

# The never-ending project : understanding e-government project escalation

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# **THE NEVER-ENDING PROJECT**

Understanding E-government Project Escalation

DISSERTATION

to obtain the degree of Doctor at the Maastricht University,

on the authority of the Rector Magnificus,

Prof. dr. Luc Soete

in accordance with the decision of the Board of Deans,

to be defended in public

on 18 June 2015, at 10.00 hours

by

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## **Chapter 1     Introducing E-government Project Escalation as a Research Topic**

“There is a huge gulf between the rose-tinted hype about information technology’s (IT) role in the public sector, and the actual reality. The overall result is a massive wastage of financial, human and political resources, and an inability to deliver the potential gains from e-government to its beneficiaries.”

(Heeks, 2006)

### **The evolution of e-government**

Electronic government or e-government has been one of the more important developments in the public sector over the past two decades. Definitions for the concept have been numerous and diverse with none having been universally accepted (Yildiz, 2007). Very few definitions seem to cover the wide variety of e-government applications and the associated gains that these applications offer. In broad terms, e-government encompasses all government efforts shaped by information and communication technologies (ICT) (Brown, 2005). The difficulty of defining e-government may be related to the fact that the concept has been evolving since its origins along with the underlying rhetoric surrounding its merits.

The earliest applications of e-government were aimed at improving the internal functioning of government organisations. Large computerised systems were first used as effective and efficient tools

for storing and retrieving information (Bretschneider, 1990; Brown, 2005; Kim, Pan, & Pan, 2007). In this stage of its evolution, e-government was a “stovepipe” phenomenon. Organisational boundaries were rarely crossed in order to share information with other government agencies, let alone citizens or businesses (Aldrich, Bertot, & McClure, 2002).

In the 1990’s microcomputing evolved and opened new possibilities that crossed organisational boundaries. For example, the development of floppy disks and CD-ROM’s containing small collections of government data created the potential to distribute information and digital services to citizens and businesses. However, it was the development and growth of the Internet that yielded the real breakthrough in digital delivery of government information and services. The Internet created possibilities for almost unlimited information provision, two-way communication, and direct external access to government databases (Aldrich, Bertot, & McClure, 2002; Brown, 2005). With the arrival of the Internet, the concept of e-government was no longer restricted to increasing the operational efficiency and effectiveness of government by using computerised systems. It now involved the use of a much wider array of ICT’s that allowed government agencies to share information with other agencies, provide convenient access to public information, and efficiently service citizens and businesses (Ahn & Bretschneider, 2011; Asgarkhani, 2005; Gil-Garcia & Pardo, 2005; Kim, Kim, & Lee, 2009; Nour, AbdelRahman, & Fadlalla, 2008).

In recent years, public awareness concerning the potential benefits of e-government has grown, creating heightened expectations. These growing expectations are partly fuelled by advances in web-based services in the private sector. Consequently, e-government is expected

to continue evolving (Asgarkhani, 2005; Brown, 2005). While simply cataloguing information was sufficient in the early stages of e-government development, governments are now working toward solutions that allow completely digital transactions and, eventually, fully integrated one-stop shopping for government services by citizens and businesses (Gil-Garcia & Pardo, 2005; Layne & Lee, 2001; Moon, 2002). Recent e-government promises are also suggestive of a wider and more meaningful array of potential gains such as enhanced economic development, increased government accountability and transparency, higher levels of democracy and citizen involvement, and the potential to reshape communities (Ahn & Bretschneider, 2011; Bekkers & Homburg, 2007; Edmiston, 2003; Jaeger, 2003; Kim & Kim, 2003).

The evolution of e-government has not occurred in a vacuum. It is the product of three broader evolutionary processes in society and public administration (Brown, 2005). First, technological evolution, with developments in computer technology and the World Wide Web being particularly prominent, has fundamentally changed societal norms and methods of communication and information dissemination. The use of these technologies has become an integral part of our daily lives and governments have not been exempt (Asgarkhani, 2005; Brown, 2005; Lee & Kim, 2007; Gonzalez, Gasco, & Llopis, 2007).

Second, there has been an evolution in management thinking which has increasingly emphasised organisational efficiency, empowerment of employees and citizens, and a focus on results. Evolutions in management thinking have been imported from the private sector into the public sector. These include the use of benchmarking and best practices in information management that are heavily supported by the

capabilities of information technology (Cordella & Ianacci, 2010; Brown, 2005; Gonzalez, Gasco, & Llopis, 2007; Yildiz, 2007).

Third and finally, the role of government itself has evolved. A new paradigm has emerged in which governments are expected to be service oriented and treat citizens as empowered customers (Bekkers & Homburg, 2007). Within this paradigm, information technology is an indispensable resource (Asgarkhani, 2005; Edmiston, 2003; Jaeger, 2003; Kim & Kim, 2003; Layne & Lee, 2001).

As e-government evolves, it has become apparent that its impact on government and society distinguishes it from applications of ICT in the private sector. For example, several scholars have claimed that e-government has changed the way that critical information is distributed among stakeholders, thereby shifting the balance of power and fundamentally altering relationships between policy makers, government institutions, and the public (Ahn & Bretschneider, 2011; Brown, 2005; Rose & Grant, 2010). The implementation of e-government also drives institutional and organisational change within governments, making it distinct from other types of public projects. With the rise of e-government, information and technology have become key resources in governmental organisations and this has necessitated the introduction of legislation, policies, and institutions to ensure the quality, integrity, and security of these resources (Brown, 2005; Gascó, 2003; Moon, 2002). Furthermore, the growing importance of information and technology is changing the roles and activities within governmental organisations, requiring different capabilities, knowledge, and organisational structures (Beynon-Davies, 2005; Brown, 2005).

### **The problems facing e-government implementation**

While e-government has had intuitive appeal, several studies have shown that the actual implementation of e-government has been fraught with difficulties (Bekkers & Homburg, 2007; Layne & Lee, 2001). Dominant theory suggests that the implementation and effectiveness of e-government initiatives are shaped by a complex interaction between technology, political agendas, organisational characteristics and institutional arrangements (Cordella & Ianacci, 2010; Fountain, 2001). However, most projects aimed to create the required technology for e-government fail to deliver, and thus never get implemented to prove their effectiveness.

