Taking a holistic perspective renders quantitative

surveys difficult due to the sheer number of factors to consider, much less the difficulty of ensuring that each respondent understands what is meant by the terms used. It is also impossible to establish what might have occurred if some actions (or inactions) were changed (e.g. 'prevention' of conflict).

Nevertheless, there is predictive value in heuristics derived from this research in terms of increased (or decreased) likelihood of predicted outcomes occurring.

Heuristics to emerge from the cross-case analysis include the following.

- Successful management of conflict risk and conflict resolution is partly dependent on the degree to which major IT project stakeholders are represented at multiple levels of both management decision-making and IT project governance.
- Lack of project-specific policies and mechanisms designed to support communication between stakeholders can hinder successful conflict resolution and result in poor conflict outcomes.
- Successful conflict management through both prevention and mitigation requires IT project governance and management responsibilities and activities to be clearly delineated.
- Ad hoc decision-making within the conflict resolution process increases the risk of either initiating or exacerbating stakeholder conflict.
- Addressing anticipated conflict through thorough risk management practices, including governance arrangements, can both lower the incidence and severity of conflict, and moderate negative environmental effects.
- Stakeholder conflict should be considered in risk management practices as early as possible, initially at the IT project governance level.

8.7. Limitations and Future Research

The benefits of employing qualitative methods such as case study research include the opportunity to explore the many constructs, and their interrelationships, within the research framework in considerable depth. However, generalisability is limited by the fact that only three case studies were considered. All three cases were public

entities, increasing the risk that some of the findings may not apply to commercial organisations (though such differences were not immediately apparent from the study).

Even so, several results were based on the risks of resistance from a major stakeholder group comprising powerful, professional frontline staff with a strong cultural identity, such as clinicians and firefighters. Some companies will also be faced with similar issues, such as law firms, consultancies, banks, and insurance companies. Furthermore, most of the findings that applied to these cases were not found to be case-specific in any particular way, and could be applied to other organisations, private or public.

The data collected across the three cases presented limitations in terms of both the domain of data collection, through constraints placed on the breadth of the interviewee list, and the practicalities of tracking down everyone on the interviewee list. For example, members of the IT project teams were not interviewed, other than the project manager, in each case (the one exception was the developer representing the vendor involved). This was based on the assumption that the project team would normally be less involved in stakeholder conflict than the project manager, which may not have been true in every conflict situation.

Secondly, in one case involving two IT projects, both project managers were contractors who had moved on from the organisation. Eventually, one was tracked down and interviewed, but the other had gone overseas. At the time, having at least one external project manager was felt to be sufficient for the case. In retrospect, it transpired it was the other project manager who played an important role in the more troublesome of the two projects. Based on other interviewees' collective descriptions, there is a sense that her insights may have added to and/or strengthened the findings presented. This was the only occasion when a key participant could not be interviewed.

Time was one important factor that could not be easily represented in the simple research framework. This is a limitation of the simple systems framework used for this study, as it presents a static view of a dynamic process. However, in practice, this system 'snapshot' can be updated at any time as the project progresses.

As the entire research exercise was carried out by one person, there are risks of bias that could appear at any (or every) stage of the research process, including data collection, coding, preliminary analysis and cross-case analysis. Issues of validity and data trustworthiness were considered and appropriate steps taken to minimise any inherent bias.

There are many directions future research could take from this point. Applying the framework to a greater range of project types and organisations would help determine which outcomes would be more generalisable for different contexts. The systems framework could readily be modified to examine other IT project-related processes where human-related phenomena may be complex to manage, such as designing website-based information systems for consumer use. The entire IT project process could be modelled and analysed using the framework. This would lend itself to decomposition into subprojects within the framework, and could incorporate both 'hard' and 'soft' perspectives of project management and oversight.

Another area of increasing importance in both practice and research is the realisation of project benefits as a measure of project success. This would entail the central process being represented as a collection of sub-processes that would be applied at different stages of the project (and, importantly, post-project, when the implemented system begins to yield the benefits). Input could be project resources and the output would be the benefits themselves, including measures of benefit achievement over time as feedback to management. Otherwise, the framework would remain essentially the same.

Finally, there are more sophisticated systems-based modelling methods available to provide further insights, including systems dynamics and the viable system model. Systems dynamics places an emphasis on change over time, employing feedback loops and simulation (Sterman, 2001). This would compliment the research framework from this study, which did not represent time well as a factor in the system.

The viable system model (VSM) offers significant potential for further understanding of the relationship between organisational controls and organisational environment (Beer, 1985). The VSM examines how a system is organised to

determine its viability – that is, how well the system can cope with unexpected events. The VSM is sufficiently flexible to model a variety of organisational systems, and would be particularly well-suited to IS design (M. Jackson, 1988). Yet few applications of the VSM to IT projects have been published (see, for example, Kawalek & Wastell, 1999). The VSM emphasises a need to focus on the nature of controls *before* change begins, and ensure control measures are sufficiently adaptable to allow for environmental ‘turbulence’ so that the system remains viable. (Brocklesby & Cummings, 1996) These are important themes in this research as well.

8.8. Conclusions

The IT industry has come a long way in terms of grappling with increasingly complex IT projects. Not surprisingly, much of the recent progress has focused on the issue of working with multiple stakeholders. Failure to do so was seen as a major contributor to the frequent problems that occurred with the implementation of major integrative systems such as BPR, TQM, ERP and e-Commerce. Change management, with its focus on the implications of change for stakeholders, is generally considered essential today.

However, based on analysis of the evidence drawn from the three case studies, it is argued that while the advent of change management moves in the right direction, they do not go far enough. There is still a tendency to look for silver bullets and one-size-fits-all solutions, often under the guise of ‘best practice’.

When there are several important stakeholder groups involved in an IT project, their collective human behaviour can be complex and unpredictable. This can leave management with difficult decisions to make as the project progresses when issues such as stakeholder conflict arise. Organisations put a great deal of faith in methodologies, but if they are engaged in a prescriptive manner, project managers and project steering committees are left to fend for themselves when conflict occurs. This places a greater emphasis on the individual behaviours of those in positions of authority. Some individuals will cope better with complexity than others. Many try to reduce complexity to a few variables to consider.

Complexity does not always lend itself to simplification processes. It is argued here that complexity needs to be embraced. By accepting that integrative systems are complex, and that the stakeholders involved will make the project conduct more complex, senior management in organisations can use time *before* the project begins to perform stakeholder analysis, to anticipate any likely conflict, and to put in place governance arrangements that will help either prevent or mitigate the conflict.

This is well-illustrated by the three cases in this study. With the NZFS, preparation for IT project governance was poor, conflict ensued, and the negative impact on the project was commented upon by all interviewees. Conversely, the DHB laid the groundwork for effective IT project governance, with positive impact on the project also unanimously agreed upon by interviewees. The Ministry was more complex, with few IT project governance arrangements in place by the time the project began. The main project requirements (deadline, budget and functionality) were ultimately met, but the first part of the project was abandoned, and not all stakeholders were happy at the end. Comments on the effects of ensuing conflict varied according to the perspective of the interviewee.

Project success is difficult to define (see Section 2.2), and so to what degree the effects of conflict contributed to overall project success or failure was not assessed.

This research concludes the following:

- Simplification of a complex environment into what are seen as key components has been shown to be beneficial in many, but not all cases in the literature. The risk of oversimplification is that many important effects may be missed in the process, particularly:
 - those effects that reside outside the research framework;
 - those effects that dominate others in terms of impact; and
 - those factors that interact in complex ways to produce effects that would not be apparent if either were considered independently.

- Holistic tools, such as systems thinking and systems modelling, should be employed to ensure a complete picture of what is going on is available. Either general, or slightly specialised, templates can be used to model the unique features that every particular organisation and/or IT project has in any given case.
- It has been shown that anticipation of certain types of risk issues (in this research, conflict), based on likelihood and magnitude, provides an excellent opportunity to prepare the way with the introduction of governance arrangements. A holistic understanding of the complex IT project environment would provide a solid basis for risk management and mitigation.
- Close attention needs to be paid to the selective mix of policy, authority, and mechanisms that make up the governance arrangements for IT projects. Having established an understanding of the complex IT project environment, governance arrangements should be selected and tailored to closely fit the nature of the project environment. There will be common elements across most IT projects, both within and across different organisations. But there will inevitably be unique differences between IT projects, again both within and across different organisations. It is these other factors that methodologies and other mechanisms are likely to miss.

There is never a guarantee that any approach will be successful. For example, systems thinking and systems modelling are techniques that require some skill and experience to use successfully, though expertise can be readily found. But it is argued that by embracing complexity, seeking better understanding, even while accepting not all is knowable (or necessarily relevant), IT project risk management and mitigation will be significantly enhanced precisely in those human-related areas that traditional project oversight struggles to achieve.

9. References

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Appendices

Appendix A – Brief Summary of Exploratory Findings

Detailed notes (as opposed to actual transcripts) were made from each interview and collated under a series of headings as follows. Note that a number in bold at the end of any particular statement below indicates how many consultants made the observation (for example, [**x3**] indicates three consultants made that observation).

Conflict/political issues that arose:

- i) Project managed by IT Dept, who focus on the technical issues more than the business issues; [**x 2**]
- ii) Seeing the project as an opportunity to increase personal/departmental power; [**x 2**]
- iii) Separation of project funding from project delivery, management & responsibility;
- iv) An operational unit doesn't see any benefit for themselves (eg. current practices seem more than adequate for their needs; it has taken a long time to get the current system working well; threat of staff losses; loss of power in organisation);
- v) Turf wars over project control; and
- vi) External consultants (and sometimes outsourcing firms) whose actions primarily serve those paying the money, rather than the enterprise as a whole.

Political tactics employed:

- i) Imposing centralised technical standards inappropriately, to delay & frustrate project progress; [**x 2**]
- ii) Operational resistance by withholding information necessary to design new processes; [**x 2**]
- iii) Withholding or reallocating budget unless project direction aligned with budget-holder's agenda;
- iv) Setting project deadlines based more on political agendas than available resources;
- v) Using the Sponsor's power to achieve private agenda objectives (without necessarily having to supply a detailed rationale!)

Source of conflict issue:

- i) IT Dept vs Operational Units;
- ii) Project funder vs project manager;
- iii) Build vs package vs outsource;
- iv) Local vs centralised benefits;
- v) Task management vs people management;
- vi) External vs internal; and
- vii) IT development vs IT operations.

Consultants' observations on cases:

- i) Government projects are potentially better candidates for study, as they may be more open, they are typically large organisations, and their projects are rarely straightforward.

- ii) Government projects also have an added layer of political complexity – the Government itself (Treasury providing the budget; the State Services Commission overseeing progress; the Minister reporting to Cabinet and the media; and external influences such as elections).
- iii) There is no real difference between public and private organisations in terms of IT-related politics. [x 2]
- iv) However, one suggested there is a difference: in private organisations, the Sponsor has far more power (and can, for example, subvert the governance model), whereas in public organisations, the reverse needs to be seen to be true. For example, many large, private firms in NZ have head offices overseas, and consequently must adhere to the governance model inherited from the offshore parent.
- v) E-commerce applications are particularly problematic:
 - (1) There is no prescriptive way to develop them (other than to build and refine) – making traditional project constraints such as budget, deadlines, and quality very difficult to sensibly apply.
 - (2) They dramatically change the way business is done – realigning the power structures.
 - (3) Consequently, it may be best to find proven, experienced developers and to focus mostly on the functionality.

Recommended practice for handling conflict:

- i) Ensuring stakeholder involvement such that all voices are at least heard:
 - (1) typically via project-specific steering committee; [x 4]
 - (2) a federalist approach where senior operational managers are expected to reach consensus on major issues before they become serious; [*works well, apparently*]
 - (3) hierarchical review meetings used to identify and resolve issues (and to disseminate) – they involve relevant stakeholders at each level, with issues raised at the lowest level, but going higher up the chain until finally resolved; [*works well, apparently*]
- ii) Engage the support of a strong project sponsor; [x 4]
- iii) Business units must take responsibility for their own projects (perhaps reflecting the shift away from infrastructure projects and over to business value-added projects); [x 3]
- iv) Good project management skills (and experience) essential – less, these days, on task management and more on people management & understanding of the business (ie change management skills?); [x 3]
- v) Employ external bodies to decrease conflict of interest (either elsewhere within the organisation, eg a QA body, or outside the organisation, eg consultants) – though they do become stakeholders as well; [x 2]
- vi) Perform *risk assessment* at earliest stages of the project to assess potential ‘barriers to change’, by assessing nature of power structures amongst stakeholders, and winning over the powerful and influential; [x 2]

- vii) Reduce uncertainty at the earliest stages by: using good communication structures involving all stakeholders, explaining the business vision, identifying priorities; [x 2]
- viii) Use two project sponsors – one representing the clients, the other the developers;
- ix) Ensure stakeholder representatives are: *knowledgeable* about the business objectives, *respected* within the organisation (so that they cannot only represent interests and disseminate information, but also inspire!) and *closely involved* with the project (to quickly identify & resolve issues at the local level); and
- x) Move CIOs more into general management, as they are required to spend more time facilitating agreement amongst the operational managers anyway.

General Observations:

- i) Outcome uncertainty breeds politics – for the larger projects, no one knows for certain what the changes will finally look like once the new system has settled (staffing, skill sets & training, work practices, culture, morale, power); [x 4]
- ii) Projects affecting the core business functions (typically embedding IT into them) appear more likely to engender conflict – they involve too many stakeholders and often mean profound changes to the organisation (and hence its power structures); [x 2]
- iii) Project health measures such as functionality, scope, quality, and even deadlines ultimately depend on budget constraints; [x 2]
- iv) Endemic change (restructuring, mergers, other projects, etc.) breeds conflict and politics (probably because they lead to uncertainty); [x 2]
 - (1) stable organisations generate fewer change management issues for an IT-related project;
 - (2) parallel activities (staff reapplying for jobs, new infrastructure, changing procedures, budgetary reallocations) place a lot of pressure on the stakeholders;
- v) Turf wars arise from:
 - (1) lack of ownership resolution (eg. systems integration); [x 2]
 - (2) projects crossing several unit boundaries (eg CRM systems); [x 2]
 - (3) lack of knowledge about the application type (eg. E-Commerce); [x 2]
 - (4) conflicting objectives and lack of priority setting;
- vi) Outsourcing is another common source of politics – either the threat of it (with loss of staff) or the management of it (where a new, external stakeholder has appeared); [x 2]
- vii) Governance structures in organisations often seem to support those *affected* by the changes more than those who are *implementing* them;
- viii) New finance systems often lead to conflict and political activity – possibly because so many stakeholders are involved, and also everyone wants access to the financial information!
- ix) While project deadlines, budget and scope are common political issues, functionality only becomes an issue when the IT Dept specifies more of it than the users! Quality may also be a problem.

Appendix B – Participant Information Sheet and Consent Form

Information Sheet

My name is David Johnstone, and I am a Lecturer in Information Systems, in the School of Information Management, Victoria University of Wellington. Prior to teaching, I spent 10 years working in the IT industry. I have embarked on this research project with the intention of completing my doctoral (PhD) studies in Information Systems.

About the Research Project

It is not unusual for large organisations to engage in significant, complex IT projects. Typically, the projects affect many different parts of the organisation. As a result, there are a number of stakeholders who have an interest in the way the project is conducted, including: end user groups, IT developers, senior management, the project manager, the project steering committee, the project office, vendors, and consultants.

It is almost inevitable that such interests will not always be the same amongst the different stakeholders. Sometimes these differences may lead to issues of disagreement and conflict. I am interested in finding out how different organisations deal with the issues as they arise.

In particular, I am investigating the effects IT project governance may have on the resolution of the issues. By governance, I mean the combination of three things:

- the formal authority to make decisions on relevant issues;
- the policies that guide and control their decision-making; and
- the procedures, processes, tools and methodologies used to help both their decision-making and the implementation of their decisions.

Research Approach

Phase 1 of this project involved interviewing a number of experienced project managers working for major consultancies in Wellington. The collected experiences provided the basis for the line of questioning in Phase 2.

In Phase 2, a pilot study was conducted, involving one-hour interviews with a range of stakeholders of a significant IT project in each of two different organisations. This more in-depth investigation led to the refinement of the IT project governance framework developed for this study.

Currently, Phase 3 involves an extension of the Phase 2 pilot study, with further IT project-related interviews across a range of organisations.

Procedure

There are two parts to the interview process.

1) Research Interview

- a) Introduction to the researcher and the research project;
- b) Explanation of confidentiality & anonymity; signing of consent form;
- c) Questions on recent events with respect to the IT project are asked; and finally
- d) Wrap-up (interview to be completed within 60 minutes of start).

2) Post-Interview

- a) Transcription of taped interview is made & checked by interviewee;
- b) Material drawn from the interview is aggregated with material from other interviews;
- c) At the end of Phase 3, a summary of aggregated research results will be provided for all participants, along with an examination of the IT project governance arrangements at the interviewee's organisations.

Note that research involving interviews of this type are subject to approval from Victoria University's Human Ethics Committee.

Confidentiality and Anonymity

Research interviews are carried out with the understanding that the following applies:

- 1) Confidentiality of Material – Sensitive material obtained from the interview will be considered confidential – that is, no one except the principal researcher (David Johnstone) and his PhD supervisors (Prof. Sid Huff & Dr. Beverley Hope), all at Victoria University, will be permitted to see it.
- 2) Security of Material – Interview tapes and notes will be kept in a locked filing cabinet. The tapes and notes will be destroyed within two years after the completion of the research project. No copies will be made.
- 3) Anonymity of Participants – Though material from the interviews may contribute to academic publications, it will not be possible to identify either participants or organisations that have taken part in the study.

Finally

At this point I would like to thank you for your contribution of time and knowledge towards this research project. It is my hope that this study will contribute to a better understanding of how complex IT projects can be handled and increase the likelihood of a successful outcome.

If you have any queries about the research project, or your participation, please contact the principal researcher:

David Johnstone
Lecturer in Information Systems
School of Information Management

Victoria University of Wellington
Telephone: (04) 463-5877 (direct line)
Email: david.johnstone@vuw.ac.nz

Consent Form

The following outlines what the interview participant consents to in terms of both their involvement in the research project, and the subsequent use of the interview material.

Please read the following statements, then sign and date the form before the interview begins.

- 1) "I have been provided with adequate information relating to the nature and objectives of this research project, I have understood that information, and have been given the opportunity to seek further clarification or explanations."
- 2) "I understand that I may withdraw from this study at any time within one month of my receipt of the interview transcript for checking, without providing reasons."
- 3) "I understand that if I withdraw from the project, any data I have provided will either be returned to me or destroyed."
- 4) "I understand that any information or opinions I provide will be kept confidential and reported only in an aggregated and/or non-attributable form."
- 5) "I understand that the information I have provided will be used only for this research project and that any further use will require my written consent."
- 6) "I understand that the information obtained will be destroyed within two years of the completion of the project."

I therefore agree to take part in this research.

Signed Date

Appendix C – Data Collection Interview Protocols

IT Manager Interview Schedule

Objectives

- A. To gain endorsement of the study and consequent access to organisational staff and material for use in my research;
- B. To identify an IT project, and corresponding key stakeholders, that satisfy the selection criteria for this study; and
- C. To gain an agreement to an interview about general aspects of the project (with a focus on context).

Part 1 – Introduction (FACE-TO-FACE)

- 1) **Who I am** (business card)
- 2) **What I am doing** (information sheet)
 - a) I will have sent them an information sheet in advance, but will provide one if they don't have one immediately available. I will ask if they have had a chance to look at it. If not, I will be happy to explain the main features.
 - b) Either way, ask if they have any questions about it.
- 3) **Why it is important** – organisations such as theirs will gain insights into guidance and control of complex IT projects.
- 4) **How they can help**
 - a) Become involved in the study by supporting the project;
 - b) More specifically, help identify a suitable project for the study; and
 - c) Help me identify suitable stakeholder representatives for interviews.
- 5) **What they can expect in return** – I will provide:
 - ☐ a summary of the combined organisational study results; and
 - ☐ a specific evaluation of their IT project governance arrangements currently in use.

Part 2 – Identifying: Project / Stakeholders / Authority Structures

(FACE-TO-FACE, structured)

- 1) Show Interview Information Sheet and explain structure of interview (times are approximate, and step 6 may not be feasible if earlier steps require more time):
- 2) Complete Consent Form.
 - a) May need to clarify some of the statements; refer back to details in Study Information Sheet if necessary.
- 3) *Has your organisation been involved in a major, IT-related project in recent years?*
 - a) [If so] *Tell me about it.*

- i) time period, purpose, etc. – test if project selection criteria met

[[ie. relatively recent / large & complex / several end user stakeholders + others]]

[[NOTE: typical multi-stakeholder projects include: intranet, e-commerce, ERP, BPR, systems integration]]

- ii) how they were involved – test if they know enough about the project to identify stakeholders & suitable representatives ... may have to ask if unclear

[[NOTE: may need to ask if someone else would be better to talk to about this, eg. if IT manager wasn't involved at the time]]

- b) [If not] *Can you think of any other major IT-related projects in recent years?*

- i) If so, back to (a)

- ii) If not, apologise, explain what kinds of projects are required for the study, thank them for their time, and end the interview. NOTE: if a project only narrowly misses the criteria, in many cases it may still be worth doing.