IT projects, both private and public, are generally noted for their high incidence of problematic realisation owing to the inherent complexity and uncertainty associated with these projects in conjunction with their need to integrate requirements and knowledge from multiple, often opposing stakeholders (Cerpa & Verner, 2009; Mähring & Keil, 2008; Pan, Pan, & Flynn, 2004). According to the 2012 CHAOS report by the Standish Group, only 39% of all IT projects are completed successfully whereas 43% of IT projects are seen as problematic and 18% are regarded as complete failures (The Standish Group, 2012).

Compounding the problems with IT projects in general, e-government implementations can be seen as an even more complex and uncertain category of IT projects, because of the distinct environment in which they are enacted. When compared to the private sector, IT projects in the public sector need to cope with a broader array of accountabilities and stakeholders, weaker human and technological infrastructure, and greater politicisation of processes (Heeks, 2006; Heintze &

Bretschneider, 2000). The political environment can also impose shorter time frames on work, stronger accountability measures, and tasks that are undertaken under sometimes-intense public scrutiny (Bozeman & Bretschneider, 1986).

Despite their additional challenges, e-government projects tend to be much larger than IT projects in the private sector. Research in the Netherlands suggests that while 100 large private sector organisations spent 1,7 billion euros on approximately 6000 projects within a given timeframe, the state government had spent 4,2 billion euros on 73 projects (Verhoef, 2008). As IT projects tend to be larger in the public sector, their failure results in large-scale waste of financial, human and political resources (Heeks R. , 2006; Kromann Kristensen & Bühler, 2001).

### **Understanding e-government project failure**

There are many ways to define failure in e-government projects. Commonly used definitions are projects that are late, over budget, delivering less than the required features or functions, being completed but not used, or being cancelled prior to completion (Algemene Rekenkamer, 2007; The Standish Group, 2012). However, such definitions have resulted in struggles to understand and prevent failure in e-government projects. Given the wide array of challenges, e-governments projects are complex and relatively unpredictable undertakings that rarely result in exactly the predefined and required result within exactly the predefined schedule and budget. As per earlier definitions, this implies that almost all would be considered failures. For example, to prevent budget overruns, it may be advisable

to withdraw some features or functions, or even cancel the project in an early stage.

What has also limited the understanding of e-government project failure is that most studies thus far have been factor-oriented, focusing on explaining variance in outcomes on the basis of a set of success or failure factors (Gil-Garcia & Pardo, 2005; Guah, 2008; Keil M. , 1995a; Gonzalez, Gasco, & Llopis, 2007). The limitation of such research is that while it can uncover relationships between factors and outcomes, it provides little understanding of the process through which the outcomes arise and the complexity of the causal relationships between factors and outcomes. As a result, the processes within e-government projects largely remain black boxed in these studies, leaving public sector managers under- equipped to take the proactive steps needed to prevent failure of e-government projects (Yildiz, 2007).

This study aims to elicit a richer understanding of failing e-government projects. To do this, it applies a broader definition of e-government project success. Besides the uncommon delivery according to plan, this research also considers timely adaptation to unforeseen problems to be successes in e-government projects. Such adaptation could imply adjusting the course of action to ensure that the project will still deliver the intended value with reasonable costs, or cancelling the project with minimal financial damage. Failure is thus a process wherein the course of action of a project remains largely unchanged despite of the fact that the project is not delivering on intended results. This particular process is known as project escalation and has been defined as a *situation where decision makers continue to invest additional resources into a project, despite negative feedback surrounding the project's ability to deliver its intended*

*results* (Brockner J. , 1992; Staw & Ross, 1987) Project escalation explains how some e-government projects can seemingly take ‘a life of their own’, running indefinitely without reaching their objectives while continuing to consume valuable resources (Keil M. , 1995a). When such a project is finally abandoned or seriously redirected, it already represents a massive resource waste.

Unlike the majority of existing research on project failure, this study takes a process-oriented approach to focus on project escalation. In contrast to factor-oriented research, process-oriented research seeks to explore the sequence of circumstances, choices and events that lead to the outcome of interest (Mohr, 1982). As such, this type of research has the ability to provide insights into the complex dynamics of e-government projects and help government decision makers to ensure the realisation of targeted goals, thereby minimising the loss of public funds on ineffective investments (Yildiz, 2007).

### **Research questions**

This research aims to provide a better understanding of the project escalation process in the e-government context as it is desirable to avoid repeating previous errors and the associated wastage of public resources. It should be understood that this is thus not a study of e-government, but a study of project escalation in the e-government context. This answers the call for contextually based research to understand how organisations are drawn into losing courses of action and how they may be able to extricate themselves from these predicaments (Ross & Staw, 1993). The proneness to escalation of projects in the e-government context makes it specifically interesting and valuable to obtain a better understanding of the associated

process. Therefore, the main research question underlying this thesis is:

- How does the process of e-government project escalation unfold?

Sub-questions that will be addressed are:

1. What contingencies within e-government projects drive the emergence of project escalation over the course of the escalation process?
2. How do such contingencies differ in escalated and non-escalated e-government projects?
3. What practices diminish the likelihood of e-government project escalation?
4. How can project escalation be exited (de-escalation) in a highly politicised environment?

### **Dissertation outline**

This dissertation has five chapters, including this introductory chapter, covering six different cases of e-government projects.

Chapter 2 sets out a theoretical framework for e-government project escalation. This theoretical framework and related propositions were used for the study of five cases of e-government projects. This study of multiple cases involved analysis and comparison of escalated and non-escalated projects. The analysis of these cases was aimed at

understanding the process of escalation in e-government projects and what contingencies drive the emergence of escalation. As such, chapter 2 addresses sub-questions 1 and 2 of this dissertation.

In chapter 3, an e-government project is the subject of an in-depth case study to understand how this project circumvented the contingencies that drive escalation. This inquiry provided important insights into practices that diminish the likelihood of e-government project escalation while reaffirming the validity of the findings in chapter 2. It therefore deals with sub-question 3 of the dissertation.