- c) Confirm project meets criteria, and we can continue.

4) Complete Project ID Form.

- a) NOTE: much of it will have been filled in from information provided earlier.
b) Ask if they will check it.

5) Complete the Stakeholder ID Form.

- a) First, ask them to go down the first three columns, identifying the stakeholder groups and types, and their level of interest in the project.

[[NOTE: It is important that the identified stakeholders include:

- The Project Manager
- At least *two* major end user groups
- At least *one* IT function group (internal or external)
- At least *one* other major stakeholder

- b) Then ask them to identify *important* representatives for each group, and whether or not they would be suitable for interviewing.

[[NOTE: that is, do they still work there, and are they likely to be amenable to be interviewed? ... particularly if I have the support of the IT Manager!]]

6) Complete the Authority Structure Form.

- a) Do they have any preprepared hierarchy structures, or other documents which help explain?
b) Start with diagram of general decision-making structure, add characteristics
c) Then move on to more specialist, IT- or project-related (directly or indirectly) structures (eg. steering committees, project committees, etc.) – and add characteristics.

- 7) Obtain any documents outlining policies (including rules, guidelines) that would affect decision-making within the project context (including corporate, IT-specific, and project-specific levels).
 - a) This is based on the working definition of governance that involves the simple test of determining whether or not written policy exists.

Part 3 – Exploring governance and conflict resolution

(optional, FACE-TO-FACE, semi-structured)

8) *Do you mind if I record the remainder of the interview?*

- a) Remind them (if necessary) of:
 - i) Confidentiality & anonymity
 - ii) The consent form
 - iii) The return of the transcript for checking
- b) Otherwise, must take notes, which I will write up and return to them for checking.

9) *Can you recall an instance of a disagreement between two of the major stakeholders that the parties themselves could not satisfactorily resolve?*

- a) If necessary, one party can be a minor stakeholder.

10) *Tell me what happened.*

- a) Focus on key events, including outcomes. For each key event, story must include:
 - i) How did the event unfold?
 - (1) Progress of conflict, conflict resolution, & decision/influence processes.
 - ii) Who was involved?
 - (1) Groups/individuals
 - (2) Was there politics? (power structure)
 - iii) Why did it happen?
 - (1) Why did the conflict and/or conflict resolution processes lead to this event?
 - (2) What effects did organisational moderators have on this event? [focus on: authority structures, policies, procedures; but include: methodologies, culture, power structures, etc.]
 - iv) When did it happen? (possibly in absolute month/year, but more useful if in context of project status)
 - v) Where did it happen? [optional]
- b) May need to prompt if too much of the above remains unclear;
- c) ***How would you rate the conflict resolution outcomes overall, in terms of their effects on the project? Why?***
 - i) How satisfied were those involved with the outcomes? ... the resolution process?

11) Wrap-up

- a) Thank them for their time and participation, give them their rewards, and remind them I will see them next to provide the transcript for checking and if necessary, clarify some of the facts. Note that the results may take several months to emerge!

- b) Finally, ask if they would be willing to participate in the brief survey I will be conducting later this year.

Stakeholder Interview Schedule

Objectives

To interview the stakeholder about the selected project, specifically:

- Key conflict events as the project progressed; and
- General aspects of the project (primarily contextual matters).

Part 1 – Introduction (FACE-TO-FACE)

- 1) **Who I am** (business card)
- 2) **What I am doing** (information sheet)
 - a) I will have sent them an information sheet in advance, but will provide one if they don't have one immediately available. I will ask if they have had a chance to look at it. If not, I will be happy to explain the main features.
 - b) Either way, ask if they have any questions about it.
- 3) **Why it is important** – organisations such as their's will gain insights into guidance and control of complex IT projects.
- 4) **How they can help**
 - a) Allow me to interview them to explore the way project-based stakeholder conflict was handled.
- 5) **What they can expect in return** – I will provide:
 - ☐ a summary of the combined organisational study results; and
 - ☐ a specific evaluation of their IT project governance arrangements currently in use.

Part 2 – Exploring governance and conflict resolution

(FACE-TO-FACE, semi-structured)

- 12) Explain structure of interview (times are approximate):

1	5 min	About the research project (completed)
2	5 min	Complete Consent Form
3	20 min	Describe events surrounding a project issue (1)
4	20 min	Describe events surrounding a project issue (2)
5	5 min	Questions on context [OPTIONAL]
6	5 min	Wrap-up

- 13) Complete Consent Form.

- a) May need to clarify some of the statements; refer back to details in *study information sheet* if necessary.

14) *Do you mind if I record the remainder of the interview?*

- a) Remind them (if necessary) of:
 - i) Confidentiality & anonymity
 - ii) The consent form
 - iii) The return of the transcript for checking
- b) Otherwise, must take notes, which I will write up and return to them for checking.

1st Critical Incident

15) *Can you recall an instance of a disagreement between two of the major stakeholders that the parties themselves could not satisfactorily resolve?*

- a) If necessary, one party can be a minor stakeholder.

16) *Tell me what happened.*

- a) Focus on key events, including outcomes. For each key event, story must include:
 - i) How did the event unfold?
 - (1) Progress of conflict, conflict resolution, & decision/influence processes.
 - ii) Who was involved?
 - (1) Groups/individuals
 - (2) Was there politics? (power structure)
 - iii) Why did it happen?
 - (1) Why did the conflict and/or conflict resolution processes lead to this event?
 - (2) What effects did organisational moderators have on this event? [focus on: authority structures, policies, procedures; but include: methodologies, culture, power structures, etc.]
 - iv) When did it happen? (possibly in absolute month/year, but more useful if in context of project status)
 - v) Where did it happen? [optional]
- b) May need to prompt if too much of the above remains unclear;
- c) *How would you rate the conflict resolution outcomes overall, in terms of their effects on the project? Why?*
 - i) How satisfied were those involved with the outcomes? ... the resolution process?

2nd Critical Incident

17) *Since you regard the last example to be successful/unsuccessful, can you recall an instance of a disagreement between two of the major stakeholders that was resolved in a(n) unsuccessful/successful manner?*

- a) If necessary, one party can be a minor stakeholder.

- b) If not, then they can still discuss another incident.

18) ***Tell me what happened.***

- a) Focus on key events, including outcomes. For each key event, story must include:
 - i) How did the event unfold?
 - (1) Progress of conflict, conflict resolution, & decision/influence processes.
 - ii) Who was involved?
 - (1) Groups/individuals
 - (2) Was there politics? (power structure)
 - iii) Why did it happen?
 - (1) Why did the conflict and/or conflict resolution processes lead to this event?
 - (2) What effects did organisational moderators have on this event? [focus on: authority structures, policies, procedures; but include: methodologies, culture, power structures, etc.]
 - iv) When did it happen? (possibly in absolute month/year, but more useful if in context of project status)
 - v) Where did it happen? [optional]
- b) May need to prompt if too much of the above remains unclear;
- c) ***How would you rate the conflict resolution outcomes overall, in terms of their effects on the project? Why?***
 - i) How satisfied were those involved with the outcomes? ... the resolution process?

19) **Wrap-up**

- a) Thank them for their time and participation, give them their rewards, and remind them I will see them next to provide the transcript for checking and if necessary, clarify some of the facts. Note that the results may take several months to emerge!
- b) Finally, ask if they would be willing to participate in the brief survey I will be conducting later this year.

Appendix D – Operational Code Definitions

Coding Structure	
Construct	Operational Definition
<u>1 INPUT</u>	
IT project Issue	A project-related issue that involves disagreement between stakeholders as to what should happen next.
Issue Stakeholders	The project stakeholders who are involved in the ensuing conflict - either directly (in the dispute) or indirectly (in its resolution).
<u>2 PROCESS</u>	
Conflict Evaluation	Where the issue involving stakeholder disagreement undergoes a formal process identifying, recording, and evaluating the dispute requiring resolution.
Conflict Resolution	The process used to make decisions about the dispute, once formally recorded.
Decision	One of the decisions facing the decision-maker as part of the conflict resolution process.
Decision-Maker	The issue stakeholder responsible for making a decision as part of the conflict resolution process.
Influence	A process used by individual, or groups, of issue stakeholders to manipulate the way the conflict evaluation, and conflict resolution, processes are carried out.
<u>3 OUTPUT</u>	
Resolution Outcome	The results of the decisions made during the conflict resolution process.
Process feedback	Formally collected information reflecting the status of the conflict evaluation and conflict resolution processes, at either predefined or ad hoc intervals, based on pre-set performance measures. NOTE: While it is feasible that feedback could also apply to Influence processes, it is unlikely in any formal way.
<u>4 CONTEXTUAL FACTORS</u>	
Individual Behaviours	Individual-level behaviours affecting processes
Power Structure	Power represents the capacity to influence decision-making - outside normal authority. The power structure represents the distribution of non-authoritative power throughout the organisation.
Culture	Collective beliefs, attitudes and values within the organisation that affect decision-making. These are not officially recorded, yet remain understood and accepted by most in the collective group.
Other	Other organisational factors (outside power, culture, and governance) that may affect decision-making within the organisation.

5 CONTROL

Policy	Officially recognised, and recorded, statements from higher levels of authority that seek to control decision-making, and consequent actions, through constraint and guidance.
Authority Structure	Officially sanctioned responsibility for making decisions over pre-defined functional areas. Such decisions may, or may not, be controlled by policy.
Mechanism	Officially sanctioned processes, procedures and practices for making and/or implementing decisions. Policy may, or may not, require their use. Authority may, or may not, dictate that they will be used. They may be pre-defined or ad hoc.

6 HISTORY

History	Past events relevant to the current issues.
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Appendix E – New Zealand Fire Service Summary Tables of Conflict Incidents

Table E-1: Conflict Incidents

CI#	Brief Description	Primary Target	PRE-RESOLUTION CONFLICT			POST-RESOLUTION CONFLICT		
			Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference
1	Relationship conflict between Operations & Head Office - it has been suggested there is ongoing tension between Ops & HO, primarily based on historical distrust and vast cultural differences. However, whether or not it has an effect on a project depends on the degree both parties are involved. For example, the FMIS had little trouble because it did not involve front line staff much. "People have talked about the tension, but I haven't experienced it myself." [EM, the PM of FMIS]	Relationship	Seen by Ops as, yet again, all responsibility with little authority: "...the sponsor of the project [PC] was very much the manager of the policy area, whereas the operational people were expected to implement it. So, it's the old conflict between accountability and responsibility." [FS] [YES]	Both Ops and SC were increasingly fed up with exercise; Also, original PM had trouble getting on with station staff. [YES]	The relationship conflict was a direct contributor to the issues encountered. [YES]	Ops suspicion & mistrust towards HO has not significantly improved. [YES]	uncertain [Some]	The potential for interference again, as the exercise continues is high. [YES]
2	Resistance by Operations to AMIS [ANTICIPATED] - the SC were under no illusions that regions may take issue with aspects of AMIS in general and AVP in particular, and sought measures to reduce the effects through increased consultation and participation.	Task (process)	anticipated resistance [YES]	anticipated negative emotions from Ops [YES]	anticipated resistance likely to interfere with project goals management enforcement likely to engender interference of internal station and regional goals (through additional work with little benefit; and changes to established regional systems, respectively) [YES]	resistance still apparent [YES]	increasing frustration from both Ops and HO (via SC) [YES]	dual interference remains an issue [YES]

			PRE-RESOLUTION CONFLICT			POST-RESOLUTION CONFLICT		
3	<p>Resistance by Operations to AVP - Although all fire stations felt obliged to participate in the AVP, many did not give timeliness or accuracy as high a priority as HO would like them to. As a consequence, several rounds of collection were necessary - with corresponding costs & delays.</p> <p>The underlying issue is that while HO do have accurate figures at a national level, how those assets are distributed across 430 individual fire stations is where the figures are less certain. Physically fixed assets (property, buildings, etc.) are straightforward, but many assets are moveable and may (for many reasons) end up at different stations (eg breathing apparatus, fire hose, etc.). An AMIS objective is to enable the tracking of these, so that maintenance records can be stored and accessed. So, data collected from stations <i>should</i> all add up to the national figures. But the differences were, in fact, so significant that further data collection was required. The stations were not always providing accurate data.</p>	Task (process & content)	<p>Many stations did not agree with HO over priority for AVP.</p> <p>[YES]</p>	<p>Pre-existing relationship conflict meant many stations suspicious of HO intentions.</p> <p>[YES]</p>	<p>"Some of the regions, I think, had better systems in place, and felt comfortable with existing systems. " [EB]</p> <p>Similarly, the need for accurate data meant repeated data collection rounds - seriously affecting the AVP & AMIS deadlines/budgets.</p> <p>[YES]</p>	<p>Basic disagreement unresolved even after AVP finished</p> <p>[YES]</p>	<p>Some suspicions and frustrations remained as data still not completely right, but conflict terminated.</p> <p>[YES]</p>	<p>AVP delays costly to AMIS.</p> <p>[YES]</p>
4	<p>AMIS project manager becomes AVP project manager as well: The project manager for AMIS (Jo) was also put in charge of the AVP once that started getting into trouble. As she spent more time on the AVP, AMIS was making little progress and falling behind schedule. Worse, the AVP continued to be problematic anyway (see #1, #3). "The issue was essentially allowed to drag on. ... and it wasn't until it became a crisis, that they decided to sack the project manager partly because of conflicts ...". [FS]</p> <p>"How much time should Jo Thompson who was the AMIS Project Manager spend doing this? ... rather than getting the system, the conference room pilots that I talked about before, and all the testing and so forth. There was conflict there about how much time she should be spending on this. Was this part of her responsibility or not? Inevitably, getting the assets records correct is a pre-requisite for using AMIS in the sense that it was intended. The more time she spent doing that, it was time she was not spending on other things. And there were conflicts within the team because of that." [PC]</p>	Task (process)	<p>"During the AMIS project, there was a significant disagreement with the project manager, who then left. ... or, who was asked to leave." [FS]</p> <p>[YES]</p>	<p>Many Chief Fire Officers (of stations) did not get on with the AMIS PM. She was either unaware of the relationship conflict between Ops & HO, or felt unable to do anything about it.</p> <p>[YES]</p>	<p>The station CFOs saw AMIS as being of little value to them, and yet forcing more work upon them due to the AVP.</p> <p>The AMIS PM saw these station CFOs as the direct cause for delays and poor quality data.</p> <p>[YES]</p>	[NO]	[Some]	[NO]

			PRE-RESOLUTION CONFLICT			POST-RESOLUTION CONFLICT		
5	<p>SC faced with slippage in AVP deadlines - "There were known to be very large discrepancies between the original asset lists and reality. The AMIS project involved a very large data collection exercise of information about assets that were in Eugene - the predecessor system - that had to be brought across to the main JD Edwards system as part of the asset register. ...there were many attempts to do this..." [PC] This was the AVP - a subproject of AMIS.</p> <p>"This was done, and supposedly all the asset lists were then to be signed off by all the regional managers as being accurate. And we never got that done successfully. ...I suppose we could argue that there were arguments, discussions, ... about how did we know when we had finished? How do we know when we've got that degree of accuracy?" [PC]</p> <p>"We reached 100% accuracy asymptotically, as it were. In other words, it will never be absolutely accurate. ...We did not have any objective basis for saying 'it's now accurate enough', because you simply can't establish one. You can never say 'I now know that it is 97% accurate.' You can never know that." [PC]</p> <p>"I would say the biggest issue for AMIS was asset register correctness." [PC]</p>	Task (process)	<p>Some members of the SC (esp. those with financial background) were worried about costs, and wanted to end AVP sooner.</p> <p>Other SC members were worried about accuracy of asset data, noting that AMIS would only be used if the data was true, and so wanted AVP to continue longer.</p> <p>[YES]</p>	<p>"So there were disagreements, lengthy discussions, uncertainty, unhappiness at the Steering Committee ...I think we were all unhappy about different aspects of it. How many times did we have to do it? How much money did we have to spend?" [PC]</p> <p>Eventually, everyone became "weary" of repeated efforts to improve data quality.</p> <p>[Some]</p>	<p>Financial interests were worried about effects on budget & deadlines;</p> <p>Non-financial interests worried about quality & likely use of AMIS system if data untrustworthy;</p> <p>[YES]</p>	<p>Eventually agreed (consensus) asset data accurate enough & AVP can finish.</p> <p>[NO]</p>	<p>Collective "weariness" meant relief for many when AVP ended. Even so, RK remained unhappy over lack of accurate data.</p> <p>[Some]</p>	<p>RK still sees AMIS at risk. "No, it's absolutely not accurate. I would have thought that the capture of the data was a key issue, a critical issue in terms of the implementation of the new asset management system. You can't avoid that. You can't maintain tests and get critical information of the assets, and know exactly what you've already got, ... and we didn't do that." [RK]</p> <p>[Some]</p>
6	<p>Control over AMIS data entry - "Now, that's all pretty straightforward, and that's how government departments pretty much do it. It's in good order, all this stuff, and everything's okay. I'm happy with our processing. But when we purchase the asset that's when the conflict starts. [Say] we purchase a new fire engine. Who puts it in the new asset management system is a real area of conflict that we have never resolved. Now that sounds very simple that when you buy a fire engine, you put it in the asset management system. But I put my hand up and say hang on, I want to do it, because I want to associate that new truck, the fire engine, with all its standard tests, and its pump tests, and all the compliance issues that surround [it] I want to be able to associate this new truck with all that stuff. The financial people say: ah, any purchase has got a financial implication, and we want to do it. And when we've done it, you can do your stuff. Well I don't want to do it like that. I want to put it in and then I want them to do their stuff." [RK]</p>	Task (content)	[YES]	<p>Ops have considerable resentment over this issue, as they perceive a loss of control over their own assets to fit into a system that is designed to support financial interests at HO.</p> <p>"It smacks of big boy control!" [RK]</p> <p>[YES]</p>	<p>Ops worry about the transfer of control of their assets to centralised Finance.</p> <p>Finance worry about the risk of failure to capture all of the relevant financial data.</p> <p>[YES]</p>	<p>impasse</p> <p>[YES]</p>	<p>frustration on both sides</p> <p>[YES]</p>	<p>unchanged</p> <p>[YES]</p>

			PRE-RESOLUTION CONFLICT			POST-RESOLUTION CONFLICT		
7	<p>SC faced with slippage in AMIS deadlines: "As far as deadlines, there was slippage in the AMIS project, for various reasons. But it didn't give rise to any heated issues at Steering Committee level. [It] resulted from a combination of several factors. One, we undertook what we call an asset verification of all asset data at every location. This was done by a group of individuals that were separate from the project team. We had to have that done by June, 2001." [GM]</p> <p>Essentially, the slippage represents the culmination of effects from the other conflict issues. Note FMIS went to schedule without many problems.</p> <p>"What we underestimated with that, and the flow-on effect into the AMIS project, was how long it would actually take to upload all the verification data. There was a group of people who visited every single fire station around the country. We underestimated how long it would take to upload that data into our asset register which obviously formed the basis [AMIS]. It took about four to five months to actually upload that data. As a result, there was a bit of an overlap between the AMIS project, trying to achieve its deliverables, not having the right data in there, and the [AMIS] project manager at the time was sidetracked, somewhat, into working with the asset verification data. That's when the delays started, and it affected the project. The Steering Committee was aware of this pretty much all the way through. Unfortunately it was just one of those things we were committed to doing, and we just had to let the verification data run its course ... and let the impact of that, on the AMIS project, take its course as well." [GM]</p>	Task (process)	<p>FS (the external QA) repeatedly warned the SC of the risks to AMIS by creating a dependency on finishing AVP first, rather than treating them as separate projects. It seems the SC did not appreciate this, and kept trying to fix AVP instead - draining further resources (including the PM) from the AMIS budget.</p> <p>[YES]</p>	[NO]	<p>SC thought they were in control, and so saw the QA's warnings as potential interference;</p> <p>[YES]</p>	<p>SC finally understood what QA was warning about</p> <p>[NO]</p>	[NO]	[NO]