Exiting project escalation in a highly politicised environment is the subject of chapter 4. As such, this chapter addresses sub-question 4 of the dissertation, which is of particular importance to e-government projects. An in-depth study of a critical case was undertaken to verify and extend current theory on de-escalation.

In chapter 5, the findings of the thesis are discussed with the aim of advancing existing theory on e-government implementation through insights into the process of e-government project escalation providing by the present work. Also, practical implications of the study are offered and elaborated upon in relation to how practitioners can prevent or exit e-government project escalation. Finally, discussing its limitations and setting out recommendations for further research concludes the dissertation.

## **Chapter 2     The Perfect Storm: Contingencies Driving the Process of E-government Project Escalation**

“The complex dynamics within e-government projects largely remain a black box in the current literature.”

(Yildiz, 2007)

### **Introduction**

The implementation of e-government has not been without its challenges (Bekkers & Homburg, 2007; Layne & Lee, 2001). In particular, e-government projects frequently continue unchanged despite clear feedback that they are not delivering their intended results, all the while consuming more and more valuable resources. Investigation of the nature of the process of e-government project escalation has, however, attracted limited research attention (Yildiz, 2007). Better understanding of the e-government project escalation process can guide future research and equip practitioners to forestall and proactively address project escalation.

The emergence of e-government project escalation seems to be contingent on a wide variety of circumstances and events. In fact, it has been widely recognised that e-government development exhibits aspects of complex systems in which it is typically very difficult to predict or explain the course of events (Goldfinch, 2007; Keil, Rai, Mann, & Cheney Zhang, 2003; Cerpa & Verner, 2009). More specifically, the escalation process itself has been identified as a

complex process that is influenced by many different contingencies (Keil M. , 1995a; Pan, Pan, & Newman, 2009; Pan G. , Pan, Newman, & Flynn, 2006).

Henceforth, it seems to be relevant to apply both a process and contingency oriented approach to improve understanding of e-government project escalation. The addressed research questions in this chapter are therefore:

1. What contingencies within e-government projects drive the emergence of project escalation over the course of the escalation process?
2. How do such contingencies differ in escalated and non-escalated e-government projects?

To be able to address the research questions, two theoretical perspectives are brought together in one framework for this study. The next section elaborates on this.

## **Theory**

### *Escalation theory*

Project escalation is a concept that stems from escalation theory. Escalation theory refers to the tendency for decision makers to persist in failing courses of action, manifested through continued investment, even beyond the point where benefits equal costs (Bowen, 1987; Staw & Ross, 1987). It is a phenomenon that is identified in different fields, such as organisational behaviour, strategic management and

psychology as well as in different contexts, such as military interventions, research and development, and IT projects (Bowen, 1987; Brockner J. , 1992; Guah, 2008; Keil M. , 1995a; Mähring & Keil, 2008; Pan, Pan, & Flynn, 2004).

Project escalation is escalation of commitment within the specific setting of projects. Early studies on the subject led to theorisation on simple process models, during which different determinants influenced the tendency to either continue the course of action or withdraw from it. For example, it was suggested that project escalation is a process in which increasingly negative feedback on outcomes is received but the course of action is pursued nonetheless due to project, psychological, social and/or organisational determinants (Staw & Ross, 1987). Based on one particular case study, it was proposed that organisational determinants are most salient in the early phase of the escalation process, while psychological and social determinants were salient in the beginning and middle phases, and project determinants in the beginning and late phase (Ross & Staw, 1993). Moreover, contextual determinants were identified as being salient toward the final phases of the process.

Later work on project escalation has contributed a more sophisticated model, characterizing it as a process that gradually unfolds over time in three distinct phases: drift, unsuccessful incremental adaptation, and rationalised continuation (Mähring & Keil, 2008) (see Figure 1). Escalation theory has thus remained consistent in its process orientation. However, this view is currently underrepresented in the research on e-government project failure (Yildiz, 2007).

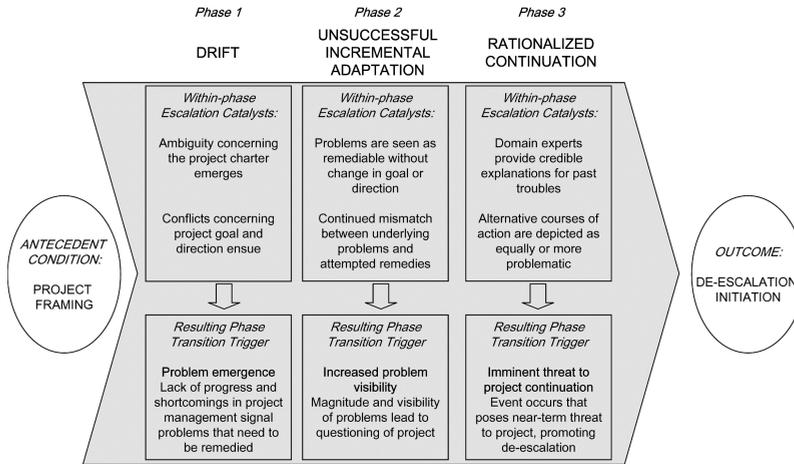


Figure 1 – Project escalation process model (Source: Mähring & Keil, 2008)

### *Contingency theory*

Contingency theory posits that there is no single best decision or way to organise. Depending on contingencies in the internal or external environment, the outcomes of certain decisions or organisational approaches may vary greatly (Galbraith, 1973).

Building on contingency theory, two e-government projects can be organised and directed in the exact same manner but have completely different outcomes. The specific fit between the project and circumstances and events in the internal and external environment of the project determine whether the project is effective or not, but also whether it escalates or not when it is not effective.

## Theoretical framework

To understand the process of e-government project escalation, this study integrates elements of escalation theory and contingency theory. The subsequent theoretical framework is shown in Figure 2.

Based on the definition of escalation of commitment, the first proposition underlying the theoretical framework is that e-government project escalation is contingent upon the combination of two conditions: there is a failing course of action, and there is commitment to this course of action (Staw & Ross, 1987). That is, if there is an ineffective course of action but little or no commitment to it, project escalation is unlikely to happen as decision-makers will terminate or redirect the project as soon as negative feedback reaches them. Conversely, if there is commitment to the course of action but this course of action is effective, project escalation is not likely either.

The second proposition is that the effectiveness of a project's course of action will in turn be contingent upon the salience of certain events and circumstances in the internal or external environment of the project. An ineffective or failing course of action is considered to be a course of action that does not deliver on the intended results within the intended timeframe. These contingencies are not yet well defined and are therefore part of the first focal point of this study; uncovering the contingencies that drive the e-government project escalation process.

The third and final propositions are also part of the first focal point. The presence of commitment to the course of action in an e-government project will also be dependent on yet unidentified contingencies. The taxonomy of determinants of Staw and Ross

(1987) has already shed some light on what promotes commitment over the course of the project escalation process. However, there is room to further existing knowledge. First, although some specific examples were given, the categories of the aforementioned taxonomy have been posited at a rather high level of abstraction. Second, the process model has not yet been developed to incorporate the higher level of detail about different phases that later studies have brought forward (Mähring & Keil, 2008). Third, existing theory has not yet been extensively validated in or enriched for the context of e-government projects though it has been recognized that contextually based research is needed to further understand the project escalation process (Ross & Staw, 1993).

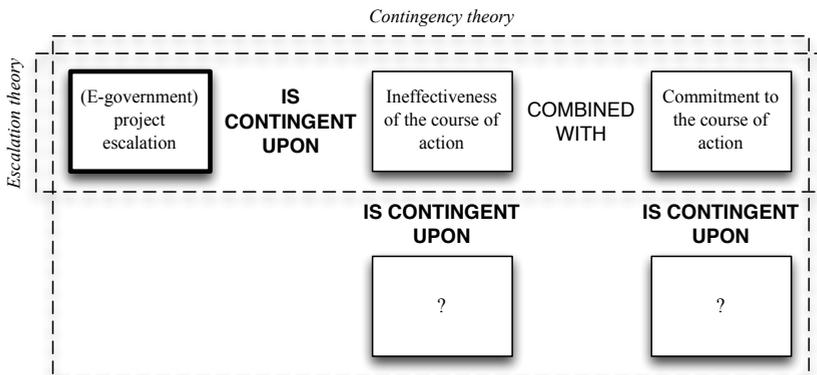


Figure 2 – Theoretical framework for project escalation

Consistent with existing theory, contingencies for the level of effectiveness of a course of action and the level of commitment are considered to be dynamic over the course of a project. Therefore, the second focal point of this study is to understand how commitment and effectiveness unfold in different phases of that process.

As there are many potential contingencies that may matter in the process of e-government project escalation, an extensive and systematic literature review was done. This review focussed on identifying relevant contingencies for project effectiveness in the existing research literature. Metaphors and concepts used to describe such contingencies in existing e-government or information systems studies were investigated and contrasted to synthesise the findings of prior work.

Relevant studies for the systematic review were located and collected through conventional and reference-based searches of twelve relevant electronic databases. To ensure data quality, the study only searched articles published in peer-reviewed academic journals. Search criteria, search terms, and databases used are listed in Table 1. The top 500 articles identified through these searches were initially selected for relevance based on title (105) and subsequently on abstract (73). Reading the full article to identify articles that explicitly listed contingencies affecting the success, failure, and/or effectiveness of IT projects did final article selection. Contingencies in this case were defined and identified as *future events or circumstances, which are possible but cannot be predicted with certainty*. As such, practices like poor project management or low business involvement were not considered as contingencies.

<b>Databases and search engines used</b>	<ul style="list-style-type: none"> <li>➤ EBSCO Business Source Premier</li> <li>➤ Emerald</li> <li>➤ Google Scholar</li> <li>➤ JSTOR</li> <li>➤ Oxford Journals</li> <li>➤ SAGE Journals</li> <li>➤ ScienceDirect (Elsevier)</li> <li>➤ Taylor &amp; Francis Online</li> <li>➤ Wiley Online Library</li> </ul>
<b>Search criteria for contingencies driving project ineffectiveness</b>	<ul style="list-style-type: none"> <li>➤ Academic, peer-reviewed journals</li> <li>➤ Full text</li> <li>➤ ‘IT project failure’</li> <li>➤ ‘Information Technology project failure’</li> <li>➤ ‘IT project success’</li> <li>➤ ‘Information Technology project success’</li> <li>➤ ‘IT project effectiveness’</li> <li>➤ ‘Information Technology project effectiveness’</li> <li>➤ ‘Public IT projects’</li> <li>➤ ‘Information Technology projects’</li> <li>➤ ‘Managing e-government projects’</li> <li>➤ ‘E-government implementation’</li> <li>➤ ‘E-government initiative’</li> </ul>

<b>Search criteria for contingencies driving commitment to a failing course of action</b>	<ul style="list-style-type: none"> <li>➤ Academic, peer-reviewed journals</li> <li>➤ Full text</li> <li>➤ ‘Escalation of commitment’</li> <li>➤ ‘Project escalation’</li> </ul>
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Table 1 – Databases and search criteria

This selection strategy resulted in the identification of 22 relevant articles. The contingencies described in these articles were analysed and synthesised. If any of the contingencies did not fit the categories of the taxonomy, an appropriate category was added. The systematic review eventually resulted in five contingencies that potentially contributing to the ineffectiveness of the course of action taken by e-government projects.

### *Technical complexity*



One of the most frequently mentioned contingencies related to IT project effectiveness is technical complexity. Many IT projects involve technical complexities such as compatibility and synchronisation issues between different systems.

Unaccounted difficulties in this area may lead the project to be less effective than anticipated. Also, technical complexity may imply that it is not always entirely evident beforehand how the required functionality should be made, especially when new and unfamiliar technology is used.