Table E-2: Influence and other environmental factors

CI#		INFLUENCE		ENVIRONMENT		
	Brief Description	Persuasion	Obligation	Culture	History	Individual Behaviours
1	Relationship conflict between Operations & Head Office	"So, depending on what sort of asset it was, it was good sense to purchase it centrally and we can't use that word 'centrally', because there's a huge hang-up about that out in the regions. Centrally, calling it central purchasing sort of implies that the control is central. So we call it coordinated. So we don't bruise their egos, we call it coordinated purchasing. If it was appropriate to buy through a coordinated approach - through the National Office - we would, ... or if it was better to purchase through here, I had to delegate it so that we could go and purchase it. Now, that's all pretty straightforward, and that's how government departments pretty much do it. It's in good order, all this stuff, and everything's okay. I'm happy with our processing." [RK]	"Now we've brought in [the] Property [system], ... and I've got to say that the Property people have probably provided the best accurate information on the property that we have in New Zealand. Now we're linking that to planned repairs and maintenance programmes - this is what it's all about. But again, the property people at National Office have designed a programme that, in some people's eyes, see the capture of the power and the control about spending the money on buildings for National Office, rather than delegating the authority locally, ... to where it should be spent. Again, I link that back to, ... there's no point in having these really good projects, no matter how well designed, how well the timelines [are set], whatever software package [was chosen], and people surrounding the project management, unless you're focused on outcomes and implementation." [RK]	"The operational people say: "We need to do this." There was the operational manager's staff, who were being used with the policy - because they had this policy/operational split ... again, it relates to too many projects on the go at once. "So, they were going to do it on another range of assets. Oh, well, write a letter to them - they have to do it. And that's when I said you weren't committed with the first instruction, you wouldn't do any follow-up, as it all got too hard. Don't do it again, because all you do is consistently destroy your credibility. Because, the people out there think these people in National Office, in the main, they're just a bunch of wankers, you know? ... particularly because they wear a suit - they don't wear a uniform. So I introduced the concept of the people that work at the National Office - that work for me - they wear a uniform to work. Let's see if we can break through the cultural divides there." [RK]city of the staff to adopt change is very low ...especially IT-related change. In some areas, any change, because they had this long-standing industrial dispute with the firemen." [FS]	"[Ops were resistant to change], especially IT-related change. In some areas, any change, because they had this long-standing industrial dispute with the firemen [back in the 1990s when businessman Roger Estall was made CEO of the NZFS]. The outcome, ... the final effect from that is still apparent, and certainly affected the project. For example, at one stage, not on that project, but another, it actually affected their ability to roll out their HR system. The firemen were using refusal to carry out tasks as an industrial weapon. The union was involved. So, they basically said 'No, we will not do online ...'. My memory may be wrong in terms of the task, but it was: 'We will not put our timesheets directly into the computer terminal. You cannot direct us to do that. There is an industrial dispute, so we are holding you to ransom. You meet our demands, and we'll use your system' sort of thing. It was part of the industrial relations, a negotiating tactic." [FS] "There is a culture within the organisation, and there has been for many years, through industrial disputes, of a bit of mistrust ... between management and, I guess, front-line staff ... both in the paid [and volunteer ranks]. [There was an] exercise that happened many, many years ago, in the volunteer ranks, where people have been known to go around fire stations with a truck, and go and do an asset count, and then actually take assets away from them that they didn't think the station needed, because they thought it was surplus. So, you've got all this history, where people come into someone's fire station and want to count your assets there are all these misconceptions about what the purpose of it is. You tell them there is no sinister, hidden purpose ... we're not trying to take your assets. We're just trying to get a fair reflection of what they actually are. Then everyone delves back into the past, and their memories are [long]... because people in this organisation [have been] around for a very long time. So there is that	RK: Although very sympathetic to Ops general plight when dealing with HO, he is also very pragmatic: "Now when I sit, surrounded by National Office people, I mean, there's no point in having the systems if they become, ... if regions and districts can really choose whether they use the system or not. The organisation has made a decision to have a national system, and whether you come on board or not, ... it's really not discretionary, it's all part of the implementation plan." [RK] RK: "So, it's better to influence and modify the way we do things, and perhaps there's a brief bit of one-on-one, let's have the cards on the table stuff, right? I've been here for 32-33 years, and I know how it works. The reason I'm involved is, yes, they do put me out front, because I've got credibility in all the other regions nationally, ... and, yes, if I tell them it's okay, most of them will believe me. So, I work really hard to make sure that it doesn't destroy me, and my credibility as well. And why do I get involved? Well, I just figure that if I don't get involved, if I'm going to stand back, I won't criticise anybody else. And I have no personal statement, I'm not impressing people for promotion or exalted positions. I'm where I'm at, and that's where

					general mistrust." [GM]	I'm going to stay, because I want to stay here." [RK]
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2	Resistance by Operations to AMIS [ANTICIPATED]	<p>"People's lives are at stake with breathing apparatus. So the people whose job it is to maintain them, and service the equipment, and so forth, are very conscientious. That is why it was chosen as the first piece of plant and equipment to be put into the system. We knew that the users, around the people who maintain the service and BA equipment are very conscientious. We knew they would want to maintain good records. So, we chose that equipment accordingly ... for that reason." [PC]</p> <p>GM echoed this: "I guess the biggest driver, in reality, is health and safety."</p>	<p>"So, with that experience, when they set up the asset management information system, I was coerced to be involved in it - and I have got to say I was really reluctant to get into that, after my experience with the financial system. But I agreed." [RK]</p> <p>For the next anticipated round of conflict: "there was a view that if people at the senior level in the organisation wrote to people at regions and districts, and said if we don't do it this way, we won't fund you. I think that's really good, but like people say, the policy says this is how you do things. If you don't do them, maybe I'll need to raise performance issues about whether you want to work in the organisation." [RK]</p>	<p>"Because, the people out there think these people in National Office, in the main, they're just a bunch of wankers, you know? ... particularly because they wear a suit - they don't wear a uniform. So I introduced the concept of the people that work at the National Office - that work for me - they wear a uniform to work. Let's see if we can break through the cultural divides there. But, I digress, ... so, they were the sort of governance issues that I was alluding to before. So, [we have] still got a way to go, but I'm confident, quite optimistic, that we'll do it." [RK]</p>	<p>Past resistance (see HR system for most recent example) means SC take potential resistance to AMIS/AVP seriously.</p>	<p>RK: Fortunately, he demonstrated sufficient knowledge, skill and interest to lead the design of the asset class system. "By the time I came on line for this, financials were well off, ... well advanced about getting wired up and implemented. And so I came on board and had the opportunity to wire up the hierarchy of asset needs, and their relationship to the maintenance and testing and how they could relate to the financials that sort of internal wiring and functionality." [RK]</p>
3	Resistance by Operations to AVP	<p>Attempts by the AVP teams to persuade each Fire Station to provide good quality data did not always prove successful. "In practice, there are still some issues. We've got over 430 fire stations ... different people have different attitudes to these things. Those who pay more attention to detail, are very conscientious - fantastic results, even and correct, 100% accurate. Those who are more laissez faire in their approach to the assets, are perhaps a bit more secretive, if you want to use that word. It may not be the correct word to use, but they're into their little fiefdom - that's the Chief Fire Officer - especially in some volunteer brigades. [They] would probably not wish to be so cooperative, also, or reveal all their assets, for whatever reason they've got. But, as I say, a lot of that is apparently back to history." [GM]</p>	<p>Regional managers were obliged to work with the AVP data collection teams, but there was little benefit for them. "...we were pushing for accuracy, and this is work for all the regional people, who have to all go off and check their assets again ... for purposes for which, in principle I think they would agree with, but it falls on their shoulders. They don't see any immediate gain - it's just an extra burden for them. After all, what we asked them to do is, in a sense, burdensome to them because they don't get any ...". [PC]</p> <p>"...you impose a new system on everybody, and impose the obligation to use it, in order to capture this information - information that is of importance and value to the Head Office people who make these policy decisions. ... but not to the people on the outside who are actually going to do all the work." [PC]</p> <p>However, the RMs do have the power to resist. For example, "it would just be done late ... and skimpily. We would get figures down that were not trustworthy. [It became a] low priority task. And, very quickly, probably after a deadline had been passed, phone calls were being made, and it had to</p>	<p>External contractors did not really understand Ops culture, and consequently struggled. "The outside people who did it, didn't do it particularly well." [PC]</p> <p>NB. Interesting the way GM, part of finance, continually refers to the fire stations as "business units" and the corresponding CFOs "business unit managers". He notes that "Most people probably don't understand managing the assets - which is important for the organisation. There are issues, I guess, trying to get the ownership down to the individual business unit managers, be it a Chief Fire Officer, or someone from the fire station. We've been reliant on paper-based systems for so many years. ... We're trying to change the whole culture within the organisation [regarding both] its assets, and how it manages its assets - at an individual level, as opposed to just globally how we manage our asset portfolio." [GM]</p> <p>"There is a culture within the organisation, and there has been for many years, through industrial</p>	<p>"[There was an] exercise that happened many, many years ago, in the volunteer ranks, where people have been known to go around fire stations with a truck, and go and do an asset count, and then actually take assets away from them that they didn't think the station needed, because they thought it was surplus. So, you've got all this history, where people come into someone's fire station and want to count your assets - there are all these misconceptions about what the purpose of it is. You tell them there is no sinister, hidden purpose ... we're not trying to take your assets. We're just trying to get a fair reflection of what they actually are."</p> <p>Then everyone delves back into the past, and their memories are [long]... because people in this organisation [have been] around for a very long time. So there is that general mistrust. The key idea of asset verification was, they were going to each station and they would identify the asset they saw when they were there. They weren't hunting for assets, they weren't looking for assets ... what they saw, they counted and identified. They then fed back the results of that, what they actually physically saw, plus what the asset register actually said they had all got fed back manually for them to then come back and tell us [about] any corrections, any changes, etc. Then they effectively signed them off to say "yes, these are the assets we had." They had full involvement in that.</p>	<p>RK - was seen (by PC) to be a good rep of regional viewpoints on the SC. "Ray Kennedy is the Emergency Assistant Fire Regional Commander for the Wellington [Arapawa] region. So he is locally available, and he's got heaps of, if you like, trench warfare type experience. Knows all the problems, and what goes right and what goes wrong....front line stuff. He was on [the SC], and knows perfectly well about all the problems of getting the information accurately checked." [PC]</p>

			<p>be got out of the system ... got out of the way, so people were put in [situations where they made] low quality decisions." [PC]</p> <p>In other words, the final decision on CI#1 had the unexpected consequence of forcing the submission of poor quality data. In some cases, this led to a few RMs resisting by not signing the asset count off as correct, even when there was pressure to do so.</p>	<p>disputes, of a bit of mistrust ... between management and, I guess, front-line staff ... both in the paid [and volunteer ranks]." [GM]</p> <p>"...the Fire Service was a very politicised organisation - those regions were like separate governments. It seemed to me that they were run on their own, and here we were - we were going to have an integrated system and we were going to put everything in one place. I think that was probably the cause of most issues, at the start, until someone said this is the way we'll do it." [EB]</p>		
4	AMIS project manager becomes AVP project manager as well:	unknown	unknown	<p>"Because they got another project manager ... I didn't wish to do the next stage of the project, for my own reasons. I suggested that they get another project manager who could relate, specifically, to the firemen. Not meaning to sound sexist, but I thought it would be better done by a bloke. But there just weren't any suitable blokes available ... and they ended up with another woman!" [EM, discussing AMIS after she was PM for FMIS].</p> <p>"Well, I did get a feeling that some of the Fire Service managers out in the field had trouble relating to me - and I had assumed it was because I am a woman. There were some that I got on very, very well with. But they're very focused on the knowledge of the fire appliances and techniques used. I felt that maybe a man would be able to relate to them better." [EM]</p>		<p>AMIS Proj Manager: "I suspect one of the [problems] was that they put the wrong person in charge of Asset Verification from the beginning, which didn't help. When it was clear they weren't the right person, nothing was done about it." [FS]</p> <p>She was responsible for sorting out issues with a number of fire stations. "we would have weekly status reports, etc. I mean, we have got a reasonable methodology there to handle conflict. [By that I mean PeopleSoft's approach to conflict resolution], although I'm thinking really that the project manager was an ex-employee of PeopleSoft ... she used to work with me. She was a consulting colleague - so I knew her personally." [EB]</p> <p>"Jo could be quite a difficult person, actually. ...you can have conflict with the project manager easily, too. [However], I tend to say "well, I'll give you my opinion" ... but the customer is ultimately right. You can only push it so far. You have got to trade off your own views with the fact you are working in a client relationship." [EB]</p>

5	SC faced with slippage in AVP deadlines	in spite of strongly held opinions, SC members eventually reached a consensus - both to continue for a while, and to eventually stop further data collection.		<p>SC with Financial Interests: attitudes and behaviours consistent with a focus on cost minimisation. Even so, they did work to achieve consensus, but cost was the basis for their arguments.</p> <p>"From a purely financial point of view, the material assets are land, buildings and fire appliances. Everything else on our \$300 million asset portfolio is, sort of, rats and mice. So, we know those assets, we know where they are, their values ... and they're very accurate. We start to get into length of hose, level two suits, and a whole lot of other rescue equipment, portable pumps, etc. a raft of assets, and we're talking large quantities, but very small value. We've got over 100,000 assets on our asset register. So, it's extensive ... we're an asset rich organisation. From a materiality point of view, we're always going to be accurate with the dollars, but it's just some of the finer detail - that's where you get the hassles." [GM]</p>		
6	Control over AMIS data entry	"This has been debated, and argued, and we've reached an impasse...". [RK]	RK makes it clear that he has the option, if necessary, to "bully" resisters in the end. But it had not come to that, and RK was still optimistic.	<p>While the Financial group understand, at least in broad terms, front-line firefighter have important needs in terms of safety and effectiveness, they nevertheless still see the data as being fundamentally financial in nature.</p> <p>Similarly, while many Ops understand that financial and accounting systems are important, they see it as yet another HO function that places what should be a support system has more important than firefighting. They see the data as representing the firefighting equipment, and they wish to see each of these assets characterised correctly before any financial implications are considered.</p> <p>" In my experience, working with people like financial accountants - not management accountants, but financial accountants - is rather a different experience for people like me who start life as a firefighter, and in fact, end up working in an area like this. We don't have a lot of exposure to</p>	the historical tension between Ops and HO is also apparent in this conflict.	

				people with great academic accounting experience and the way they manage the things at a high level. It's quite a challenge for us to be able to work with people like that." [RK]		
7	SC faced with slippage in AMIS deadlines:	<p>QA unable to persuade the SC of the risks</p> <p>Decision-making style: "the Steering Committee was very, very consensus orientated. A very convivial approach. There were no authoritarian or dictatorial approaches. It didn't seem to be a blame culture, either. Which is quite different from other places."</p>	<p>Strong reference to office politics based on regional turf wars. "There was some fairly low-level staff politics - a bit of stabbing people in the back." It was at a sub-SC level, and had a major impact on AMIS by prolonging the AVP. The politics were "Oh, fairly corrosive, yes. The relationships broke down." [FS] This was mainly due to the stress brought on by the project not working.</p> <p>The majority of the politics observed were protective (turf wars) rather than opportunistic, vote the latter did occur on occasion. Frequently the politics were based on historical relationships, particularly as the Regional Fire Commanders all grew through the Ops ranks over a considerable length of time. This made it difficult to understand what was going on. "...also, it was never clear to me what some of the organisational politics were, because there were managers who had their own turfs that they were protecting." [FS]</p>	<p>The inability of the SC to appreciate the QA's warnings highlight the naivety noted by EB as well. "Interestingly, the biggest issue that they had was the amount of effort that was required for Asset Verification ... they never really appreciated the amount of work, and the complexity. It actually caused the [AMIS] project to blow out in terms of time and budget. They actually failed to grasp that properly. When it was brought to their attention that they had an issue, they actually tried to do everything that needed to be done to bring it back on track. But that was based on a misunderstanding about just how difficult it was. The issue was essentially allowed to drag on. ... and it wasn't until it became a crisis, that they decided to sack the project manager..." [FS]</p> <p>"But QA people are treated like Jeremiahs." [FS]</p> <p>"...It didn't seem to be a blame culture, either. Which is quite different from other places." [FS]</p>	<p>see issues raised elsewhere</p> <p>Also, lack of history in terms of experience with these types of projects - and doing so many at once. Lack of experience, for example, was instrumental in SC missing warnings about AVP/AMIS dependency.</p>	<p>Project Manager (Jo): "I suspect one of the [problems] was that they put the wrong person in charge of Asset Verification from the beginning, which didn't help. When it was clear they weren't the right person, nothing was done about it." [FS] She tended to "rub people up the wrong way".</p>

Table E-3: Management and Governance

CI#	Resolution Management	Feedback	Decision	Decision maker	Policy	Authority Structure	Mechanisms
1	Essentially nothing was done to deal with the relationship conflict in itself. Instead, the SC focused on proactive and reactive measures with the intention of minimising its effect on the projects.	This conflict must be recognised by most in the NZFS senior management. But it is not formerly identified as an issue needing resolution.	How best to reduce the relationship conflict between Ops & HO?	At this stage, no one, though SC had to find temporary measures to get project through.	"There was the operational manager's staff, who were being used with the policy - because they had this policy/operational split ... again, it relates to too many projects on the go at once." [FS]	RK sees HO as ducking responsibility when things go wrong: "Well, when something goes wrong, that's my problem, or the region's problem, or the district's problem, when we talk about asset management. We're responsible and accountability rests here, ... [it] ultimately rests with the person called the District Commander, but he's quite insulated from us. But if we have a serious mix up, because a piece of equipment malfunctions, we have the responsibility here." [RK]	Apart from limited representation on the SC, there do not appear to be any mechanisms designed to facilitate Ho and Ops working together on a more cooperative basis.
2	<p>"All the processes were there to make sure we got the best data that we could. We had the buy-in at senior management level. There was input from every single business unit manager [the Chief Fire Officers?], effectively, with the opportunity to sign these sheets and return them back to us. So, in theory, we should have got full cooperation and really good data out of it." [GM]</p> <p>"For the asset management part of the system, the implementation plan was worse. First, there was a need to go out there and capture all the data surrounding what assets we actually owned in each of the fire stations, right today. They hired a group of people to come and do it, and they came to me and said "will you tell us a way of how to do it, and then we'll send them to a fire station, and they can make a start". Now they never had a clue. I sent four of these people, well qualified, highly paid consultants. They went to a fire station and came back and said "oh, that's really good, we've captured everything at the fire station, except the stuff on the fire engine, we will do that tomorrow".</p> <p>Well, about a week later, they said "oh, this is just too hard, it's hopeless - there needs to be some hierarchy of asset classes, and have them all put together. So, I had to sit down</p>	Discussions & agreements at high levels kept SC well-informed. But little was done to inform station-level Ops, or gain their buy-in, which did not seem to be reported back.	Given anticipated resistance from Ops, what should be done in advance to prevent, or at least minimise its effects on the project?	SC	<p>"...there was a view that if people at the senior level in the organisation wrote to people at regions and districts, and said if we don't do it this way, we won't fund you. I think that's really good, but like people say, the policy says this is how you do things." [RK]</p> <p>"Or, should we say, if you don't do it the way I've said, I won't approve the bills, you know? This is how we're going to manage poor performance. Are we going to use this project to manage poor performance? ... or are we going to look at the policies that surround it? Whereas, they sent out of one of those 'do as I say' instructions to all the regional managers, not that we listen to the instructions, frankly. " [RK]</p>	<p>RK is also a member of the Operational Function Group (with senior representatives from each of the eight regions). The SC presumed that RK would bridge the gap between Ops and HO through this link. [as it turned out, this link was not sufficient - both because the members of the OFG are highly political, making consensus difficult, and communication at this level was no substitute for direct communication to the stations, where the data was held]</p> <p>"So, that group is a key buy-in to enlist the support throughout the regions. "Hey, this is when we are coming to your region, this is what we are trying to achieve." So everybody has known about it. Ray Kennedy was on that group, so I guess we had all the right people to keep the communication, and keep everybody throughout the organisation informed about what is going on." [GM]</p>	<p>"There was not a great communication line to tell people what they were doing, to encourage them to help, and so the data they brought back was, frankly, compromised. " [RK]</p> <p>RK was also seen as an important mechanism to bridge the gap between what the accountants want, and what each station can provide. This gap was to be bridged in two ways: first, by providing the SC with insights into the Ops context, and vice versa (essentially to gain buy-in); and second, by devising (with the new PM) onset of asset classes to enable ready identification and classification. Thus, RK was seen both as a communication mechanism between the two major stakeholder groups, and as a technical consultant. In the end, he was also given the role of trouble-shooter.</p> <p>"What's important for, I guess, the asset register, is what appears on there - and I guess this is what is critical about the AMIS project:</p>

	<p>with a group of people and design how we were going to capture all these, what we call, operational assets, into some hierarchy, because we've got thousands of assets ... serious money assets - a fire engine, and what's on the fire engine. So, these people went around all the fire stations in New Zealand, including the volunteer stations. There was not a great communication line to tell people what they were doing, to encourage them to help, and so the data they brought back was, frankly, compromised. And then we tried to match what they brought back to our old records, and then take the result of that into the new system. It was utter chaos. And to date we haven't finished it yet." [RK]</p>						<p>what appears on there has got to be what the fire fighters recognise the piece of equipment as. They have to understand what it is. ...Now, as accountants, we focus on paying the bills, recording the assets, but we don't necessarily know all this, sort of, inner detail, and what terms mean. ...that's why we had a [field data collection] team of two - operational and non-operational people. [GM]</p>
3	<p>"We did the best that we could to collect the data. We teamed up - we didn't just have accountants going out counting the data. We didn't just have contractors counting the data. We had teams of two people - one, an operational Fire Service person, and one, external, non-Fire Service person. The idea was that the two working together would be able to then clearly identify the assets, know the uniqueness of a Fire Service asset, and what it is called - to get consistency of data." [GM]</p> <p>"I remember sitting at a meeting there where there were fairly senior people present, that were brought to Wellington. ...I can remember different points of view coming through. ...There was Auckland, and there was Southland ... there were seven or eight regions. And those guys were pretty much at loggerheads about whether they needed a new system. There seemed to be a lot of naivety about new systems as well. ...This was really to get buy-in, I think. This was the buy-in meeting." [EB]</p>	<p>The PM and RK would report back to SC how AVP is going. SC, who normally met monthly, were now meeting fortnightly due to crisis.</p>	<p>How to get the station CFOs to make accurate data collection a higher priority.</p>	SC	<p>High level policy that asset management will be centralised as part of overall information centralisation strategy.</p>	<p>There is only one Ops rep on the SC. The external contractors (QA & PM) are the only other non-HO members.</p> <p>"Whereas, when you've got a CEO at the top, and an IT department that understands implementation (or has done it before) ... just in general business, I think you are more geared up for that kind of major change big projects that involve doing it differently ... maybe change management may be handled differently as well. Managing people through change is often a sign that organisations are showing less naivety." [EB]</p> <p>[SEE AMIS DELAYS]</p>	<p>EB thought there were bad communication lines between HO and the regions/stations.</p> <p>"I don't think [they had an implementation plan], no. It was just "let PeopleSoft do it" and putting people in place - like Ray - to bring it all together. It was a very ad hoc approach. "I'll ring up Bob down in Christchurch ... he'll be fine." Or "There's a lady in the regional office ... we'll grab her ... she'll know how this is done." [EB]</p> <p>[SEE AMIS DELAYS]</p>