### References in the literature

- Difficulties with the integration of different information systems (Bekkers & Homburg, 2007)
- Difficulties experienced in relation to technical implementation (Beynon-Davies, 2005)
- Introduction of new technology (Cule, Schmidt, Lyytinen, & Keil, 2000)
- Technical barriers (Dawes, 1996)
- Technology incompatibility, issues with the newness of technology (Gil-Garcia & Pardo, 2005)
- Effects of technical factors (Hairul, Nasir, & Sahibuddin, 2011)
- Difficulties with technical synchronisation of systems (Lee & Kim, 2007)
- Technical failure (Luna-Reyes, Zhang, Gil-García, & Cresswell, 2005)
- Issues with integration and interoperation (Scholl & Klischewski, 2007)
- Information technology challenges (Tsai, Choi, & Perry, 2009)
- Content driven issues (Yeo, 2002)

### *Problems of adoption*



Ineffective realisation of an e-government project may also be contingent on lack of acceptance by the user organisation of the resulting system. Problems of adoption are forms of rejection or resistance toward the outcomes of the e-government project, necessitating more development and adaptation before the system can be successfully implemented in the target organisation.

### References in the literature

- Effects of existing frames of reference, power relations, and positions within a policy sector (Bekkers & Homburg, 2007)
- Political barriers (Dawes, 1996)
- Issues with governmental actors' job responsibilities and their information and communication patterns (Doty & Erdelez, 2002)
- Resistance to change (Edmiston, 2003)
- Issues with dominant professional frameworks (Dawes, 1996)
- Effects of environmental factors (Hairul, Nasir, & Sahibuddin, 2011)
- Effects of social and organisational factors (Luna-Reyes, Zhang, Gil-García, & Cresswell, 2005)
- Context driven issues (Yeo, 2002)

### *Conflict between stakeholders*



Conflict between stakeholders is often mentioned as a contingency that affects the effectiveness of IT projects. Conflicting interests may lead to disagreement over requirements, and subsequent lack of clear direction for the project team. This may happen between different organisations or different departments within the same organisation that have interests in the project.

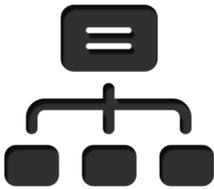
### References in the literature

- Different stakeholder perspectives (Azad & Faraj, 2008)
- Tempered effectiveness by the number of partners involved (Brown, O'Toole, & Brudney, 1998)
- Disagreement among multiple departments on project specifications

(Cats-Baril & Thompson, 1995)

- Issues caused by organisational self-interest (Dawes, 1996)
- Challenges from the involvement of multiple organisations (Fedorowicz, Gogan, & Williams, 2007)
- Effects of political interaction of stakeholders (Heeks & Stanforth, 2007)

### *Problems of coordination and communication*



E-government projects are often organisationally complex endeavours that span multiple organisations or organisational departments. An ineffective course of action may therefore be contingent on problems that arise from coordinating and communicating across this organisational complexity.

### **References in the literature**

- Coordination and cooperation problems across backoffices (Bekkers & Homburg, 2007)
- Problems of agency and information (Goldfinch, 2007)
- Effects of communication, organisational, and team factors (Hairul, Nasir, & Sahibuddin, 2011)
- Organisational and managerial challenges (Tsai, Choi, & Perry, 2009)
- Process driven issues (Yeo, 2002)

### *Changing or new requirements*



Changing or introducing new requirements during an e-government project may increase the development time and lead to ineffectiveness. In the case e-government projects, changes that are evoked by changes in the organisational, political, and/or legal environment have been mentioned as relevant contingencies in this respect.

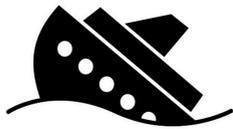
#### **References in the literature**

- Customers / users having unrealistic expectations, scope changed during the project (Cerpa & Verner, 2009)
- A climate of change in the business and organisational environment that creates instability in the project, new or unfamiliar subject matter for both users and developers, misunderstanding the requirements (Cule, Schmidt, Lyytinen, & Keil, 2000)
- Effects of policy agendas and politics (Gil-Garcia & Pardo, 2005)
- Lack of alignment between organisational goals and the ICT project (Gil-Garcia & Pardo, 2005)
- Changes in design specifications late in the project (Yeo, 2002)

The same systematic review was done to identify potentially relevant contingencies for commitment to the course of action. The systematic literature review focused in this case on the escalation literature. Articles were searched in the databases and with the search criteria listed in Table 1. The top 500 articles returned through these searches were initially selected for relevance based on title (93) and subsequently on abstract (20). Reading the full article resulted in a final set of nine articles that explicitly listed contingencies driving the

level of commitment to a failing course of action in projects or other settings. Synthesizing the findings of these studies resulted in the identification of six different contingencies that are potentially relevant as drivers of commitment to a failing course of action.

### *Sunk-cost effect*



Sunk costs are costs that have been incurred and cannot be recovered. Sunk costs should thus be ignored in decision-making, as the only costs relevant for decisions are those that can be avoided (Frank & Bernanke, 2001). However, it has been recognised that decision makers often fail to ignore sunk costs in making subsequent decisions, and this phenomenon thus forms a contingency that drives commitment to a course of action.

### **References in the literature**

- The effects of sunk costs (Keil, 1995b)
- Sunk cost (Lee, Keil, & Kasi, 2012)
- Trying to recoup sunk costs (Ross & Staw, 1993)

### *Completion effect*



Commitment to a course of action by decision makers may also be contingent on what has been referred to as the completion effect. This effect holds that decision makers escalate their commitment as they draw closer to finishing a project because they do not want to give up when successful

completion appears close at hand. In many cases the completion effect is based on a mistaken belief that a project is closer to completion than is actually the case.

#### References in the literature

- The effects of project completion (Keil, 1995b)

#### *Self-justification*



Self-justification suggests that escalation of commitment may be contingent upon a tendency of key decision makers to justify prior investment decisions with regard to the course of action. This would be driven by self-interest, such as avoiding the negative impact that turning back previous decisions would have on professional careers.

#### References in the literature

- Self-justification (Brockner J. , 1992)
- Self-justification behavior (Guah, 2008)
- Self-justification behavior (Keil M. , 1995a)
- The need for self-justification (Ross & Staw, 1993)

### *Information asymmetry*



Information asymmetry is a potential contingency in projects with a principle-agent structure, as is the case with most major e-government projects. This structure involves a ‘principal’ who hires the services of an ‘agent’ to carry out actions on the principal’s behalf. In such a structure, the project executive (principal) is dependent upon the information provided by the project organisation (agent) to govern the project. This provides a potential information asymmetry that can undermine the accuracy of the feedback provided to the principal to assess the performance of the agent. Such an information asymmetry can be the result of deliberate or non-deliberate action of agents depending upon their interests. Due to information asymmetry, a decision maker may be committed to a course of action without being aware that the course of action is failing.

#### **References in the literature**

- Information asymmetry (Keil, Rai, Mann, & Cheney Zhang, 2003)
- Slanting of information (Ross & Staw, 1993)

### *Optimism and risk-seeking biases*



Prospect theory holds that decision makers are risk-seeking in relation to financial losses (Kahneman & Tversky, 1979). In the case of e-government projects, this risk-seeking bias forms a contingency

that potentially drives commitment to the course of action. Decision makers tend to continue and risk larger losses rather than terminate a project and accept a certain but probably smaller loss now.

Closely related, commitment to a course of action may also be contingent upon an optimism bias. This bias leads decision makers to pursue initiatives, even though they are unlikely to succeed, because they are overconfident that a positive outcome can be achieved.

#### References in the literature

- Loss aversion / individuals will be risk seeking (Brockner J. , 1992)
- Risk seeking behavior (Guah, 2008)
- Optimism (Keil M. , 1995a)
- The propensity to increase risk-seeking behavior when faced with a certain loss (Mähring & Keil, 2008)
- Delusional optimism (Pan, Pan, & Flynn, 2004)

#### *Social and political pressures*



Social and political pressures seem to be especially relevant contingencies for commitment in e-government projects, as these projects are part of the public and political domain. Escalation of commitment can thus be contingent upon social or political pressures to sustain a course of action. Examples are political leaders using their authoritative power to follow through, or social norms that dictate a need for consistency.

**References in the literature**

- Projects are more prone to escalation when there is strong political support at the senior management level and when the project has become institutionalised (Keil M. , 1995a)
- Competitive rivalry with other social groups (Ross & Staw, 1993)
- Need for external justification (Ross & Staw, 1993)
- Social norms for consistency (Ross & Staw, 1993)

**Method***Data collection*

Case study research was conducted across three cases of escalated e-government projects, and two cases of e-government projects that suffered from an ineffective course of action, but did not escalate, due to timely re-direction or termination. This research thus involves an analysis and comparison of contingencies between two sets of cases to assess the plausibility of the theoretical framework and generate theoretical propositions on what contingencies drive ineffectiveness and commitment over the course of the escalation process.

Cases for the study were selected using purposive sampling. As a result this sampling method did not aimed to ensure representativeness but rather the specific relevance to the subject of research. First, representative cases of escalated e-government projects had to be found. These cases had to be finished projects to ensure that they had completed the entire process under examination. An expert panel of IT governance advisors employed by different

ministries were asked to assess the selection criteria for the purposive sample and help select appropriate cases accordingly. As such, the purposive sampling method of choice was expert sampling. This approach offered two important benefits. First, the researcher was able to rely on the insider knowledge of the expert panel to select e-government projects that were indeed cases of project escalation. Second, because e-government project escalation is a sensitive subject, informants of the selected projects were approached through referrals of the experts in the panel, to increase the level of trust. This was undertaken by an introductory e-mail from the expert, before the researcher engaged the informants.

The selection criteria for the escalated cases was as follows:

1. The initial course of action did not lead to attainment of the project's objectives (ineffective course of action).
2. The project was terminated without result or with partial result, or it was re-directed and completed after it had consumed more than 150 percent of the initial budget.

Second, using the same purposive sampling procedure, cases of non-escalated e-government projects were selected. This was necessary for the analytical strategy of pattern matching as described earlier. By contrasting the patterns observed in escalated cases with the patterns in non-escalated projects, inferences could be made about the plausibility of the theoretical framework. The selection criteria for non-escalated comparison cases were:

1. The initial course of action did not lead to attainment of the project's objectives (ineffective course of action).

2. The project was terminated without result or with partial result before it had consumed the initial budget, or it was re-directed and completed before it had consumed more than 150 percent of the initial budget.

From the selected cases and comparison cases, multiple sources of evidence were collected. First, key informants within these projects were identified and interviewed. Selecting participants that are known to have participated in a specific situation and interviewing on the basis of a provisional analysis is known as elite interviewing (Kezar, 2003). Second, documentary evidence was collected from multiple sources, which included internal reports, external reviews, parliamentary documents, and press articles for each case. An overview of the total amount of data collected is shown in Table 2.

<b>Case</b>	<b>Interview count (total hours)</b>	<b>Document count (total pages)</b>
Project D	3 (4,5 h.)	10 (81 p.)
Project S	4 (7 h.)	14 (73 p.)
Project T	3 (4 h.)	6 (18 p.)
Project Q	3 (3,5 h.)	5 (43 p.)
Project P	4 (3 h.)	3 (48 p.)
<b>Total</b>	<b>17 (22 h.)</b>	<b>38 (263 p.)</b>

Table 2 – Data collected

Key informants within the cases of the study were identified on the basis of the researcher's general knowledge of e-government organisations and the expert panel's specific knowledge of the

projects. The positional criteria were that of (former) project executive, project manager or senior project staff members within the project of interest. The sample was broadened through referral sampling. This means that the initial interviewees were asked to suggest other knowledgeable informants from the project. The researcher nonetheless ensured that the referrals remained in the boundaries of relevance to the study by first having an informal meeting with these referrals.

The key informants were interviewed through semi-structured and elaborate interviews of 1,5 hours on average. Semi-structured interviews use an incomplete interview script to allow for free conversation and improvisation based on the informant's answers (Myers & Newman, 2007; Weiss, 1995). This type of interviewing was deemed suitable, as the aim of the study was to explore informant perceptions of the process and causal relationships. The interview should therefore be flexible enough to allow for the emergence of multiple explanations and pursuit of any direction that informants deem relevant. The number of questions was minimised, while still reflecting the complete theoretical framework, to ensure the openness, flexibility, and improvisation that are required for semi-structured interviewing (Myers & Newman, 2007). The interview guide is shown in Appendix 1. The interviews were recorded and subsequently transcribed (McLellan, MacQueen, & Neidig, 2003).