4	<p>Once the issue of the AVP dragging on and delaying AMIS became a "crisis", they fired the external contract project manager (Jo),</p> <p>"...the situation deteriorated to the point where they made a clear decision that they decided to replace the project manager, and increase the number of staff." [FS]</p> <p>"They then put a new person in charge - who was actually the Head of Operations - who appointed some people to look after each of the streams. [I can't recall his name, but he designated] one person in charge of fleet, one person in charge of breathing apparatus, and one person in charge of property - to bring the project to a conclusion." [FS]</p>	<p>Feedback from the AVP teams suggested AVP was going badly, with communication between fire stations and project manager at a low level. "When it was clear she wasn't the right person, nothing was done about it. That was partly because, for the first part of the project they were able to say, well, asset verification is somebody else's problem. It's not part of the scope of Phase 1, therefore let's put it aside. So, it wasn't recognised ... it wasn't dealt with. And because they misunderstood the size of it, they simply made it part of the scope of [AMIS], where, in fact, that project was completely consumed trying to deal with something that actually wasn't their problem." [FS]</p>	<p>The AVP, and consequently AMIS, have fallen further behind and are now in crisis. The PM is not coping and in too much conflict with Ops CFOs. What should be done?</p>	SC	none	<p>SC has authority to fire external contractors based on performance. New PM put in place (and more successful)</p>	<p>New PM divided AVP into broad asset classes (fleet, breathing apparatus, property) and placed a knowledgeable internal manager in charge of each. While cutting back on much of the promised functionality by not collecting some asset data, it did at least bring the project to a conclusion.</p>
5	<p>"I think, by forms of refusal to sign off ... and re-checks and so on and so forth, I think there were ... probably three attempts made ... before it was agreed that it was as accurate as we were going to get it. ...So there were disagreements, lengthy discussions, uncertainty, unhappiness at the Steering Committee about how much time we were going to have to go on spending ... getting asset data printed out, corrected, and put back in again, recoded, and so on and so forth. It took ages and ages." [PC]</p> <p>"[It was resolved] by giving it more time and money." [PC] Even so, moderate resistance and consequent inaccuracies remained, but the Steering Committee basically decided that they would live with any potential errors like that.</p>	<p>Formal feedback from those collecting data in the field. Also, direct feedback from regional managers - are they willing to sign off on the data?</p> <p>"[It was] an issue of confidence. At what stage did they believe they had done it often enough, got enough sign-offs, to make the judgment that the asset data was accurate enough...? [These judgments were made] in terms of the signals</p>	<p>At what point should the asset data be deemed good enough and the AVP finally closed down</p>	<p>Formally, SC;</p> <p>Actually, it was SC members Brett & GM</p>	<p>"... the policy was, that there would be a single national system, for all the station management, and that all the replacement policies, that were going to be revised, should be uniform. And there was information talked about that was required to be collected in order to embark upon the development of uniform asset management strategies. So, if you like, the entire project was an instrument of policy for this information." [PC] This appeared enough to ensure everyone cooperated - but not necessarily enthusiastically (Ops).</p>	<p>Technically, HO (including SC) has authority over Ops, but chose not to exercise it beyond making it clear the AVP was compulsory. Some fire stations seen as "fiefdoms", resisting spirit of HO desires.</p>	<p>Communication mechanisms - poor between SC & project manager, and fire stations; little provided by way of (a) explanation about what is happening and why; (b) encouragement to support the data collection teams.</p>

		coming back from the regions, as to whether or not it looked as if it was accurate enough." [PC]					
6	<p>"This has been debated, and argued, and we've reached an impasse...". [RK]</p> <p>RK set out to break the impasse. "I've got one of our fire fighters in Wellington who has a talent for systems and processing, and he's, in fact, taken over as the JD technical person for the whole country. And he now sits in the National Office. He has a real talent in those areas, and in fact he's now seconded, working up here for a year or two. Stefan and I were working on some sort of work, or compromise, about finding a process that suits all our needs, without any areas of conflict. So, one of the challenges I've got as project manager of the implementation issues, is to identify all the critical issues, and look at the change issues that surround those, and mapping them out and managing them in a manageable way. So that's the challenge for me." [RK]</p>	Proposals, minutes of meetings, etc. are circulated.	"...it's very important we have some clear processes about who has the ownership to put it in, and then who has responsibility associating the financial records around it." [RK]	By consensus NB. Ultimately, HO have the authority to decide.	<p>"One of the underlying problems, in my view, is that we have a whole range of people developing policy for the organisation in isolation. People in the Finance Division will develop finance policy that has an impact across assets that we manage, without consultation [with] us. Now people in the organisation will debate that fire region managers, like the guy who is my boss, serve at the executive level in the organisation, and have input into those policies. But when you see the make-up of the senior management team it's weighted towards the people who manage the business at National Office. ... and the Chief Financial Officer, ... we've got quite a diverse group that develop a whole range of policy, and they look after data management, project management, a whole range of stuff, and those people drive the policy as well." [RK]</p>	-	-

7	<p>Everyone pretty much took the same view in terms of how to handle the situation. "[There wasn't really much conflict] - the individuals personally involved ... we were all committed to the outcomes of the project. There were no certain individuals with vested interests in certain areas or certain outcomes. So, as a unit, as a collective Steering Committee, we operated well as a discrete team. We understood the need for the system. We understood the need, the imperative, to have the data right for the system to be acceptable to the organisation." [GM]</p> <p>"the situation deteriorated to the point where they made a clear decision that they decided to replace the project manager, and increase the number of staff ..." [FS] However, things improved after that. "Plus, by that point they had already got through a lot of the nasty issues. They were sort of poised to get back on track. ... it gave the impetus to get back on track. They had reorganised the project plan ...". [FS]</p>	<p>"...and I said: increase the number of visible milestones, so that you can track it on a fortnightly basis." [FS]</p> <p>In the end, QA feedback proved effective, but key issues raised were not understood.</p>	How to deal with the slippage in time & budget for AMIS.	SC	<p>"The management culture is very slow at making decisions, and there is a separation of policy from operations." [FS]</p> <p>No policy on change management: "That comes back to the project governance, where the low capacity to absorb change really wasn't fully taken into account." [FS]</p> <p>"The sponsor of the project was very much the manager of the policy area, whereas the operational people were expected to implement it. So, it's the old conflict between accountability and responsibility." Because Ops were accountable for implementation, with management given formal responsibility, "... there were potential turf wars between [the different regional offices]. They weren't quite aligned, possibly... The operational people were told: "We need to do this." There was the operational manager's staff, who were being used with the policy - because they had this policy/operational split ... again, it relates to too many projects on the go at once." [FS]</p>	<p>"...for the first part of the project [the SC] were able to say, well, asset verification is somebody else's problem. It's not part of the scope of Phase 1, therefore let's put it aside. So, it wasn't recognised ... it wasn't dealt with. And because they misunderstood the size of it, they simply made it part of the scope of the Asset Implementation project (AMIS), where, in fact, that project was completely consumed trying to deal with something that actually wasn't their problem. Even at that point, they still didn't do anything about it. They said, "oh well, yes, it isn't really a deliverable for this project, but we are still going to put all the project's resources into solving the problem." Because they saw it as ... "We have to solve this before we can implement." [FS]</p>	<p>Lack of change management mechanisms.</p> <p>Lack of programme management mechanisms: "And there appeared to be too many projects on the go. ...Not actual IT projects, but when you have lots of projects on the go, it becomes difficult to focus the type of resources to actually make the project a success. When the new CEO came in, he wanted to put in a new station management system. They were rolling out parts of their new HR system. They were rolling out their new financial system. They were rolling out the asset system. There were other things that were happening. [For an organisation that is not used to change...], and where the key staff are very computer-illiterate, and are difficult to raise up. I pointed it out, and they sort of acknowledged it might be an issue ...". [FS]</p> <p>"They had reorganised the project plan ..." [FS]</p>
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Appendix F – Ministry of Health Summary Tables of Conflict Incidents

Table F-1: Conflict Incidents								
			PRE-RESOLUTION CONFLICT			POST-RESOLUTION CONFLICT		
CI#	Brief Description	Primary Target	Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference
1	<p>Anticipated conflict between ITS and Comms - most stakeholders were aware that there was tension between Comms (who are heavy users of IT for their publishing work) and ITS (who provide IT support). This tension is based on the way ITS prioritises and develops web-related changes for Comms. They are intermittent (with months, even years between developments) and run on a service desk call basis, where the change request disappears into the ITS system, and Comms won't hear of the outcome for some considerable time, when it is suddenly announced that ITS have finished. Frequently, because it is not run as a project, the developer does a little testing and throws back to the client "to find all the bugs - not ideal!"</p> <p>ITS have not run a project for Comms before, so this was to be a first. Comms were a critical user for this system, so the anticipated conflict had to be dealt with.</p>	Relationship	<p>ITS only has two web developers. "The Ministry's web presence is a very low priority [to ITS]. In fact it is zero!" [JW] Comms clearly feel their work is more important than that.</p> <p>[YES]</p>	<p>Comms feel frustrated that they cannot provide a better publishing service when they have to use Lotus Notes and cannot get adequate support from ITS.</p> <p>[YES]</p>	<p>Comms are unable to achieve their objectives of good service based on reasonable workload for them.</p> <p>[YES]</p>	<p>Comms admit the new toolset is a big improvement, and they appreciated the attention from JA & PP during the project. But nothing has changed in terms of their ITS priority once back to the service desk.</p> <p>[YES]</p>	<p>Less frustrated with the better toolset, but suspicious that things are unlikely to get better overall.</p> <p>[Some]</p>	<p>The threat to their workload & abilities to cope remains.</p> <p>[YES]</p>

2	<p>Original web strategy too expensive - Originally, the project was about establishing what the Ministry's web presence should be ("to drive a web strategy for the Ministry" [BK]), including its governance and management. Although a budget had been allocated at the executive level, the project languished until the DDG of CID appointed the NZHIS to both sponsor and oversee the project. A project manager was appointed (Ian Kemp), who was charged with first producing a web strategy document that could then be discussed by the project governing body - the PSG.</p> <p>Considerable time was spent putting this document together - too much time, it was felt by many. A huge consultation exercise was required, as there were many parts of the Ministry (including Comms, NZHIS, ITS and external users - many of whom have their own web specialists). The strategy proposal horrified the PSG as the costs were clearly too high ("...approximately three times the available funding!" [BK]). Furthermore, the deadline for e-govt compliance was approaching.</p>	<p>Task (content)</p>	<p>It is unclear to what degree the disagreement remained once the PSG expressed their concerns, but there was certainly a disagreement over the nature of the strategy.</p> <p>[YES]</p>	<p>Unclear, though the PSG were taken aback by the budget disparity.</p> <p>[Some]</p>	<p>Clearly the strategy document would interfere with the goals of the project, given the budget disparity.</p> <p>[YES]</p>	<p>The strategy was abandoned and the web team leader dismissed.</p> <p>[NO]</p>	<p>Unclear if there were lingering emotions amongst PSG members, who were now operating under more stressful constraints. It is difficult to see how the web team leader would not have felt negative emotions given he was removed from the project, but there is no direct evidence about his perspective.</p> <p>[uncertain]</p>	<p>The strategy was abandoned and the web team leader dismissed.</p> <p>[NO]</p>
3	<p>Risk of Lotus Notes based CMS (Pre-decision) - "[One of the biggest issues is that] the internal regard for our base platform Lotus Notes isn't particularly high. There have been folk who are quite concerned that the functionality they would get, and how usable it was, would be much less than they could get by going out and buying a package content management system." [BK]</p> <p>"So, there has been a lot of product mistrust. There have been people who have desperately wanted to go out and purchase other content management systems - and there has been one group who have, which I am quite disappointed about, because I think it is a case of organisational prejudice overriding good judgment." [BK]</p> <p>Essentially, Comms were concerned they would end up with another clumsy, awkward Lotus Notes system, instead of a proven commercial product. ITS believed they could do it, but risked having to pay for the project if they failed; BK of NZHIS, on the other hand, was less concerned - budget only spent if ITS meet requirements; they have a contingency (direct budget to a pre-evaluated commercial product); and if compliance deadlines not all met, responsibility would rest with ITS!</p>	<p>Task (content - choice of Lotus Notes)</p> <p>Task (process - Comms feel poorly represented)</p> <p>Relationship (between ITS & Comms)</p>	<p>"between the three of us, there was probably a point in time when two of us were very, very sceptical about Warwick's stated position - that he believed that the Lotus toolset could do the job. It really was a 'put up, or sit back, and we will make some decisions for you, on your behalf' type situation. And he put up, and in the end he delivered. We certainly weren't three Lotus Notes sycophants, sitting in a room, saying it will be Lotus, by God, or it will be nothing! There were two of us who were very sceptical of the path that Warwick was promoting." [BK]</p> <p>[YES]</p>	<p>There was plenty of contention. "Oh yes! Particularly the choice of Lotus Notes platform - it was quite an anguished, and extended debate." [BK]</p> <p>"the internal regard for our base platform Lotus Notes isn't particularly high. There have been folk who are quite concerned that the functionality they would get, and how usable it was, would be much less than they could get by going out and buying a package content management system." [BK]</p> <p>[YES]</p>	<p>Both JW and BK were worried the new system would incorporate many of the more frustrating features of their old Lotus Notes systems.</p> <p>[YES]</p>	<p>BK and JW have agreed, and the PSG have made a formal decision.</p> <p>[NO]</p>	<p>None apparent among PSG members.</p> <p>[NO]</p>	<p>Concern about usefulness & usability remained, but BK had a backup if ITS could not meet the commitment, as there would be no project cost involved. WS, however, now faces a serious threat to their goals if they lose a large piece of their operational budget.</p> <p>[Some]</p>

4	<p>First business case abandoned - JA, as the new project manager, was contracted to oversee the development of a more realistic business case based on the remaining funding available. A team was put together, with representation from key parties, and a business case was developed.</p> <p>However, after the decision to develop a Lotus Notes-based CMS within ITS, the CTO (WS) became personally involved by refusing to sign approval - insisting that the ITS representative was not sufficiently representing ITS interests.</p>	<p>task (content) - based on source of CMS;</p> <p>task (process) - WS overruled ITS' own rep.</p>	<p>A major component of the business case saw the need to purchase a CMS package. WS had successfully argued at PSG level that this was not possible with this budget.</p> <p>[YES]</p>	<p>[uncertain]</p>	<p>The normal approval process was followed, yet WS was seeking to directly interfere with the outcome.</p> <p>[YES]</p>	<p>Business case team reluctantly accepted reworked business case (a better than nothing view), but disagreement over changes remained - at least from Comms.</p> <p>[Some]</p>	<p>The members of the business case team were unhappy with the abrupt interference with the process, and the fact the emphasis moved away from many of the aspects that supported their own work.</p> <p>[YES]</p>	<p>The process had been dramatically interfered with. The content had changed significantly, stymying the goals of all but ITS amongst the stakeholders. "...some of the goals that NZHIS and Comms certainly had seen as being major deliverables from the project were very much pushed to a secondary level of objectives." [JA]</p> <p>[YES]</p>
5	<p>Comms losing control over web content - "At present, [Comms] are doing the three main processes, which are: entering content, approving, and publishing. The aim [of the project] is to separate those three roles. ...Comms was quite keen on having content owners entering their own content, but then got nervous about what the implications were for that." [PP] This emerged as ITS (through PP) collected user requirements from Comms.</p> <p>Specifically, Comms were concerned about content approval. There were fewer issues over entering content (that could fall to the users) and publishing (that would remain with Comms). Although content approval could still be allocated to Comms under the new system, it was expected that many external users might retain this role. "Of course, they could see the benefits, and they wanted it - they wanted the content creation side - but they really weren't too keen on the fact that they would lose control on this. ...This came down to Comms saying they wanted to be the publisher and the approver. And other people saying, well maybe you shouldn't be." [WS]</p>	<p>Task (content)</p>	<p>Comms disagreed with ITS creating possibility of losing control over content approval.</p> <p>[YES]</p>	<p>Comms were "nervous" about implications of losing control over content approval. AP has a strong sense of not being listened to by decision-makers.</p> <p>[Some]</p>	<p>Comms sees the future role diminished, including own web technical designers. ITS had clear idea of how new CMS would work - Comms objections would threaten that.</p> <p>[YES]</p>	<p>eventually, albeit reluctantly, Comms accepted the new role flexibility</p> <p>[Some]</p>	<p>Comms more accepting, but still not completely happy.</p> <p>[Some]</p>	<p>Once settled, interference with Comms future no longer an issue.</p> <p>[NO]</p>

6	<p>Control over Ministry web presence - in both the original web strategy document, and the first draft of the business case that followed, there included an argument (from Comms) in favour of greater centralisation of web management and processing. This included "upgrading the websites altogether", ensuring content was consistent and consistently presented - "rather than all of these disparate sites, with a variety of branding, a variety of navigation, a variety of search engine. ...we were looking for some consistency between the websites, among the websites, and a common platform for content management." [AP]</p> <p>This proposal mostly disappeared with the second version of the business case, with the emphasis shifting to the technology required. Consequently, Comms feel the issue of web governance & management remains unresolved. AP/JW felt this meant they remained defacto managers - effective responsibility without resources to match.</p>	task (content)	<p>Comms felt that governance & management of the Ministry's web presence was the critical issue - both for the Ministry (who need centralised control) and for Comms (who are burdened with the task without recognition or resources). The PSG do not seem to understand this - they assume Comms are only concerned about the workload, pointing out that the new toolset will actually ease the Comms workload.</p> <p>[YES]</p>	<p>Comms (AP in particular) bitter and frustrated - feeling helpless that after several proposals and "5 years of complaining" they still leave her in charge unresourced.</p> <p>[YES]</p>	<p>Comms/AP have goals of centralisation of publishing process, with formal (and resourced!) governance & management. ITS (through WS) have interfered with that.</p> <p>[YES]</p>	<p>Situation essentially the same, with Comms being left in charge, and a promise of future improvement.</p> <p>[YES]</p>	<p>Comms continue to be frustrated, though more resigned to what they see as inevitable - more work now, hope of improvement in the future.</p> <p>[YES]</p>	<p>Comms goals remain sidetracked. ITS know there is a genuine risk the autonomous external users may do their own thing again, if web governance not addressed.</p> <p>[YES]</p>
7	<p>Web resources for Comms - While Comms have been complaining of being under-resourced for some time, it came to a head during the project. They appreciate the new toolset, but the workload generated by the project, on top of a major, special website being developed for the National Immunisation Register project, and all coming out of business-as-usual (BAU) funds.</p> <p>"We were already stretched; it is already an impossible task. I have to write the service specifications, review them, and review each test - each time there would be something to do, we have to test it - but we didn't get any backfill....we were always under pressure, because the project kept going on and on, because it took us so long to give them the feedback, because we didn't have any time!" [AP]</p>	task (process)	<p>Comms feel they are under-resourced, but the PSG feel it isn't a project issue.</p> <p>[YES]</p>	<p>Comms are frustrated as the project-related work mounts. They feel under-appreciated.</p> <p>[YES]</p>	<p>user requirements, testing and writing specifications for a CMS all had to be done in normal time - even as more and more sites migrated.</p> <p>[YES]</p>	<p>While the future of Comms resourcing is still uncertain, the additional resources over the difficult period has eased the pressure.</p> <p>[Some]</p>	<p>Lingering frustration over future.</p> <p>[Some]</p>	<p>Future uncertain, but immediate objectives seem more achievable.</p> <p>[Some]</p>