One of the strengths of interviewing is the possibility to obtain accounts from direct witnesses, which can be probed beyond official accounts. Interviewing thus provides a particular advantage over methods that merely use documents that often only represent an official version of the events (Tansey, 2007). Especially in politically sensitive processes such as e-government project escalation, this

advantage is significant. However, an important limitation of interviewing in the context of this research is that it is done retrospectively and thus relies on informants' recollection of the investigated processes.

Two measures were taken to ensure the validity of informant accounts. First, during the interviews the informants were asked to state the dates of the events that they described and this was subsequently used to construct a timeline. In this way it was possible to verify whether the chronological order of events matched the logic of the process. Second, triangulation of accounts between multiple informants and different sources of evidence was used to ensure consistency and thus validity. This is known as converging lines of inquiry and increases reliability and accuracy of the case evidence (Yin, 2009).

### *Analysis*

The study relies on a combination of theoretical propositions and the development of case descriptions as a general analytical strategy for research to arrive at its objectives (Yin, 2009). In terms of investigating theoretical propositions for validity, an analytical technique known as pattern matching was used. Pattern matching relies on the matching of an expected pattern, in this case the process model and theoretical framework, with observed patterns, in this case the data from the cases.

In terms of developing case descriptions, this study also applies the analytical technique of explanation building. This means that the data was not only used to validate pre-determined theoretical propositions, but also to derive new theory from the data, in this case with regard to

the role of specific contingencies over the course of the escalation process. That is, the goal of this procedure was to generate new theoretical propositions as an extension of the theoretical framework.

To arrive at theoretical propositions, the case data was analysed on the salience of contingencies driving either ineffectiveness of the course of action or commitment in the escalation process. To this end, the data was matched and coded to the previously defined contingencies from the systematic literature review. This was done by predefining the codes in a coding tool, loading all the interview transcripts and collected documents into that same tool, and marking the parts of the data where matches were found with the predefined codes. After that, the data that matched certain codes could easily be aggregated and analysed for consistency across the data set.

Subsequent analysis was to plot both the escalation phases and emergence of salient contingencies on the escalation process to create an enriched process model for e-government project escalation. This was done by matching the chronology of events in the project escalation process which were captured in a timeline, with the definitions of the escalation phases as put forward in the model of Figure 1 and the definitions of contingencies as put forward in the theoretical framework.

To validate the analytical inferences from the data, both with regard to contingencies and phases, two measures were taken. First, any inference should be supported by at least two different sources for that particular case. Second, to increase the reliability of the analysis, two independent referees assessed the coding and other inferences. The inferences were only valid if both referees supported the analysis of the data as done by the researcher. The referees held at least a MSc.

degree in public administration or management, and had extensive practical knowledge and experience in the field of e-government project governance.

## **Project D**

### *Case report*

Project D involved the development and implementation of a government to business (G2B) system. The initial approach involved the purchase of a prototype system from a quasi-government organisation, which was then developed further by a government agency. The purchase of the prototype system can be characterised as the project's initiation. Despite high expectations and positive attitudes among intended users, no specific budget was set at project initiation to develop and implement the system. Within the responsible government agency, the director was appointed as project executive. The project executive subsequently arranged an initial project budget.

Three months after project initiation, a project manager was hired. The project manager formed a project team of around 12 people, including functional designers, testers, communication employees, and secretaries. Another government agency was contracted after that to take up further development and operational maintenance of the system. Four months later, the project executive noticed that progress with the development was slow and raised concerns. Although development was done relatively isolated from the executive organisation, more and more signals were coming his way that the

prototype system was technically flawed and therefore inappropriate for further development and implementation on a large scale.

After some initial attempts to remedy the problems, an external auditor was hired to do a technical assessment of the prototype system. One year and 3 months after the project had started, the external auditor's report came out, confirming the technical concerns. The prototype system was characterised as vulnerable, with numerous errors in the underlying logic and structure. It was advised to either repair the prototype system or reengineer the system. Based on another external review, the choice was made to reengineer the system. To this end, the same government agency was contracted that had taken up the initial development and operational maintenance of the prototype system. The project plan was changed such that the schedule was to deliver a new system in four months with an adjusted budget of around 1.5 times the initial budget. Reengineering started one year and six months after project initiation, and was to be completed in four months. However, the supplier lacked the organisational discipline and structure to make the new system work. As a result, over the period of one year results were disappointing and technical adaptations and rework was needed, requiring more time and resources.

Even though the reengineering of the system lasted more than three times longer than initially planned, the project executive did not stop or redirect the project, as each time promises were given that the issues would be resolved soon and the system was on the edge of completion. Unable to assess the validity of such claims, the project executive allowed continuation. He believed that redirection or stopping would be costlier, as the system would be delivered soon. In reality, the belief that the project was almost complete was false and

the project continued to consume resources without completing its objectives.

Two years after the start of the project, the sequence of bad news about the progress of the reengineering led to a deterioration of the relationship between the executive organisation and the developing government agency. Frustrated about the continued schedule overruns, the executive had turned to the contract, demanding results. Replacement of the project manager four times in five months ensued. Finally, frustrations were so high that the stalemate had to be broken. An external auditor was hired to assess the approach and its feasibility. It was concluded that the developing government agency wasn't equipped for such a project and that it would be wiser to outsource the development of the system to the market. Furthermore, the auditor's report concluded that the executive needed to be much more directly involved in the realisation of the project through a dedicated governance organisation.

Three years after the initiation of the project, the budget was adjusted to more than 2 times the initial budget and public procurement was started to outsource development to the market. Furthermore, a professional and dedicated governance organisation was created to ensure close involvement of the executive function in the realisation. This new course of action resulted in the successful delivery of the system within the adjusted budget and a little more than five years after project initiation.

<b>Project run time</b>	5 years
<b>Number of (explicit) resource allocation decisions</b>	3
<b>Percentage of initial budget consumed by the project</b>	209%
<b>Outcome</b>	Completed

Table 3 – Project D overview

### *Project escalation process*

The transitions into the different phases of the escalation process can be identified in project D. Transition into the drift phase occurs when lack of progress emerged due to shortcomings in the project (Mähring & Keil, 2008). Drift in this form started due to technical complexities encountered in the early stages of project D, almost from the moment that development of the prototype system was initiated.