8	<p>owner of the project - The business owner of a project is not the same as the sponsor (DDG & NZHIS/BK), though they can reside with the same people. The sponsor drives the project at higher levels, while the owner (normally) provides the funding and is responsible for the implemented system. An early PSG meeting agreed to JW being business owner, "as he controls the group that does the publishing for the main Ministry website." But he "was very uncomfortable" with this. The implication for JW was (a) he had no direct control over the budget, and (b) he would end up with more responsibility, but without adequate resourcing. However, the other PSG members held that he had agreed to be owner, and that was the end of it.</p>	<p>task (content)</p>	<p>In spite of PSG decision, JW does not wish to be business owner, but BK & WS continue to believe he is.</p> <p>[YES]</p>	<p>JW is quite cynical about being business owner, and its negative implications in this case. Feels NZHIS are trying to "duck shove" the responsibility elsewhere.</p> <p>[YES]</p>	<p>JW (and AP) feel that more responsibility without adequate resources will further jeopardise their ability to fulfil their main function.</p> <p>[YES]</p>	<p>JW continues to disagree about ownership, though BK & WS are either unaware or don't care.</p> <p>[YES]</p>	<p>JW remains cynical, and sees involvement with the project as a tacit admission of responsibility ("It's a trap!")</p> <p>[YES]</p>	<p>Still major concerns about responsibilities & resources when the project completes.</p> <p>[YES]</p>
9	<p>Risk of Lotus Notes based CMS (Post-decision) - After decision made, conflict remained essentially unchanged. The one major difference is that now many external users, who also dislike Lotus Notes, are concerned about being drawn back into using it. Comms, as the biggest user group, remains very concerned.</p>	<p>As above</p>	<p>Unchanged for Comms & external users.</p> <p>[YES]</p>	<p>Unchanged for Comms & external users.</p> <p>[YES]</p>	<p>Unchanged for Comms & external users.</p> <p>[YES]</p>	<p>Finally, disagreement mostly disappeared only once a successful system was developed.</p> <p>There are still some issues. "... [the new CMS] is still totally unlike anything, anywhere else in the public sector. So it is still such that people cannot walk in off the street and publish a document." [JW]</p> <p>JW sees major issue around pandemic planning - where the website should be seen as a major communication tool (to avoid people congregating or seeking medical help during pandemic). But if only two people can publish material on the main MOH website - what happens if they get sick or do</p>	<p>Eventually, they accepted new CMS does work in the end, in spite of Lotus Notes platform, but some degree of relationship conflict lingers. "... [my staff] are scathing of it - just in terms of the sheer effort of getting publications up on the websites. The IT people have done their best by developing a new content management system for the people - but it is still totally unlike anything, anywhere else in the public sector." [JW]</p> <p>Note the use of JA & PP went some way to reduce relationship conflict between ITS, as they felt better consulted.</p> <p>[Some]</p>	<p>Concerns only diminished once new system implemented. But being Lotus means still stuck with ITS for support!</p> <p>[Some]</p>

						not wish to travel to work? he suspects the DDG of CID would be aware of this, but doubts other executives are. [Some]		
10	A common approach to project management and governance - The Ministry has a Project Management Office (PMO), run independently out of the CID, that supplies templates to be used when a significant project is underway. This centralisation of project governance is meant to ensure that there is consistency in the way projects are managed and reported. However, the CTO - who is trained in a variety of IT and project governance methodologies (eg COBIT and ITIL) - has been pushing to move away from templates, and replace them with the guidelines and structures described in PRINCE2 (an increasingly popular commercial project management and governance methodology). PRINCE2 was employed, instead of the PMO's templates, for this project. "[For example,] now you are a Project Board member - so, you are going to get a project brief. Here are the eight things that it should contain ...Whereas, [the PMO] people would say, this is the wrong template. ...But we're not talking about content, we are talking about form again. We have got the wrong end of the stick." [WS] The emphasis should be on reporting structures and what they are telling decision-makers.	task (process)	The PMO are committed to using their template approach, while WS is refusing to use them because he feels they do not work well.[YES]	WS suggests it is all about "pride and professionalism" from the PMO.[Some]	WS refused to use the PMO templates because he felt they would not lead to a successful project - and this one was important to him. The PMO <i>may</i> see a refusal to use a centralised method of project control as a challenge to their methodology (but no direct evidence to support this).[YES]	Resolution is ongoing, but the fact that both parties are working together to come up with new policies for project governance is a positive sign.[Some]	[uncertain]	The threat of interference appears more remote, as clearly WS will continue to avoid using the templates, and the PMO have agreed to address his concerns with more flexible policy.[mostly NO]
11	User resistance (Anticipated?) - BK, JW explicitly rated it as one of biggest issues.Each of the Ministry user groups who run a website are required to adopt the new CMS, so that their website maintenance is consistent with others, and the need to comply with the e-government standards will be handled for them centrally.However, not all groups want to migrate to the new CMS. At least one group bought their own CMS. Some had put a lot of work producing a good quality site of their own, sometimes employing their own staff for web development. Some simply didn't want to be associated with the centralised Ministry, preferring to set up their own 'brand', with only links to the MOH site.There was also the risk of abandoning existing service contracts and depend totally on Ministry for support - JW thinks the workload will fall on Comms (contrary to WS thinking).	Task (content) potential for task (process) depending on approach taken	PSG promoted Lotus-based CMS as the solution, but many were likely to disagree (based on past experience with ITS & Lotus) - suspecting poor functionality & usability.[YES]	users already have poor regard for both product & developers[Some]	Many external users saw this centralisation as interference with their own site objectives ("...they didn't want to look like the Ministry. They wanted individual branding.") In practice, it was the NZHIS who proved to be most resistant in this way, fearing loss of control over their primary function (analysis & distribution of information).[YES]	Most external users won round, but a few still resisting. PSG think they will eventually come round.[mostly NO]	many suspicions based on past experiences appeared to evaporate once new system trialled, then implemented.[mostly NO]	For those who agreed to migrate, external users generally found system supportive of what they want to do - no longer seen as interference. Even NZHIS won round.[mostly NO]

12	<p>specifying a new CMS - "right from the very beginning, when we were having to write out the specifications for the content management system, it was ludicrous because none of us had ever worked with content management systems. We had two web publishers, and me, who had never worked with a content management system, trying to write the specifications for it!" [AP]</p> <p>Without the services of an experienced business analyst, preferably with knowledge/experience of CMS, Comms felt like it was the "blind leading the blind".</p> <p>"It is like going to a mechanic and saying I want a car, and he might say, OK, you tell me what sort of engine you want and I will build it. But, no, I just want to buy it off-the-shelf, and you can tell me which parts are optional." [AP]</p>	task (process)	<p>Again, Comms felt under-resourced, as they needed the services of an experienced BA, which ITS did not supply.</p> <p>[YES]</p>	<p>Feelings of frustration (lack of resources) and uncertainty about how they should specify the CMS.</p> <p>[YES]</p>	<p>Comms wanted the CMS to happen, but felt there was a genuine risk they may not specify this one well.</p> <p>[Some]</p>	<p>Although not the BA they wanted, both prototyping & PP eased their concerns.</p> <p>[NO]</p>	<p>No apparent lingering negative emotions.</p> <p>[NO]</p>	<p>In the end Comms were happy with the CMS that was built.</p> <p>[NO]</p>
13	<p>Looking for a website conversion champion - having decided the best way to deal with anticipated resistance is to "pick them off one by one", the next question is to determine what order would be best. Originally, the PSG had hoped that they could do five or six sites themselves, and then use the successful implementations as a lever to convince the rest to convert. That is, by successfully converting those sites already managed by Comms (as a project cost), it was assumed that Comms would then champion its success to the external users, and that the latter would also pay for the conversions.</p> <p>But Comms remained doubtful - not so much over the product or ITS' ability to convert - but what the implications would be over their future roles (see #3). "...in fact, they were still dithering... around this whole [workload/governance] issue ... They were good at saying that this is a really good process for the user. But they weren't very good champions for the whole process, because they were happy about one bit, but weren't very happy about the other bit." [WS]</p>	task (process)	<p>There was disagreement over the prioritisation list (JA/PP report vs. PSG business perspective).</p> <p>[YES]</p>	<p>Initial frustration felt by ITS (over Comms proving to be a poor champion), and Comms (over ITS apparent unconcern over workload/website governance issues).</p> <p>[YES]</p>	<p>Comms' reluctance to champion the project has interfered with PSG strategy for one-by-one conversion. Comms see the project as backtracking on original objectives.</p> <p>[YES]</p>	<p>The prioritisation list was resolved through a PSG decision.</p> <p>[NO]</p>	<p>The mutual frustration felt by ITS and Comms may have remained, but no longer mattered to ITS as they had found a new champion.</p> <p>Maori Health became frustrated, and was "scathing" of ITS, who seemed to abandon them (again!) However, ITS apologised, and Maori Health became a strong advocate.</p> <p>[NO]</p>	<p>Again, Comms' concerns were less important now. Once a new champion was found, ITS was able to meet its objectives.</p> <p>[NO]</p>
14	<p>ITS fail to keep promise: IP addresses - as an example of ITS "not delivering on its promises", the PM described a small, but frustrating incident. Several months earlier, a request had gone to the ITS service desk to set up IP addresses for the new websites once they have migrated to the new system. He was told it would take 2 weeks, and yet still isn't done. This became an issue when new Ministry websites were ready to go 'live'. As a result, '...I have got a project that is maintaining, in effect, two versions of websites one waiting to go live, and the other already live using the old URLs." [JA]</p>	task (process)	<p>There is disagreement over the priority given to this task.</p> <p>[YES]</p>	<p>Clear frustration on JA's part.</p> <p>[YES]</p>	<p>Clear (and unnecessary) delays in project progress.</p> <p>[YES]</p>	<p>Task still not complete, but JA is confident escalation will work (it has before)</p> <p>[YES -> NO?]</p>	<p>Frustration should dissipate once task completed.</p> <p>[YES -> NO?]</p>	<p>Project should continue after task completed. Note: unclear how task completion will affect ITS objectives.</p> <p>[YES -> NO?]</p>

Table F-2: Influence and other environmental factors

CI#		INFLUENCE		ENVIRONMENT		
	Brief Description	Persuasion	Obligation	Culture	History	Individual Behaviours
1	Relationship conflict between ITS and Comms (anticipated)	Not until ITS took over the project & appointed JA & PP did genuine cooperation between ITS & Comms occur at the <i>operational</i> level. This proved more successful.	Appointing NZHIS as sponsor & budget holder was meant to put pressure on both ITS & Comms to cooperate better (as demonstrated by the PSG). This had only limited success (mostly at the PSG level).	<u>Comms</u> - sense of being victims remains, in spite of successful project collaboration. <u>ITS</u> - culture of client disinterest largely unchanged at operational support level. Comms claim this will change with better governance.	No history of any project work, only piecemeal requests to ITS, with frequently disappointing results. No client focus. Relationship conflict developed over time & many experiences.	<u>JW</u> - passive commitment to project & poor communication left Comms team with little representation and understanding; Primary governance issue still left unresolved. <u>PP/JA</u> - made enormous contribution to helping Comms cooperate and help design the new CMS, by doing what ITS service people don't - communicate regularly and be sensitive to client concerns.
2	Original web strategy too expensive	none apparent.	none apparent.	Not apparently relevant given nature of stakeholders.	not relevant.	<u>Web Team Leader</u> (IK) - "...he was a virtual web team leader. He wasn't the right person for the job. He didn't get on with people very well - he tended to rub them up the wrong way, quite easily, and that sort of position, where you don't have any reporting lines, but people are supposed to work together. ...You have got to be a special person [to achieve this], and he wasn't that sort of special person. He got everybody offside ... and left. " [AP]

3	Risk of Lotus Notes based CMS (pre-decision)	Some external attempts to persuade PSG member; considerable debate within PSG.	<p>"A large number of people did not want the Lotus Notes platform - that was one where we started a long way behind the starting line, in trying to push that one through. There was a lot of politics around that." [BK] [NB. He could be referring to persuasion as well]</p> <p>WS did use power of membership of decision-making body to present a reasoned case, but this was not sufficient to secure a good 'deal' in order for the proposal to be accepted.</p>	<p>ITS has a strong Lotus Notes culture - that is, their technical expertise and experience have been based on a Lotus Notes platform. They value working with a toolset they understand; they work faster and more confidently;</p> <p>this culture has helped perpetuate the continued use of Lotus Notes. "I guess we have just gone too far down that path. It would be a major redevelopment to move away from Lotus Notes, now. I think it goes back to: if it ain't broke, you don't need to do anything." [JW]</p>	<p>"A large number of people did not want the Lotus Notes platform - that was one where we started a long way behind the starting line, in trying to push that one through." [BK] Also, historical distrust of ITS due to poor service desk experiences.</p> <p>"Most staff in the Ministry do not like Lotus Notes. They never have, right from the day that it was introduced." [JW] He argues that Notes is an 'orphaned' system - few other government departments still use it, so that a few would want apparently redundant skills. "It was a star on the rise ten years ago, but it seems to have fallen by the wayside, now. And from what I hear, IBM don't support it anymore." [JW]</p>	
4	First business case abandoned	One benefit of the changes saw JA transferred from NZHIS to ITS in terms of reporting lines: "...in effect, it has meant that NZHIS have taken a back seat. Comms have always had this relatively passive role, and Warwick has driven the project. So, ... if it seems like a good idea, and if Warwick is convinced, then I can run with it. I can be fairly confident that there won't be issues from the other parties." [JA]	The business case team felt they had little option but to accept the significant changes: "there was a recognition that this might provide them with some benefit, but it might not give them everything they wanted. But if they didn't sign up to this, then they were back to square one." [JA]	Not apparently relevant given nature of stakeholders.	not relevant.	JA convinced that WS' personality played a major role in his decision-making and approach to conflict resolution. He has "strong opinions strong opinions as to how the project should be run" and felt "that the Ministry had invested heavily in Lotus Notes as a platform product." So, "if there are lessons to be learned, with hindsight, then you would take more notice of personalities within the Ministry, and know which ones can influence things, and which ones can't." [JA]

5	Comm losing control over web content	ITS (through PP) went some way to assuage Comms' concerns, by gaining their confidence - inappropriate material will not be published in the end. The workflow system ensures "there will always be a last review". WS also had to "step in" at one stage to point out Comms' fears are unfounded and will find the flexible publishing system better.	Resistance from Comms was expected, but not to such a degree. Anticipated resistance - "...we thought [Comms] would have big concerns about how we are disenfranchising them from their core knowledge, which was actually detailed web technical design. Lucky for us, they lost both people - they resigned and left the Ministry. Not as a result of our project, but simply as a result of normal attrition." [WS]	Comms values the work they do, but they also consistently feel under resourced and underappreciated (attitude) and have taken many opportunities to make their case (behaviours), but to no avail. They feel they are the only point of protection and advice on ensuring Ministry websites will remain acceptable in terms of content, which WS thinks is "paternalistic". Non-centrist corporate culture - Responsibility ultimately lies with the DDGs of the 8 directorates. Comms don't have a mandate for Ministry-wide content approval. Ministry much less centralised than many organisations. Corporate services (eg ITS & Comms) are not necessarily policy makers.	Comms had originally requested (and had the expectation of) an increase in resources to cope with heavy (and increasing) workload, based on the consultations from the first iteration of the business case. Instead, they see an attempt at decreasing workload by removing key roles from their group.	
6	Control over Ministry web presence	Comms attempt at persuasion through formal channels (proposals via web strategy exercise & first draft of business case) were not successful; PSG did feel that this was an issue, but not part of project. There is some evidence to suggest communication of this from JW to AP was not complete.	Comms were expected to oblige with the changes and trust to the future (resistance did not appear to be an option). In spite of Comms insistence that they will not become responsible for the web without resources, the presumption from other parties that they will slowly go that way as more external users migrate will effectively oblige Comms to do so.	Comms' culture appears to be undergoing a change, with the loss of their two technical staff, a greater cooperation with ITS, increasing responsibility with accompanying (its is claimed by WS) reduction in workload with new processes. Difficult to predict, but current value of hard, important work may only mean changes further undermine attitude that they are underappreciated and overworked, and not listened to.	Ministry's web presence went through a "structural review" 4-5 years ago, and "against everybody's advice" the responsibility for managing its growth went to NZHIS, and independent business unit within the Ministry. They had little to show, apart from an abandoned web strategy document, and had allowed the web presence to grow randomly. JW feels they should now take that responsibility on - AP points out they have the expertise (eg BK, and their own web team).	<u>AP</u> - felt that if Comms had effective responsibility to manage the web presence, then she, as publishing team leader, would end up defacto manager. She did not feel she had the personal qualities (or formal recognition) - her background is in editing - I am an editor.
7	Web resources for Comms	Once JA helped Comms put together a formal request for, the PSG were persuaded that extra resourcing was warranted.	Even if Comms find funds to hire help themselves, ITS has indicated they will not grant them access to the system!	<u>ITS</u> - "... the problem is demarcation. The IT people don't want to let control of the system go, or give anyone else outside their own little area access to the system. It's a command and control sort of mentality." [JW]	Traditional tensions (and past poor service) have contributed to Comms' sense that help is not available.	<u>JA</u> sensitivity to Comms plight led him to help AP put together a formal request to the PSG that was ultimately successful.
8	Business owner of the implemented system	It is not clear on what basis JW was originally convinced, but no evidence of persuasion was presented (even though there is an argument)	Certainly once the agreement was made, JW was completely obligated to remain the owner.	not relevant	not relevant.	<u>WS/BK</u> - "... I think the decisions were always made [collectively by the PSG], but it's just that a strong personality, and strong views, may affect which way people are going to vote, I guess." [WS]

9	Risk of Lotus Notes based CMS (post-decision)	PP & JA both worked hard while collecting requirements, testing, etc. to keep internal users (Comms) well informed and listened to. This had considerable success at gaining cooperation and smoothing the path for implementation.	Some users "desperately wanted to go out and purchase other content management systems". [BK]	As above.	As above.	WS personally committed to seeing it through successfully; Personable approaches of JA & PP helped pave the way for acceptance of the new system.
10	A common approach to project management and governance	Both WS and PMO strongly believe in the importance of a Ministry-wide approach, but the difference lies with what that approach should be. While both are currently in discussion, only WS has put his viewpoint across in this research.	A certain degree of obligation to review the way projects are governed, given WS went ahead and used PRINCE2 anyway.	ITS has had a culture of focussing on the technology, and not the clients. While it may take some time to change these behaviours, it is clear that the adoption of the principles embodied in PRINCE2 has encouraged greater communication between ITS and their clients. Compared to the past, there was "more focus and more transparency to the business ... There is much more collective ownership. ...So, with IT there has definitely been a change of focus about what we were prepared to do, as well." [PP]	ITS has a history of focussing on the technology, and not the clients.	WS - formally trained in IT governance methodologies (including COBIT & ITIL) and is very enthusiastic over PRINCE2 as a project governance and management methodology.
11	User resistance (anticipated)	<p>Anticipating resistance, the PSG had no authority over the semi-autonomous website owners, nor was there any policy available. Therefore, they determined to exert influence on their decision to migrate. Persuasion was the primary approach, based on an early 'road show' to each user group outlining why it would be advantageous to them (makes publishing easier & clearer & handles e-govt compliance - but doesn't threaten their individuality much). Because each group was different, it was decided to approach each individually. This was largely successful.</p> <p>NZHIS were particularly resistant, but this appeared to be largely based on miscommunication, and was later rectified.</p> <p>"Once we actually started talking to people we needed to, it was fine." Trust had to be regained (see Maori Health as prime example).</p>	<p>Where persuasion has failed to work (a minority of cases), their obligations to meet e-govt compliance were emphasised, and that they would have to ensure it happened themselves. Sometimes this was forcefully done ("I tend to turn the acid up on them fairly thoroughly" [BK]).</p> <p>Even though NZHIS were compliant, pressure was brought on them to migrate as they were a major user and also the <u>sponsor</u> of the project!</p>	<p>Many external users valued their own brand and did not want to lose their own sense of identity by being swallowed up by the Ministry. Semi-autonomy enables strongly independent attitudes in some cases. BK sees the group that bought their own CMS as "...a case of organisational prejudice overriding good judgment."</p> <p>BK also sees many of them as having poor understanding of what is involved in maintaining a web presence. The implication is that this ignorance has encouraged a (misplaced) attitude of confidence over their own abilities.</p> <p>ITS appear to value technical quality over customer satisfaction. Many spoke of their attitude (a seeming indifference to customer issues) and behaviours (poor service - eg an inability to prioritise customer issues, and too many "broken promises").</p>	External users built up their own sites, often using their own web developers, and certainly using other technologies. However, previously poor experiences with ITS service (e.g. Maori Health), and frustration working with Lotus Notes, has meant many were suspicious of this new Lotus-based CMS from ITS.	<p>Personalities have made "a huge difference". Both PP and JA emerged as key project personnel successfully bridging the gap between ITS (whom they represented) and the external users. While their roles were seen as important, success was attributed considerably more to their personalities and the ways they were able to first, persuade, and then collaborate with the users. They were able to handle the "cultural diversity" and the politics</p> <p>Gentle, persistent, never threatening. Seen as a mixture of good appointment and good luck that the project had them both. BK suggests had the PSG members done it, it would have been disastrous. The NZHIS are good example of resistors who were won round by PP & JA.</p>

12	Specifying a new CMS	PP employed a prototyping approach, which persuaded Comms that a good CMS could emerge this way.	Comms were obligated to specify the CMS, but then received considerable support through PP.	<p><u>Comms</u> - attitudes & behaviours of being victims of under-resourcing were to the fore until prototyping through PP brought out a more positive outlook.</p> <p><u>ITS</u> - culture of client disinterest still there, but largely circumvented through good project discipline and involvement through prototyping.</p>	Comms' under-resourcing has been an issue for them for some time. Having to specify the CMS seemed like yet another example to them.	<u>PP</u> - her qualities both as an effective communication channel between ITS developers and Comms, and as the facilitator of the prototyping exercise, made good use of her interpersonal skills & technical knowledge.
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13	Looking for a website conversion champion	The PSG strategy was based on using conversion successes in general, and a champion in particular, to help persuade other, more reluctant external users to convert. Initially unsuccessful (Comms), but eventually worked once Maori Health brought round.	No real way of obligating even Comms (who have a rep on the PSG) , much less others, to become a champion for the project.	<p>It is possible Comms may not have proven a good champion anyway, as they belong to the CID, as do ITS, and could be seen as "all brothers in arms".</p> <p>ITS were more determined to be customer focussed, but unable to completely shake culture of technology focus - inadvertently neglected Maori Health over some time after making promises.</p>	Maori Health, like many others, found ITS to have a "really bad track record" in terms of support. This had to be overcome if Maori Health were to become the project champion.	In spite of Maori Health finding ITS difficult in the past, they chose it as their potential champion partly because of the woman who was running the website. She was "well-connected, well-respected, and very articulate", and would be perfect as the 'personal champion'.
14	ITS fail to keep promise over IP addresses	none apparent.	It seems ITS are resistant to obligations (eg to keep promises, communicate status, or meet deadlines).	<p>"Everything is done through the Service Desk, ...[which] is staffed by people who have recently come to the Ministry, and they are not paid very much - they are junior people, in general. And they don't understand the Ministry's website. They don't understand about service. So, they log the call, and often a lot of time goes by before they even find out who the right person to channel it to is. And then that person already has a queue. And there is nobody following up on it ... it's all just done as a series of calls." [AP]</p> <p>ITS culture is apparent through their service desk - highlighting indifference and poor communication. They have a reputation for failing to deliver on promises. Deadlines are often treated as unimportant.</p>	pre-project there had been many incidents of poor response to client needs, with ITS taking little apparent responsibility for ensuring action or providing effective communication channels. For example, a job would remain undone, until one day it is completed, and only then are the users told.	none apparent.

Table F-3: Management and Governance

GOVERNANCE								
Cl#	Resolution Management	Resolution Driven By:	Feedback	Decision	Decision maker	Policy	Authority Structure	Mechanisms
1	<p>1) aware of relationship conflict, DDG appointed NZHIS as project co-sponsors (with her) and holder of budget - they were seen as independent of ITS & Comms;</p> <p>2) NZHIS appointed web team leader to "pull together the Communications and IT people together";</p> <p>3) Then Comms involvement altered as the project changed into a technology project. Once Comms felt shunted aside by ITS in project, the latter hired JA & brought in PP - the latter to gather requirements and liaise between ITS and Comms</p>	DDG; PSG; WS	<p>1) Although appointing NZHIS to govern the project at the strategic level, no apparent feedback channel used;</p> <p>2) Although web team leader appointed by NZHIS, no feedback channel used until strategy document appeared almost a year later;</p> <p>3) JA & PP provided both Comms & PSG with regular feedback</p>	How can the relationship conflict between ITS and Comms be mitigated so that they can work together effectively on this project?	DDG (first); PSG (second); WS (third)	An informal policy of flexibility (it was a small project) enabled PP & JA to step outside their roles and take on testing and training as well - which they feel significantly improved both Comms relationship & the product itself.	<u>Formal governance</u> - PP does not think formal structures and mechanisms would have been sufficient. Having good project management combined with an iterative approach (involving Comms all the way) made the difference.	"Actually bringing a <u>proper project discipline</u> to it has been much more effective, because you can see the progress week by week, and it is much more transparent about what is happening..." [PP]
2	<p>Resolution through decisive decision-making. Little evidence of discussion with document author - instead simply dismissing the strategy and the author.</p> <p>Then, PSG deliberated before finally agreeing to pursue ITS-written CMS.</p>	PSG	Poor feedback mechanisms used - PSG did not monitor the project in this phase. The final strategy document left opportunity for early redirection lost.	What should be done with project now that the strategy document is seen as far too expensive to implement?	PSG	There is basic policy of operating within budgetary constraints, but major driver is having to meet e-govt compliance requirements.	Web team leader had very little authority, whereas PSG, negligent at first (effectively handing authority to the team leader), they took full control when the strategy document was presented.	none used.

3	<p>"We piloted. Basically, Warwick took a development risk decision, and turned his Lotus Notes developers loose to develop the toolset, almost on a pure commercial basis. In other words, if it was not good enough, and wasn't accepted, he wouldn't get paid. So, effectively, he took an internal commercial risk." [BK]</p>	<p>PSG drove process to reach the decision, but once proposal to use Notes was put forward, WS drove the proposal as a solution, with ITS support WS</p>	<p>WS did not commit to writing a CMS without first seeking feedback and advice from senior members within ITS.</p> <p>Strategy document led WS to argue budget insufficient for quality CMS package (which led to his proposal).</p>	<p>to meet the critical system requirements of having both an effective content management system and having it within a tight deadline, should ITS write the system based on a Lotus Notes platform, or should an external product be used?</p>	PSG	<p>No policy apparent for decision process to be used, or what that decision should be based on. PSG's internal debate to reach decision appears to be mostly ad hoc deliberation. Some consultation occurred, for example, but it was assumed that the 3 PSG members adequately represented the views of the main stakeholders (excepting, perhaps, the non-Comms users), rather than any kind of organisational requirement.</p>	<p>PSG made difficult decision to have ITS develop product.</p> <p>As chair of PSG and project sponsor (controlling budget through NZHIS), BK held more formal authority but ,consensus approach to PSG did ultimately prevail..</p>	<p>PSG is seen as the formal mechanism to make the decision, with PSG membership used as an indirect mechanism for consultation. For example,</p> <p>"So, we, at IT, sat down and brainstormed some ideas around this, and we actually came up with the concept that we could do this in-house, using some reusable components that we have got, and using Lotus Notes. ...we have got a development team that can do this." [WS]</p>
4	<p>Having already decided at PSG/ITS levels that ITS would build the CMS, WS discovered the direction of the business case exercise only when it was presented for approval. He immediately stepped into the process, replacing NM, and insisted on reworking the business case. "...[that] happened relatively quickly. Because Warwick was very much driving ...". JA was also moved from NZHIS (who were now uninvolved) to ITS.</p>	WS	<p>There appears to be a lack of oversight of either the team in general, or at least of NM by WS. This would not have been a surprise if there had been an adequate feedback mechanism, both formally (through team reporting) and informally (between team representatives and their managers).</p>	<p>What to do about a business case that promotes a solution contrary to what has been decided by the PSG?</p>	<p>WS - though it is all the PSG members who ultimately sign off on the document</p>	<p>The development of the business case was "run as a mini-project", and thus followed the standard approval process set out by the PMO.</p>	<p>The PSG had overall authority over the business case. The team developing it had representation from the same groups that the PSG were drawn from. Therefore, the managers of each group were required to sign off. That this was achieved post-resolution is testimony to the formal support WS received.</p>	<p>As noted under policy, there was a standard approach to developing and approving business cases, which was followed pre-conflict. The formal sign-off process for the business case required physical signatures from: WS (ITS), BK (NZHIS) and Peter Abernathy (Comms). JA had to go around to each and get the signatures.</p>

5	<p>1. Persuasion employed by ITS through both PP & WS.</p> <p>2. It came down to a PSG meeting with both web team leader (AP) and knowledge manager (PP) invited, with extensive debate until consensus was reached. "We actually had it all open." [WS]</p> <p>3. After the decision, much was done (with ITS) to help Comms adjust - new business processes, technologies, etc..</p>	Comms	<p>Initially, feedback was indirect through reporting lines (eg. from AP -> JW -> PSG (perhaps); PP, JA -> WS-> PSG]</p> <p>But, once PSG had more consultative meetings including other affected parties, direct feedback proved more effective [for example, AP didn't think JW represented her team's interests very well];</p>	where should responsibility for web content approval lie?	PSG have final say, but in the end, decision was based on consensus across "all the affected parties".	"The problem that we have in the Ministry, in terms of assisting Comms to do their job, which is about oversight and maintenance of the content, and what is going out of the Ministry's web sites, is that policy is a bit lacking. There is process and procedure, but there isn't something that says though shalt do this, in this way." [WS]	While preserving ultimate authority for decision-making, the PSG agreed to expand, if not membership, then at least participation within the meetings of the stakeholders such as AP, PP, JA. [WS thought this was key to resolution]	<p>user requirements collection</p> <p>- Comms concerns able to be openly presented through this process (Comms supplied bulk of user requirements for new CMS).</p> <p>expanding the PSG forum:</p> <p>"So, we were actually able to have quite good discussions around, what was the model that we were trying to achieve? Does that model need to be consistent across the Ministry? Or would it emerge over time, before we reached that end state?" [WS - consensus decision-making]</p>
6	<p>The PSG discussed the need for web governance, and determined (a) it should not be part of the project; and (b) it should be "parked" until after the project - particularly as each PSG member had a differing perspective on how web governance should be carried out.</p> <p>There is also a presumption that Comms will continue to control the web presence where sites have been converted. This was not a PSG decision, as JW does not appear fully aware of the defacto responsibility (not just content).</p> <p>There was a strong sense of agreement that the issue really needs to be tackled at a higher level - the executive team in particular.</p>	Comms	Comms have made their views known via formal proposals and JW's representation. However, these deliberations do not seem to have been well disseminated through Comms or ITS.	What should be done about the lack of any formal governance measures regarding the Ministry's web presence?	PSG - in the first instance they are responsible for the project scope; in the long term, it might be the executive team	There is no policy on web management - that is part of the governance issue. Nor did the PSG want to begin drafting policy at this stage.	NZHS are nominally in charge of the web presence, but took a back seat once ITS undertook the technology development. This left the PSG to determine what should happen, but were unable to decide, and so left it. Post-project, the presumption is that Comms will then be responsible, though it is unclear how well disseminated this is, nor is it clear what that 'responsibility' entails. Many saw the executive team as the right place to consider these issues.	Even though it is generally felt that the executive team should consider this issue, it is not clear what the mechanism for setting this in motion is. The PSG have indicated they might look at it later - but how, when the PSG will be disbanded once the project is complete? JW says a formal proposal to the DDG is required, but he won't do it, as he fears he will end up with greater responsibilities, but no commensurate resources.
7	<p>1) Initially Comms employed someone out of their own budget - but this was of limited help.</p> <p>2) JA offered to help AP draw up a proposal to petition the PSG for more resources out of the project budget. This was presented to the PSG by JA, and was successful.</p>	JA	Comms' struggles did not elicit a response, in spite of JW being on the PSG. It was JA who finally helped AP draft a proposal - generating the formal 'feedback' required by the PSG to act.	Should extra resources be made available to Comms, and if so, how much?	PSG	not relevant	<p><u>Executive team</u></p> <p>Lack of any formal feedback mechanism, as well as someone with overall responsibility, has meant the executive team does not fully appreciate the web's growing popularity within the Ministry, and the issues that go with that. Because Comms has been able to provide patches and workarounds to keep it</p>	<p><u>Poor communication mechanism</u></p> <p>until JA became involved, there was no formal mechanism to relay Comms' increasing project-related burden - with the exception of JW residing on the PSG (but he appeared to do nothing).</p>

							going, JW feels they remain ignorant, and will continue to be that way until someone raises it formally. <u>PSG</u> - decision-making body.	
8	<p>As the conflict did not seem to be formally recognised, nor was the issue of resourcing seen as a project issue, no resolution process was engaged.</p> <p>Instead, JW responded by withdrawing interest from the project - essentially distancing himself from the project governance function within the PSG (though he did attend meetings). As WS had effectively taken over the project, he appeared content to abide by WS' decisions.</p>	JW	It is unclear to what degree BK & WS were of JW's concerns, and if they were, they clearly felt attention was better spent elsewhere.	Should JW be made the business owner for the project without more resources?	PSG (decision already made, but JW would like to revisit it).	Policy required that there be a business owner for the project, but it does not specify who must fill the role.	<p><u>Unexpected positive outcome:</u> JA, the project manager, was initially worried about the reporting line to the PSG, populated by representatives "with very different agendas", leading to "three bosses". But once the project shifted in direction, BK "essentially took a back seat", and JW was reluctant and passive, so that WS effectively took control. Consequently, JA moved base from NZHIS to ITS, and had one reporting line at an operational level. He still reported regularly to the PSG, who always made key decisions jointly, though BK and JW won't have been involved in the proposal development.</p>	<p><u>Feedback mechanisms</u> - not always employed well: "I think there were, probably, a couple of times when we just let it drift along for a bit longer than it needed to. Letting it just meander along, as I said, we adopted that pretty much as a deliberate strategy, because we had the capacity to do so, and it took a lot of the stress out of the clients. Even so, there were a couple of times that we could have been a little bit sharper around our controls." [BK]</p>

9	<p>"So, we have had to show them that we have thought about this pretty well, and that we have been quite tough on our IT people to deliver good practice software, based on the Lotus Notes platform, and that that has been achieved." [BK]</p> <p>"The first iteration didn't get accepted, but it was close enough that we could see they would get there. So, if we hadn't been happy with the toolset, or happy enough with the toolset, we would have rejected it, and he wouldn't have got paid. ...I did have a plan B, and that is that we had actually evaluated an alternative toolset." [BK]</p> <p>But it was seen to be better working with an existing toolset and existing skills.</p>	PSG took formal responsibility for making it work, but WS & ITS drove the project to resolve people's concerns.	<p>Regular reports from project manager (JA) and, sometimes client liaison (PP).</p> <p>PSG directly involved in evaluating "first iteration" of project. This enabled them to, if necessary, swing in Plan B with time to install it before the deadline.</p>	Should ITS continue to develop a CMS in Notes, or should an external product be used while there is still time?	PSG	<p>As above - no high level policy applied to reach this decision.</p> <p>Project control conducted partly through use of formal MOH Programme Office policy, and partly through project governance functions of PRINCE 2, as employed by WS, who is trained in this product.</p>	<p>BK became less involved as project sponsor. JA transferred from NZHIS to ITS control. BK relinquished 'ownership' to JW, arguing Comms major user (publishing Ministry material). And BK transferred project governance to WS ...</p> <p>"I think that that whole process caused NZHIS to say, right, well, OK, now we recognise that we have some compliance issues. We are dicking around; we have wasted a whole lot of time. You, ITS, have made some promises now, that you have got an infrastructure that can provide the solution that we are looking for, and resolves compliance issues. Okay, we don't care what the solution is, just as long as it works. Go ahead and do it! From a project sponsorship point of view, for a long time they took a step back, and said right deliver! We have been backed into a position where we are having to fund this project ... so, give it to us! You are telling us what it is going to be on. You are telling us how it is going to happen. You have told us it can happen within the right timeframe." [JA]</p>	<p>The PSG employed a strategy of dealing with each user one by one. "...it probably cost us a lot of time, but we chose to absorb that time. We remained within program budget, because we had a couple of lucky wins, really, and that has enabled us to actually stretch the time to take this fairly low-key approach. I think that has probably enabled us to not have to bring out some of the other mechanisms - which is kind of nice. It means there are no bodies on the path behind us, really." [BK]</p> <p>Project control conducted partly through use of formal MOH Programme Office mechanisms and partly through project governance functions of PRINCE 2, as employed by WS, who is trained in this product.</p>
10	Although outside the project, WS has been "working assiduously for the last two years" to (a) bring together the three project governance bodies in the Ministry (ITS, PMO, and Public Health); and (b) agree on flexibility in the use of methodologies for different types of projects, including PRINCE and its 'sister' methodology Managing Successful Programs. These involve the creation of a joint policy document which will "go out and become Ministry policy".	WS	Through joint discussion.	What should be done to standardise project governance across the Ministry, and what should it look like?	Joint (based on consensus): ITS, PMO, Public Health	joint creation of a policy document to become Ministry policy about project governance.	although an apparently consensus-based approach to policy creation is discussed, it is not clear if the policy must be checked by the executive team, given its importance to the entire enterprise.	The policy created will "set the mechanisms by which we are going to manage projects and programs going forward." For example, in this project, WS was able to provide a dedicated project manager and client liaison, who ensured things didn't slip. "Probably, that is why the project has been successful."

11	<p>Anticipating resistance, PSG decided strategy would be "softly, softly" & "more open, less demanding".</p> <p>Accompanied a good product with considerable persuasive discussion between JA/PP and external users - one at a time. Only occasionally did PSG members have to get involved. E-govt compliance primary lever - take worry away (persuasion) or they will have to do it themselves (obligation).</p>	PSG / Project team	One-on-one sessions with each user provided feedback specific to their context, enabling customised responses. Most feedback from Comms staff, who look after many external users.	For each external user "...the decision, really, is around whether to migrate to the consolidated infrastructure, or to pursue an individual path..." [BK]	Each user had the autonomy to choose NOT to use the CMS & centralisation on offer.	<p>Enterprise-level policy available through structures like PMO, but PSG decided this project was different (due to autonomy of users) and so devised project-specific policy.</p> <p>1) Project would enable future complete centralisation of website management, but that would be unwise to pursue now (higher risk of resistance). 2) Government-level policy (e-govt compliance) employed directly as critical lever to combat resistance. 3) CTO (WS) chose to develop CMS with minimal involvement of users (except Comms), to sell actual product, not just proposal.</p>	The PSG were able to employ some authority through individual managerial membership (both Comms & NZHIS were major website clients, the latter providing most serious resistance, requiring the most direct use of authority). No authority over external users - nor did PSG feel escalation to executive management was a viable option. CTO (WS) also exerted authority over project team to ensure developers met expectations negotiated by PP & JA.	<p>1) strategic mechanism to first canvas Comms (using prototyping approach) to help design system, then approach external users one by one, promoting result & educating on web management & persuading / obligating migration. 2) JA & PP proved very effective communication channels between ITS and users.</p>
12	<p>"I ended up being a liaison person, more with ITS, so it is just making sure ...[we are] liaising with the business as well, and having enough knowledge to understand what Comms wanted - because they weren't that good at enunciating what their requirements were." [PP]</p> <p>ITS used the quick turnaround time that a Lotus Notes platform offered, and used a prototyping approach (facilitated by PP, who is well liked by Comms). "...that worked really well, because we actually had something to show them quite quickly (unlike the old ITS approach of disappearing until it was finished)." [PP] Comms felt very involved as a result, and gained in confidence over the specification exercise.</p>	ITS/PP	Key to prototyping approach is it provided Comms with regular feedback through direct involvement.	Should a business analyst be brought into the project to help Comms specify the CMS?	WS	Informal policy of <i>not</i> involving users in development broken to great effect here. Will this new approach become formal policy? Hard to tell, given unique features of project.	Interesting that it was ITS (esp. WS & PP) who instigated the successful approach, with no apparent involvement of JW as rep for Comms on PSG.	<p><u>Project management discipline</u> - "Actually bringing a proper project discipline to it has been much more effective, because you can see the progress week by week, and it is much more transparent about what is happening, which has been really good." [PP]</p> <p><u>ISD mechanism</u> - prototyping an ideal approach in this context.</p>

13	<p>1) Additional budget was approved by the DDG to do more external user conversions within the project, to help avoid resistance.</p> <p>2) JA/PP met with every external user and proposed a priority list for conversion. PSG overturned these and followed their own list.</p> <p>3) Maori Health Directorate was identified as key, with a woman who was "well-connected, well-respected, and very articulate" that would be ideal as a 'champion'.</p> <p>4) ITS made promises to Maori Health, then appeared to neglect them, then apologised to them, produced a successful conversion, and she became an excellent advocate.</p>	PSG	The initial report from JA/PP provided the PSG with useful information about each of the external users and their contexts.	Once it was clear Comms would not be a suitable champion for the conversion, where can one be found?	PSG	Not relevant.	<p>The PSG represent the key structure in both driving and resolving the conflict, in order to carry out the one-by-one strategy they determined. They did escalate to the DDG of CID at one point to increase resources. Their membership enabled "a better understanding of what was going on in the Ministry" - leading to their re-prioritisation of the external user conversions. They had no authority over the external users, including Maori Health.</p>	<p>1) strategic mechanism to convert external users one by one has to be operationalised at this point.</p> <p>2) tactical mechanism of finding an early converttee that will serve as a reference, or "champion", for others to follow.</p>
14	<p>ITS inaction is typically "resolved by escalation, eventually, and ultimately getting some resource brought on to do what they promised would be a two-week turnaround job. This particular one is not yet resolved, but it will be."</p> <p>[JA]</p>	JA	Major issue is the lack of feedback from ITS about almost anything to do with the task.	Should resources and priority for the task be significantly increased to ensure the job is done ASAP?	As JA has no direct authority over ITS staff, the decision-maker will be the highest level of escalation necessary.	There does not appear to be any policy outside ITS governing their approach to work requests - it appears to be at the discretion of ITS itself. It is not clear whether ITS has internal policies governing practice.	<p>Neither party has authority over the other, nor are there communication channels available for negotiation or consensus decision-making. Resolution through escalation is often seen as the only recourse. The "escalation points" are: (a) Client liaison (PP); (b) the ITS person allocated to the job; (c) the manager of the allocated ITS person; (d) the CTO (WS); and finally, the project sponsor (BK).</p>	<p>The internal task prioritisation, person allocation, and communication processes are seen as unhelpful and frustrating. Escalation and PSG reporting are the only mechanisms for resolution available.</p>

Appendix G – Hutt Valley District Health Board Summary Tables of Conflict Incidents

Table G-1: Conflict Incidents								
CI#	Description	Primary Target	PRE-RESOLUTION CONFLICT			POST-RESOLUTION CONFLICT		
			Disagreement	Negative Emotions	Interference	Disagreement	Negative Emotions	Interference
1	<p>Serious resistance from both clinicians and administrators over EMR [ANTICIPATED]</p> <p>a) CIO given significant strategic budget & told to find a way to implement it, with a focus on the EMR; b) many administrators won't want it, preferring incremental improvements to the paper system; c) some clinicians apprehensive about IT; some prefer the benefits of new medical equipment; many are worried about the stability patient management.</p> <p>Under these circumstances, the CIO determined that there was a genuine risk of serious conflict over the introduction of the EMR, unless some form of action is taken.</p>	Task - process; although the others are also possible.	<p>(a) one or both of the clinicians and administrators may not support the project going ahead, possibly preferring incremental improvements to the paper system; (b) the CIO (with the backing of the Board) wants to see the project going ahead.</p> <p>The assumption is that the level of disagreement is likely to be.</p> <p>[YES]</p>	<p>a) administrator indifference to what IT can achieve may lead to frustration over their proposals being rejected in favour of an IT-based approach; b) clinicians are likely to be angry if they perceive a genuine threat to the stability of patient management; as well as the use of significant funding [TC] "there have been people who have asked why are we spending all this money on this, when we could be spending it on replacing our medical equipment?" c) CIO knows the consequences if the EMR project does not succeed [TC] "well, if I don't get people to jump on board, then I am out of a job!"</p> <p>As the relationship between users and IT have been indifferent in the past, it is difficult to assess the likely level of negative emotions that could ensue, but it is likely to be at least...</p> <p>[Some]</p>	<p>All parties appear keen to see clinical system improved (the 'task'), but: (a) administrators have developed ideas for improving the current paper system, and see the EMR as a needless threat to their safer, incremental improvement objectives; (b) clinicians fear disruption to their work practices, with an uncertain outcome; feel comfortable with current system and may see EMR as threat to their insistence on stable patient management systems; (c) CIO is concerned that above attitudes may lead to resistance once EMR project is initiated.</p> <p>as this is a very high level issue, the level of goal interference amongst the stakeholders is correspondingly very high</p> <p>[YES]</p>	<p>a) as a direct result of the accommodating approach to managing the anticipated conflict, the CIO and senior project manager (along with, eventually, other IT project leaders) gained considerable buy-in from both clinicians and administrators, who now work with IT in a mode of collaboration. Consequently, disagreement over how best to improve the patient management systems has all but vanished, and the focus has shifted to how best implement the EMR.</p> <p>[Some]</p>	<p>as the clinicians and administrators have grown increasingly knowledgeable about IT and how it could help them, and had seen the benefits from some early subprojects, they are now more comfortable the broad concept of an EMR.</p> <p>As debate shifts to lower level discussions around EMR requirements and implementation, high levels of negative emotions about the EMR did not eventuate.</p> <p>[NO]</p>	<p>clinicians are generally satisfied that if done properly, the implementation of an EMR does not necessarily lower quality of patient management, and in fact may improve it;</p> <p>similarly, administrators no longer see their paper-based improvements as the best approach in the long run.</p> <p>consequently, there is no longer a perception of interference (in broad terms) with each other's goals.</p> <p>[Some]</p>

2	<p>Resistance over new clinical lab result processes</p> <p>a) Hospital lab results used to arrive on paper for doctors to check, and either take further action or sign them off and file them in patient record;;</p> <p>b) now they get fed into computer system - but how to replicate the functionality where the paper results served as a trigger that the results were ready be checked?</p> <p>c) Worse, there was a genuine risk that the electronic system would send the results to the wrong doctor (unlike the original sticky label system);</p> <p>d) other issues included the need for doctors checking lab results to add notes;</p> <p>e) the IT project team determined the solution would require considerable change to current practices across many stakeholder groups.</p>	Task content	<p>1) clinicians won't accept the new system unless they are assured that the right lab test results will reach the right people; clinicians are also reluctant to change processes that they know work well.</p> <p>2) IT proj team state that to meet the concerns of the clinicians in terms of lab test results, they must accept that the system will change in many significant ways.</p> <p>the level of disagreement is not clear from the brief description, but the IT project team have been consistently respectful of the clinician bottom-line.</p> <p>[Some]</p>	<p>no indication of negative emotions suggested for any of the parties involved.</p> <p>[Some]</p>	<p>a) clinicians fear for the quality of their systems - in this case, the return of lab results;</p> <p>the potential for interference with clinical objectives is high.</p> <p>[YES]</p>	<p>once IT had gathered their information, and presented a range of options for discussion within the CUG, the decision was eventually reached over both content and process. In spite of the time-consuming implications, the IT project team agreed to take it on. levels of disagreement are unlikely to have got worse.</p> <p>[Some]</p>	<p>[NO]</p>	<p>IT project team objectives are to move the project forward while still meeting clinician requirements. This has happened.</p> <p>Clinician objectives are based on their concerns over the quality and functionality of the system. These have been met.</p> <p>[Some]</p>
3	<p>resistance to electronic signoff of patient information</p> <p>one of the features of the EMR is electronic signoff of results and information by clinicians, in place of the long traditional paper signoff. There was resistance from some clinicians - especially the senior ones - as they proved unwilling to make a change.</p> <p>this resistance was anticipated, and measures to resolve it began before the conflict occurred.</p>	task-content	<p>even senior clinicians reluctantly accept the changes must eventually happen</p> <p>[Some]</p>	<p>resisting clinicians anxious about changes and their implications, but not so bad as to be "putting in major roadblocks".</p> <p>[Some]</p>	<p>resisting clinicians see moderate threat to the quality of the signoff system, because they understand the current paper-based system well, and can use it to maximum effect - as opposed to the uncertainty over the electronic version</p> <p>IT project team see resisting clinicians initially as moderate threat to their objective of implementing the electronic signoff system. Post communication and discussion, this threat is only mildly realized</p> <p>[Some]</p>	[NO]	[NO]	<p>less than before (as more and more resistors are won round)</p> <p>[Some]</p>

4	<p>A clinical unit resisted EMR</p> <p>One particular clinical unit resisted the system completely. At first, the IT project team thought they were being obstinate, but it emerged (over time) that they had had very little exposure to computers at all.</p>	task-content	<p>this unit does not accept they have to use the new system, even though the IT project team says they do.</p> <p>[YES]</p>	<p>there is an implication that the unit is anxious and very reluctant</p> <p>[Some]</p>	<p>the unit feel that there are risks to their ability to function effectively, and require valuable time for training etc, yet there are no perceivable benefits to them.</p> <p>The IT project team see the resistance as a threat to their policy of 100% implementation.</p> <p>[YES]</p>	<p>sufficient improvement to implement the new system, but not everyone finally agreed.</p> <p>[Some]</p>	<p>after considerable, and difficult, discussion, followed by attentive training, this has improved, but anxiety remains</p> <p>[Some]</p>	<p>some members of clinical unit will still perceive this as interference with their own objectives, but the IT project team have, nonetheless, successfully implemented the system.</p> <p>[Some]</p>
5	<p>Clinician disagreement over prioritisation of alerts system</p> <p><i>alerts</i> refer to overriding critical warning systems - something within the medical record warning the clinician that there is an urgent note attached about the patient that the clinician must read. With the coming of the EMR, the intention was that alerts would be represented as flashing lights on the computer screen as the patient's record was being displayed. "they are particularly important in the emergency department" [SP] - see quote in notes.</p> <p>[SP] "There were some concerns from a number of clinicians that this wasn't being given a high enough priority. ...We saw it as a 'must-have' - a bit like requiring all cyclists to have safety helmets, or everyone should wear seatbelts. I personally think that alerts should be a fundamental part of an EMR."</p> <p>however, the delays in getting this subproject implemented centered mainly on the design and management of these alerts. citing the national computer system covering hospital admissions, their alert system was abandoned because the information became unreliable. the data needs to be easy to enter, and yet regularly review for accuracy as situations change - yet how is this latter process carried out in any practical way? how does one ascertain that what was entered is accurate, and is still accurate later?</p>	task content	<p>considerable disagreement amongst different clinicians on some aspects of the issue</p> <p>[YES]</p>	<p>uncertain, but some frustration would be likely</p> <p>[SP] "there is constantly a push from clinicians to get it up and running."</p> <p>[Some]</p>	<p>there are conflicting goals amongst the different clinicians - with the net result that no one is getting the system they want, because they cannot agree.</p> <p>[YES]</p>	<p>some improvement, but still not totally resolved</p> <p>[Some]</p>	<p>frustration will have grown as they still have no alerts system, in spite of the fact that virtually all clinicians want it</p> <p>[Some]</p>	<p>some of the conflicting goals have been resolved, but clearly not all.</p> <p>[Some]</p>

6	<p>senior clinician wants higher priority for 'pet' project</p> <p>[SP] "there is one of my colleagues who is very keen to have a certain computer system up and running. He used to be Head of Department, and he was very keen to get this particular aspect of this data base up and running. "</p> <p>The trouble was, he felt this subproject was not given sufficient resources being by the IT project team.</p>	task process	<p>disagreement over project resourcing was particularly vigorous from this clinician</p> <p>[YES]</p>	<p>apparently strong emotions expressed by this clinician</p> <p>[SP] "... he shouted, and stamped, ..."</p> <p>[YES]</p>	<p>he saw insufficient funding as likely to inhibit the success of this system that he wants</p> <p>it is unclear to what degree the increased funding would affect the IT project budget.</p> <p>[YES]</p>	[NO]	<p>none apparent (over the conflict, not the resulting system)</p> <p>[NO]</p>	[NO]
7	<p>Disagreement over access to surgeon performance data</p> <p>a) surgeons collect data on their own surgery for the purpose of peer review and general patient analysis. They insist (bottom-line) that this data remain available only to the surgeons;</p> <p>b) other parts of the DHB (e.g. risk management) would find some of this data extremely useful, but cannot have access to it;</p>	Task content	<p>in spite of what appears to be a fundamental clash of information ownership and use, the level of disagreement appears quite low, as administration do not appear to question the surgeon's right to restrict access.</p> <p>[Some]</p>	<p>unclear, but seems unlikely to be high - as Paula noted, the administrators may not have been completely aware of how useful this data could be.</p> <p>[Uncert]</p>	<p>administrators in the quality and risk departments would find the surgeon audit data very helpful to their work, but the surgeons have prevented this.</p> <p>[YES]</p>	<p>(1) unclear how much debate specifically between stakeholders took place - but there was plenty of general 'discussion' & 'promulgation' about it.</p> <p>[NO]</p>	<p>unclear - as Paula noted, the administrators may not have been aware of how useful this data could be.</p> <p>[Uncert]</p>	<p>lack of awareness on the part of the administrators meant surgeons would do what they want [really, this is an example of 'interference as interpersonal conflict']</p> <p>[YES]</p>
8	<p>junior clinicians going it alone with discharge summaries</p> <p>as a direct consequence of the increasing pervasiveness of IT within the medical environment, a new issue has developed between the long serving senior staff (who make up the majority of non-IT users) and the more temporary junior staff, who are generally younger and more IT literate. the concern from senior staff is that junior staff are spending more time on the computer, and less time directly involved with medical activities.</p> <p>the example given here is the production of the discharge summary ("the document that is produced when the patient leaves the hospital as an inpatient" [SP]) - see quotes in notes</p> <p>the concern is that these now complex documents, used by GPs as a diagnostic and treatment record, are being formulated and sent unchecked by senior staff.</p>	task process	<p>disagreement over a number of issues:</p> <p>a) should junior staff be typing the documents themselves, when there is a typing pool for that?</p> <p>b) more importantly, should junior staff be formulating and sending complex discharge summaries without them being checked? it is educational for them to do so, but how do mistakes get picked up, and what risks are there for the patients?</p> <p>[YES]</p>	<p>unclear, none mentioned, though the senior clinicians clearly felt anxious about this</p> <p>[Uncert]</p>	<p>junior clinicians see a threat to their autonomy (especially with computer use) and learning experiences</p> <p>senior staff feel excluded from the educational experience, and concerned about risk to patients.</p> <p>[YES]</p>	<p>no apparent change</p> <p>[Some]</p>	<p>uncertain, though frustration is likely to have increased as lack of resolution continues</p> <p>[Uncert]</p>	<p>no apparent change</p> <p>[Some]</p>

9	<p>Orion providing fewer development resources over time</p> <p>Orion are the software vendors for the EMR - it is regarded as a very good quality product. Once selected from other vendors, they were engaged to help implement the package. Initially this was fine, but they have gone on to become internationally successful, with many clients significantly larger than HVDHB. as a result, they are putting increasingly less effort into freeing up resources and resolving issues.</p> <p>although it can be seen as a contractual issue, including penalties, this is not the sort of outcome desired by HVDHB, who would prefer to make progress:</p> <p>[PC] "For myself, as the project manager, it's time, time, time. It's {Orion} being able to give us the resources that we need at the time to meet our deadlines. That is, for me, where the major conflict is."</p>	Relationship (& task process);	<p>unclear, but rather than disagreeing with HVDHB, Orion appeared to be fudging</p> <p>[Some]</p>	<p>HVDHB became increasingly frustrated over the delays caused by Orion's lack of attention</p> <p>HVDHB, as a direct result of the delays, went from having a very strong working relationship, to one of tension and frustration. This was compounded when it was learned that Orion was using HVDHB as a 'reference' to help land bigger clients overseas. even so, they have continued to work together and make progress at the project team level.</p> <p>[WF] "We also felt that they were probably using their experience here to gain further contracts. So, we felt a bit miffed, I think, that they were seemingly not as responsive to us, as we thought, and that as a key client, they were leveraging this relationship to gain further contracts."</p> <p>[YES]</p>	<p>clearly HVDHB have suffered delays to their objectives as a direct result of Orion's increasing distraction elsewhere.</p> <p>[YES]</p>	<p>Unchanged</p> <p>[Some]</p>	<p>Still an issue, but less so</p> <p>[Some]</p>	<p>Improved, but still present</p> <p>[Some]</p>
10	<p>Orion disagree with DHB over major technical problem</p> <p>a specific subsystem was performing poorly, end-users were getting increasingly unhappy. It was raised as a support issue with Orion, who did not give it the attention HVDHB felt it deserved.</p> <p>[CS] "...it needed resolution, there were various responses - initially, it stuck around for a while, and didn't get resolved."</p> <p>then the technical fixes applied by Orion did not work properly, because of (Orion claims) differences in software environments:</p>	Task process (& relationship)	<p>unclear - did the IT project team agree with Orion that there were differences in the software environments?</p> <p>[Some]</p>	<p>See CI#5 above.</p> <p>[CS] ". It eventually got to a point where the IT department felt that they were in danger of losing customers (i.e. their users). So, that was a significant issue...".</p> <p>[YES]</p>	<p>an example of CI#5: clearly HVDHB have suffered delays to their objectives - an important operational system is not performing properly - as a direct result of Orion's perceived inattention and inability to resolve the problem.</p> <p>[YES]</p>	<p>[NO]</p>	<p>initially still high, but reduced significantly (possibly eliminated)</p> <p>[Some]</p>	<p>immediate threat to system performance was finally alleviated (possibly eliminated)</p> <p>[Some]</p>

	<p>[CS] "The fact that the test environment, and the development environment, were different from the production environment, is an environmental issue. It means that, unless you can replicate, faithfully, the issues and their resolutions in the other environments, it is a stab in the dark as to whether it actually addresses it in the production environment. That involved working through a series of - well, if you are in a detailed, technical view, and you look at the normal day-to-day things that you do to resolve an issue, well if you got a base problem, then those things won't solve the problem."</p>							
11	<p>EMR projects suffer delays</p> <p>a) occasionally, IT projects suffer from delays (vendor problems; insufficient resources; ambitious timeframes)</p> <p>b) clinical staff want to slow the project down, so as to preserve quality (so important with clinical systems)</p> <p>c) however, management may think differently, having undertaken to the Board to deliver the system on time</p> <p>[PC] "we have had issues around the project - generally in the contention for resources, either at the software developer's end, or at our own internal programming end, and sometimes with our operations staff, where they are unable to meet the [original project] deadlines."</p>	Task process	<p>(1) Clinicians (and CIO, who supports them) want quality over time;</p> <p>(2) senior management want time over quality.</p> <p>Difficult to gauge level of disagreement, as this is a generic evaluation. However, the gravity of this conflict suggests high.</p> <p>[YES]</p>	<p>no indication of negative emotions suggested for any of the parties involved.</p> <p>[Some]</p>	<p>a) clinicians fear for the quality of their systems;</p> <p>b) senior management are concerned project deadlines are not being met;</p> <p>[YES]</p>	<p>In TC's specific example, and Paula's generic examples, the recommendations from the clinicians via the CUG for delays are accepted by the ISSC. The task process disagreement has been settled.</p> <p>[Some]</p>	<p>[NO]</p>	<p>The decision has essentially allowed clinician objectives to overrule senior management objectives.</p> <p>[Some]</p>

Table G-2: Influence and other environmental factors

CI#		INFLUENCE		ENVIRONMENT			
		Persuasion	Obligation	Culture	Power	History	Individual Behaviours
1	Serious resistance from both clinicians and administrators over EMR [ANTICIPATED]	<p>because clinicians, and to a lesser degree administrators, have considerable power over this issue, the CIO and senior project manager need to convince them that the benefits of the EMR would outweigh the risks and costs. There are applying the power of IT expertise.</p> <p>[PC] "... to shout softly is what we do. There is a certain amount of purposive personality, purposive approach, certain amount of soft skills that I, actually, personally use to influence staff to move along, to get going."</p> <p>The CIO did this by juxtaposing implications of two options: further enhancements to the paper system, or full commitment into the EMR. [TC] "The first thing I did, is I gave a talk to a large audience of a variety of clinicians and clerical people from all around the place about where we were going, ... where we could possibly go, with some of the technologies for clinical information systems. ... If we go down this [EMR] path, we face a number of risks, but we have the potential to do the</p>	<p>there is always the threat of resistance, and both the CIO and the senior project manager were aware of it. When asked what measures she thinks the clinicians would take if they were very unhappy with the way the project was developing:</p> <p>[PC] "That measure would be to vote with their feet, and not use the system. So, for us, that would probably be the bottom line. If someone says, if that goes ahead, we will not use it, then we go back and look at the circumstances around that. We haven't, yet, had that. But, what we have had, is very, very slow pickup of the system by some senior medical staff very, very slow. People have a private practice, as well as their public practice, and they come into the public system for two or three sessions a week - in which time they will be operating, or they will be in outpatient clinics, and validly or invalidly, they are reluctant to log in and use our electronic system; they keep relying on the paper."</p>	<p><u>Clinicians & Administrators:</u> [TC] "There was [prior to EMR] probably a culture of IT being an overhead, about IT not really being relevant - that is probably the best way to describe it. What does IT do? ... "it provides computers, that's all. It doesn't really have any strategic significance to me"."</p>	<p><u>CIO</u> used a source of power (expertise & knowledge in IT) to promote the benefits of the EMR;</p> <p><u>clinicians</u> were, collectively, very powerful - it is likely they would (successfully) resist any change likely to threaten patient management. CIO wanted to tap into that power, by ensuring they took ownership and made the important decisions. [TC] "We went through an evaluation process [of software vendors] - my evaluation team had 10 people: three doctors, three nurses, three IT people, and one manager. The key thing there, was that the clinical people could outvote the so-called administration side of things. But I really worked it as a team."</p> <p><u>Administrators</u> wield a collective power similar to clinicians, only less so.</p>	<p>It seems past indifference towards IT was reinforced by the outsourcing of most of the IT function - which appeared more involved with maintaining current systems, than exploring new ones.</p>	<p>It was the planning, and consequent actions, of the CIO that led to a change in organisational culture (specifically the clinicians and administrators, in terms of their beliefs and attitudes towards IT) and ultimately a new and successful project governance regime.</p> <p>Both the CIO and the senior project manager were initially accommodating, and then moved into collaboration.</p>

		things that we could never do on paper. To me, that was just to get the buy-in to the concept of moving forward. In other words, a zero assumption on what you want to do. Because then, people jump on board, they start to own it, and say "yes, we want to go down this path", rather than me, as IS manager - because I obviously have a bias in that area ..."					
2	Resistance over new clinical lab result processes	<p>The IT project team had to go to considerable lengths to persuade:</p> <p>a) clinicians that the new system will perform up to acceptable standards;</p> <p>b) clinicians and administrators that new processes can be adopted successfully to use the new system;</p>	none referred to, either directly or indirectly;	<p>clinician focus is very much along the lines of: 'yes, IT is great, we can see it is going to improve a lot of our record-keeping, and access to information that we need, but the bottom line is: safety comes first.' So, if that means a lot of laborious, or lengthy intermediate steps, before we get there, then so be it.</p> <p>See Cl#11</p>	<p><u>clinicians</u> - see Cl#1. power exercised through CUG.</p> <p><u>IT group</u> - power exercised through IT expertise, but only at the level of advice (except in terms of IT infrastructure); also, there is power in knowledge, in this case the cumulative knowledge acquired by the IT project team about all the affected stakeholders and their requirements;</p>	See Cl#11	See Cl#11
3	resistance to electronic signoff of patient information	<p>See Cl#11.</p> <p>[WF] "[resolution involved] communication, through the Clinical User Group process, through more dialogue, including examples of where it was working well, more discussion around the reasons why people were reluctant, keep asking the 'why' questions. "</p>	none referred to, either directly or indirectly;	<p>See Cl#2. but some (esp senior) clinicians are still not comfortable with IT, and are unsure whether to trust systems based on it.</p> <p>[WF] "I think it was identified that there would always be resistance. The concept of the electronic medical record was pretty well accepted accepted by the majority. "</p>	See Cl#2.		

4	A clinical unit resisted EMR	<p>in this case, the CUG appeared less useful, as they had already supported the new system. However, the ex-nurse senior project manager was able to communicate enough to uncover their anxiety, and increase their co-operativeness.</p> <p>[WF] "We did have those discussions, and some of those were difficult, but we got there. The major impact was really the people, at a much softer level, working closely with that department, and those people, building their confidence and really getting underneath the issue."</p>	<p>some necessary, in combination with persuasion, to convert the clinical unit leadership.</p> <p>[WF] "I did apply a little bit of management leverage, if you will. I had to talk to several key leaders in that department about my concerns. This wasn't something that was going to stop."</p>	<p>this clinical unit, including a considerable number of senior clinicians, are very uncomfortable with IT.</p> <p>[WF] "I think that department still struggles - basically older people, with little need to have a high level of IT knowledge, and we are trying to drive them to a greater utilisation of something from which they could see the benefits, for them and for their unit. They have come a long way from there, ..."</p>	<p>initially, PSG all the clinical unit behaviour was wilful, but the power to persuade inherent in someone who has both a medical and IT background was highly instrumental</p> <p>[WF] "I suppose we reflected it as being obstinacy, or just a department being difficult, because they wanted to be difficult. It did take some intervention, probably by Paula Campbell, coming in wearing a nurse's, or a health professional's, hat, and interacting with the staff in a non-threatening way, getting underneath the issues more"</p>		<p>Paula Campbell was unable to employ her unique background (see power).</p>
5	Clinician disagreement over prioritisation of alerts system	<p>as usual, there were plenty of the tends to sway opinion amongst the clinicians during the discussions and debates.</p>	<p>uncertain</p>	<p>while it is accepted that the clinician perspective is dominant, this is of little help when the conflict is scattered amongst different clinicians</p>	<p>sees stakeholder assessment</p>	<p>setting up alerts systems as part of an EMR is not new, and has been problematic in other health systems outside the HVDHB, and the clinicians are aware of this.</p> <p>[SP] "There is a national computer system, [where] any hospital in the country can log in and see where anyone in the hospital has had an admission. ...Attached to that was an alert system. That alert system is basically regarded as useless. Why is that? Basically, because the information on it is unreliable. So, the whole alerts problem has evolved around the question, how do you make an alerts system which people trust, and are willing to participate in it?"</p>	<p>none apparent</p>

6	senior clinician wants higher priority for 'pet' project	presumably, initial entreaties would have tried to persuade the CIO - if so, it didn't work	rather obvious tactics to influence the CIO's thinking: [SP] "...he was very keen to get this particular aspect of this data base up and running. So, he shouted, and stamped, and he certainly had some response out of our Chief Information Officer, to the extent that he might have got a little more funding than he might have otherwise got."	See CI#11 for the IT project team note that while this is only one clinician, he still would have accorded some of the respect and attention that clinicians generally receive.	sees stakeholder assessment	uncertain	in this case, the senior clinician's personal qualities (as evidenced by his behavior - highly unusual in this environment) outweigh the impact of the culture he belongs to
7	Disagreement over access to surgeon performance data	[PC] "a lot of advertising, discussion, and then decision, and promulgating really, went on to say this is information that is collected by us, in our service, for us, and we have the sole right to that information."	possibly - the administrators may have preferred to know the full value of the audit information, but the senior project manager felt obliged to avoid getting involved outside her brief. [PC] "It is not something that I have gone over and said to them 'Hey, there is lots of information there, why don't you see if you can get it?' It is not my role."	surgeons - in this case, it could be argued that limited access to the data would not directly affect patient management in the short term, and could benefit patient management in the future. Instead, surgeons see it as management infringement on their personal performance data - which could, in theory, make them less willing to be free and frank with their audits (which would affect patient management). yet, such is the power of the surgeons, that there is a culture throughout the organisation about the priority of their needs.	See CI#1	n/a	n/a
8	junior clinicians going it alone with discharge summaries	[SP] "So, that particular issue, is quite a complex issue, which is debated, not infrequently, at many different forums throughout the hospital."	uncertain - senior staff could argue that there's an obligation to minimize risk to patients; junior staff could argue that there is an obligation to realize the benefits that IT can offer (and does offer at many other hospitals).	senior clinicians - while their concerns may be legitimate, there is also an element of ignorance about IT; [SP] "We still have senior medical staff that probably don't ever really log in to e-mail, as it is at the moment although, that has changed significantly over the last five years, where we have gone from about a 10%, to an 80%, [usage of computers]. ...It's really an age, and a generational fact. I think a lot of our older doctors have never really been brought up with computers." junior clinicians - not only feel comfortable with the use of IT, but feel it is important to incorporate it into their medical activities: [SP] "Whereas our junior staff would	sees stakeholder assessment	in this case, the status quo in terms of the discharge summary and its purpose, appear to have changed without appraisal. This apparent (albeit unintended) fete accompli has put the senior clinicians 'on the back foot' and has hindered effective resolution to some degree. although unrelated to this issue, a recent strike by junior clinicians both highlighted their collective power, and increased tension between them and senior clinicians, who had to increase their workload to absorb the extra work.	

				probably complain if they didn't have access to the Internet. They are probably tapping on their computers all day long."			
9	Orion providing fewer development resources over time	<p>More successful than the contractual route - TC worked employed a combination of persuasion & obligation.</p> <p>[WF] "TC, in particular, spent a lot of time putting our view, and putting our concerns to Orion to improve that responsiveness."</p>	See 'Persuasion' at left. In this case, Orion's reputation is at risk (esp. if HVDHB is to be used as a reference). They are 'ethically/morally' obliged to meet their commitments.	[SP] "There had been a huge problem identifying where, or why the server wasn't working. That was quite a big crisis point. But, finally the problem was solved, and the whole thing got up and running. [It was a technical issue.] ...but, again, it was working with big software vendors, and understanding what requirements were needed, and communicating with them, and then communicating back, and not understanding some of the specific details that were going on."	<p><u>Orion</u> - in this case, they are in a strong position, as they are seemingly able to choose where to put most of their energies, and are willing to endure contractual penalties and a certain degree of opprobrium from HVDHB.</p> <p><u>HVDHB</u> - in this case, there seems little that HVDHB can do, as they only have the contract available.</p>	n/a	n/a
10	Orion disagree with DHB over major technical problem	<p>See Cl#5.</p> <p>[CS] "at the end of the day, I can't think of any specific examples where there has been a specifically hidden agenda, or something like that. I think I understand people's motivations and behaviours. ...on the whole, for most of the interactions that I have seen, I think that [the HVDHB's motivations are, collectively, genuine and transparent]."</p>	See Cl#9.	See Cl#9 - it is possible the quote refers directly to this conflict incident.	See Cl#9.	n/a	n/a
11	EMR projects suffer delays	as the entire resolution process incorporates a series of opportunities to widely consult, in an open and transparent way, persuasion appears to be the dominant influence approach. Clinicians draw on their collective professional power, while IT draw on their expertise as a source of power.	none referred to, either directly or indirectly;	<p>Transparency and accountability of processes carried out by these various authority structures, has encouraged a culture of communication, understanding and trust.</p> <p>[PC] "... people are very realistic about IT. "</p> <p>The concern for patients can backfire on the project sometimes ...</p> <p>[TC] "[At ISSC level] there have been people who have asked why are we spending all this money on this, when we could be spending it on replacing our medical equipment?"</p>	<p><u>clinicians</u> - see Cl#1. power exercised through CUG.</p> <p><u>IT group</u> - power exercised through IT expertise, but only at the level of advice (except in terms of IT infrastructure)</p>	because the mechanisms that have been set up to enable communication, understanding, debate, and ultimately, clear, realistic recommendations are still fairly recent, historical factors are based on the evolution of this new approach into a set of formal processes that are generally recognized as effective across the board.	while the personal qualities of the leaders and representatives of the various stakeholder groups will be important at various times, they seem largely subsumed into the broader process.

Table G-3: Management and Governance

GOVERNANCE							
Cl#	Resolution Management	Feedback	Decision	Decision maker	Policy	Authority Structure	Mechanisms
1	initially it is the CIO who is responsible for managing the resolution process (having initiated it in response to anticipated conflict). Once the decision is made to proceed with the project, conflict management typically operates at lower levels.	a) responses to TC's meeting/presentation provided him with sufficient feedback to decide on the follow-up processes b) the creation of a representative group to select the appropriate package provided further opportunities for user representatives to help shape their own system.	should the EMR proceed or not? [TC] "The organisation had to weigh up: was it better to invest in a hundred more filing clerks, or are we going to go down the way of using electronic systems to organise data, and do away with paper?"	decision effectively made by the collective clinicians, on an informal consensus basis; a special (representative) committee was set up by TC to select the actual vendor: [TC] "We went through an evaluation process my evaluation team had 10 people: three doctors, three nurses, three IT people, and one manager. The key thing there, was that the clinical people could outvote the so-called administration side of things. But I really worked it as a team."	[IT/PROJECT]: formal policy did not appear to be a factor in the decision-making. However, there appeared to be informal policy - from the CIO and the senior project manager, through to the other project members of the IT group - that IT will act in an advisory capacity (with the exception of IT infrastructure), will endeavour to accommodate those user representatives who find it difficult to participate, and will collaborate with them in terms of establishing user requirements, system design, and system implementation - leaving the final decision to the users. [PROJECT]: once the project related authority structures were in place, policy was to deal with any conflict at the lower levels first - where those most directly affected have an opportunity to be involved in the resolution process. there is a policy of escalation where conflict cannot be resolved in this way.	[IT/PROJECT]: complete delegation of decision-making to the CIO level - this provided TC with the freedom to select appropriate mechanisms. [PROJECT]: This, in turn, led to the creation of a series of project governance authority structures, which in combination with communication and mechanisms involving representatives of all stakeholders, discourages relationship conflict, and generally confines task conflict to the lowest feasible levels in the hierarchy. escalation policy is clear, if required. [PROJECT]: interesting that the CUG does not have any formal decision-making authority, and yet policy dictates that no important decisions that will have an impact on clinicians, for example, will be made without clear direction from the CUG.	[PROJECT]: communication mechanisms enabled TC to: a) have an opportunity to influence their thinking; (b) ensure that their perceptions of the new system are faced on informed considerations; c) help them accept that this is their system - they need to own it; d) convince the director of medicine to become a key project champion at the executive level. these mechanisms included the use of presentations, debates, and meetings. [TC] "The first thing I did, is I gave a talk to a large audience of a variety of clinicians and clerical people from all around the place about where we were going, ... where we could possibly go, with some of the technologies for clinical information systems."
2	issue raised, discussed, and resolved within the CUG. No escalation required. The IT group appears to be driving the resolution process.	a) IT project team collects requirements from all relevant stakeholders, and presents results with options to CUG	At what point should the internal paper system be scrapped and electronic signoff of lab test results become the new system?	CUG	See Cl#11 (a), (b)	<u>project</u> - While the CUG is the key structure in terms of the final outcome, it is not a formal authority structure. In fact, while the PSG is technically the governing authority, in practice it tends to "rubber stamp" many of the decisions and recommendations put forward by the CUG.	See Cl#11

3	<p>the two-step process involved:</p> <ul style="list-style-type: none"> * issue raised, discussed, and mostly resolved within the CUG. No escalation required. * remaining resistors collaborate with IT group and are slowly won around. <p>The IT group appears to be driving the resolution process.</p>	<p>a) IT project team collects requirements from all relevant stakeholders, and advises the CUG accordingly</p> <p>b) then, feedback from individual groups of resistors are taken into account</p>	At what point should the internal paper system be scrapped and electronic signoff of results and information become the new system?	<p>a) CUG</p> <p>b) individual, or small group users</p>	See Cl#11 (a)	<p><u>project</u> - While the CUG is the key structure in terms of the final outcome, it is not a formal authority structure. In fact, while the PSG is technically the governing authority, in practice it tends to "rubber stamp" many of the decisions and recommendations put forward by the CUG. in this case, however, it appears that it did not need to go to the PSG.</p>	See Cl#11
4	<p>essentially the process involved:</p> <ul style="list-style-type: none"> * escalation to the PSG * influence (obligation) on the clinical unit leadership by the project director * influence (persuasion) by the senior project manager * final (albeit reluctant) acceptance by the clinical unit <p>the IT group</p>	<p>a) IT project team collects requirements from all relevant stakeholders, and advises the CUG accordingly</p> <p>b) then, feedback from individual groups of resistors are taken into account</p>	At what point should the resisting clinical unit finally agree to take on the new system?	<p>The PSG agreed to enforce the policy - clinical unit must adopt the new system, but also agreed the enforcement would be gentle and/or indirect;</p> <p>then most of the clinical unit eventually made the decision to adopt as well</p>	<p><u>corporate/project</u> - a major policy decision was made (by the ISSC and approved by the Board) that there was to be a 100 percent conversion rate, and that this conversion may be slow in some cases, if it is to be successful. in this case, it was. It was clearly applied here at the PSG level.</p> <p>[WF] "We had to make a decision that within this organisation, we were going to have all the clinical departments utilising the system. There wasn't an opt-out option. I was prepared to accept a slower introduction, or slower utilisation rate, but not being part of it was not an option. We did have those discussions, and some of those were difficult, but we got there. The major impact was really the people, at a much softer level, working closely with that department, and those people, building their confidence and really getting underneath the issue."</p>	<p><u>project</u> - the PSG exercised its authority in enforcing the policy, but selected a gentler mechanism;</p> <p><u>project</u> - the project director was able to exercise power, through the fact that he was also the chief operating officer</p>	<p>a) <u>escalation</u> - up to PSG level, from IT project team;</p> <p>b) <u>discussion & debate</u> between stakeholders</p> <p>NOTE: these done in conjunction with influence tactics</p>

5	<p>the process involved:</p> <p>a) discuss and debate the nature and priority of the alerts system, and how it would work in practice, using forums like the CUG, head of department meetings, etc.</p> <p>b) with no agreement, escalate the issue to the non-IT related Clinical Board</p> <p>c) however, final resolution has still not been reached, and the system is still not in place.</p> <p>appears to be driven by the clinicians</p>	as usual, debate, discussion, and negotiation led to refinement of the argument	[SP] "how do you make an alerts system which people trust, and are willing to participate in it?"	initially, clinicians themselves	no policy appears to help in this case	it is interesting that the clinicians chose to bypass the usual authority structures for an IT project issue, escalating instead to a higher clinical authority.	discussion, debate and negotiation, followed by escalation
6	<p>the process involved:</p> <p>a) as standard funding process being applied to the project, with appropriate resources allocated</p> <p>b) probably, the outcome was appealed by the clinician, who attempted to persuade the CIO</p> <p>c) then, overt appeals were used to oblige the CIO</p>	uncertain	should this project be granted increased funding, and if so, how much?	the CIO	the policy to use the formal process was initially invoked, but then this case became an exception	it is not clear to what extent formal structures like the CUG, PSG & ISSC were involved, but as the CIO made the final decision, it seems likely the project was not a big one (or perhaps the amount of the funding increase was sufficiently small that higher powers were not required).	formal funding process
7	plenty of debate, and the decision is made	unclear	whether or not to allow limited access to surgeon performance data	unclear, but likely to be CUG	again, unwritten policy of surgeon priority	probably no higher than CUG or EMRSG	discussion and communication and mechanisms
8	uncertain, but the process appears to be driven by the senior clinicians.	as usual, debate, discussion, and negotiation led to refinement of the argument	in what way, if any, should the process used to create, and the content of, the discharge summary change?	uncertain - still appears to be locked in negotiation between the two stakeholders	<p>there was a policy (although how formal is unclear) outlining what should be in the discharge summaries, and how they should be processed;</p> <p>this policy has inadvertently been subverted, and needs to be revisited</p> <p>there does not appear to be any policy to help achieve resolution in this case, beyond the measures already taken</p>	<p>while there is no clear authority referred to in terms of the final decision, there have been some authority impacts:</p> <p>[SP] "As [the discharge summaries] get more complex, we move to the scenario where these doctors come on to do the clinics, and there is a pressure from management, potentially, to be pushing them to type their own letters."</p>	the usual discussion, debate, and negotiation - through the CUG, and other forums as well "throughout the hospital".

9	<p>once escalated from project managers, CIO managed the resolution process through negotiation with Orion's account manager, and on at least one occasion, escalated further to Orion's regional manager.</p> <p>It became a contractual issue, and penalties were involved on at least one occasion.</p>	reporting through the escalation process	<p>(1) when will Orion provide the necessary resources to stop delays in the project?</p> <p>(2) should HVDHB demand contract penalties, or should they continue to try and persuade/oblige Orion to provide resources?</p>	<p>(1) Orion</p> <p>(2) HVDHB</p>	<p>Orion's policy towards clients is unclear;</p> <p>HVDHB's policy towards handling vendors is based on a combination of contractual arrangements and collaborative practices, with clear communication channels (including those used for escalation).</p>	<p>as it is a software vendor, the CIO was given the job of overseeing, and ultimately conducting, the resolution process, with full support from other project stakeholders.</p> <p>Note that in this project, the steering committees (EMR & IS) are not directly involved:</p> <p>[CS] "For this project, we don't attend the steering committee meetings, whereas in some other projects I do. But, for the Hutt, we don't."</p>	<p>communication and escalation channels</p> <p>[PC] "There are channels that myself, and TC, can use through our account manager, and then further up to their resource allocation people, and to the Australasian manager, and those sorts of things. So, we escalate our concerns up there, when we feel we are getting a raw deal."</p> <p>[CS] "The escalation process - well, there was a combination of issues being raised in account relationship meetings, and formal escalation through, or semiformal escalation through an email, for example, identified the issues, and what needed to happen. So we had meetings to resolve those."</p>
10	See CI#5	<p>feedback provided by IT project team and system users, directed to Orion;</p> <p>post escalation, Orion brought in their own technical "hit team" to resolve the issue, who then also provided feedback about counter issues like SD environment;</p>	when, and to what degree, should Orion get involved in the resolution of this system problem?	See CI#9 - through negotiation and contractual requirements;	<p>Orion appear to have a policy of dealing with issues raised by system users, or the IT project team, through a business-as-usual approach. This is fine, up to a point, but there also needs to be guidance on how to recognize stakeholder salience (esp. legitimacy and urgency) and escalate the problem internally, so that more of Orion's resources can be brought to bear.</p> <p>For HVDHB, see CI#9.</p>	See CI#9	[CS] "If, for example, there were resource conflicts with our resourcing between Hutt's projects, and Orion's projects, then I would expect TC to use the tools at his disposal to ensure that Hutt Valley's best interests were kept at heart. If that involves an escalation e-mail to me, and 'cc' it to my CEO, then that's what I would expect."
11	<p>ISSC makes ultimate decision, in this case, but smaller impact issues are handled at the CUG and PSG levels.</p> <p>The PSG appears to be driving the resolution process.</p>	<p>a) IT project team reports to CUG</p> <p>b) CUG reports to PSG</p> <p>c) PSG reports to ISSC</p> <p>d) project manager reports to senior project manager / CIO</p> <p>e) CIO and/or senior project manager present to ISSC</p>	What mix of delay, increased budget, and loss of functionality/quality is best, given the current status?	ISSC, as they ultimately control project parameters such as timeframes and budget	<p>a) <u>project</u> - implicit (possibly explicit) policy to run such issues (such as project delays) past the clinician dominated CUG.</p> <p>b) <u>Project</u> - implicit policy set by CIO, corresponding to clinicians concerns, that delays are more acceptable than threats to quality:</p> <p>[PC] "When I took over the role of project manager, and even when I was leading some projects earlier than that, it would be TC who sets that platform. As long as we can identify, exactly, what is the reason we've taken as many steps as we possibly can to mitigate it, or to alleviate a problem that will cause the time to blow out. So long as we have done those steps, and we have been diligent in doing that, then it is acceptable to him."</p>	<p><u>project</u> - The ISSC, PSG, and CUG all have important decision-making/advisory roles.</p> <p>[TC] "I guess one of the things that we rely on [both] the Clinical User Group and the EMR Steering Group [for], is how to deal with delays in the project. ... Sometimes we have had to go to them and say that we are not going to meet this timeframe, what would you like us to do? "</p>	<u>project</u> - reporting mechanisms; discussion forums; presentations; collaboration processes

Appendix H – Code Structure for Data Analysis

PRIMARY & SECONDARY CODES FOR CONFLICT INCIDENT #n

PRIMARY & SECONDARY CODES FOR GENERAL ORGANISATIONAL INFORMATION