The moment that management signals that there are problems to be remedied defines the transition into the next phase of the escalation process. This is the unsuccessful incremental adaptation phase, because adaptations were made but there was a continued mismatch between underlying problems and attempted remedies. In the case of project D, this phase clearly occurred when the change was made to reengineer the system. However, the underlying problem of technical complexity remained because the development stayed with the same organisation, which was still not equipped to effectively deal with the

(new) technical challenges that the course of action involved. Nonetheless, the course of action was continued because the project executive did not have the information that made him aware of the true effectiveness of the project.

The transition into the third stage of the escalation process of project D occurred when the problems with the lack of progress became increasingly visible but were then rationalised by the development organisation claiming that past problems were now under control and the system was almost complete. This is consistent with the definition that rationalised continuation is characterised by recurrent actions that serve to explain, or rationalise, why problems are acceptable despite being clearly visible and of a magnitude that is beyond what organisational norms, procedures, and rules would normally allow.

Finally, conflict between the executive board of the project and the supplier, fuelled by critical external audits, was a development that posed an imminent threat to continuation, promoting de-escalation. De-escalation was indeed initiated after this by moving the project from the development organisation to the market through a public procurement procedure.

The timeline and escalation process are modelled in Figure 3. Subsequently, the salience of contingencies over the course of the escalation process as shown in this figure is elaborated.

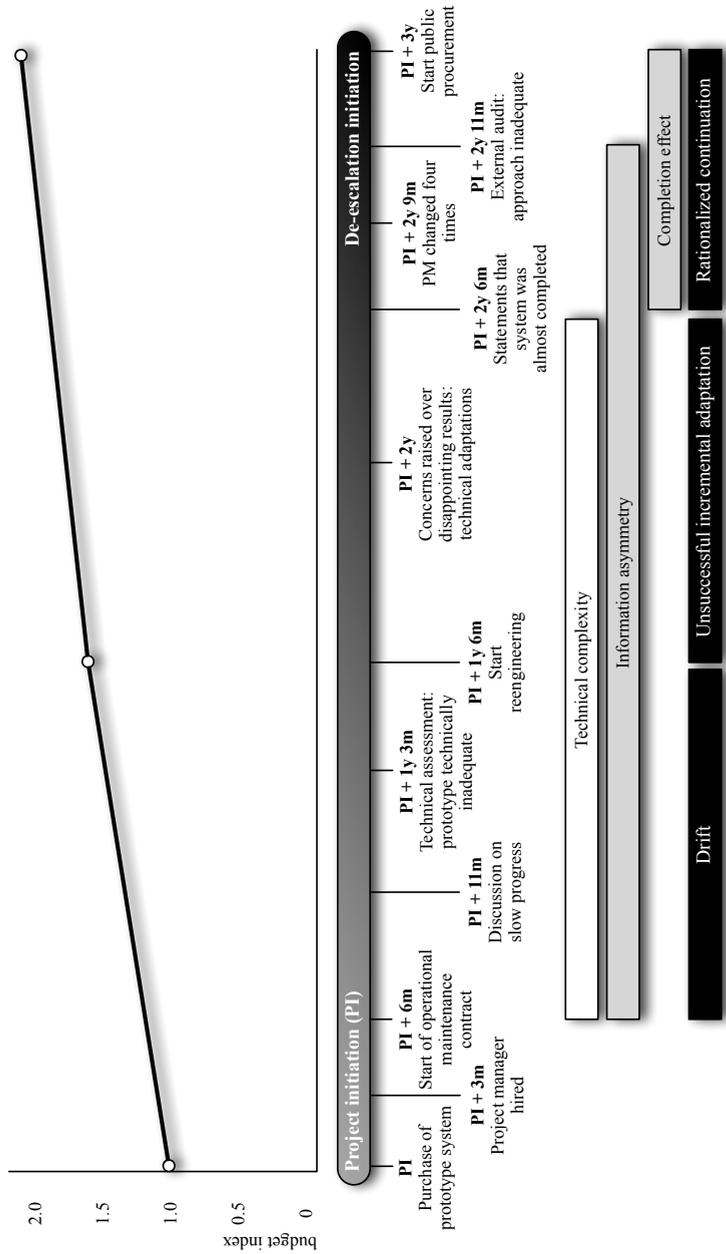


Figure 3 – Project D timeline and escalation process

*Contingencies driving ineffectiveness of the course of action*

Project D encountered technical complexities that drove the course of action to be less than effective. For instance, the development of the prototype system turned out to be more technologically challenging than anticipated.

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“[A]nd more signals came to us from [the supplier] like: ‘It is actually a funny application.’ [...] And [then] we asked [an external expert] to do an analysis of the application on code level. And that yielded that it was a shaky application, with a lot of loops and dead links, but it was reparable.”

*Key project staff member 1*

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“Then it became clear that it was more a one-dimensional system that could be rolled out for [its intended purpose]”

*Key project staff member 2*

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“Originally, the system would have been finished, but the development of [the prototype system], turned out to be more technically challenging than anticipated.”

*Press article*

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In the phase of reengineering, more technical complexity emerged, in the form of problems with the innovativeness and inherent risk of the chosen technology. As a result of this, the course of action maintained a lack of effectiveness in the phase of reengineering, a period that ran for more than three times the intended schedule.

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“[The reengineering was done with] very innovative technology, for which even the most basic components still had to be built. [...] What happened was that the project got into more and more trouble.”

*Internal report*

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“From independent research [...] it became apparent that the innovative technology used by [the supplier] generated risks for the realisation and the future maintenance of [the system]. Based on this, it was decided to continue the development of [the system] on more conventional technology. [...] [The use of innovative technology] caused delay in the project.”

*Internal report*

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*Contingencies driving commitment to the course of action*

Information asymmetry was salient in project D and formed a contingency that drove commitment to the course of action that had become ineffective due to technical complexities. Both in the phase of further development of the prototype system and the phase of reengineering, the executive organisation was not involved closely

enough to receive timely feedback on the ineffectiveness of the course of action. Instead, the project executive had a transactional orientation in the relationship with the supplier, relying on contracts and progress reports as sufficient instruments for control. As a result, both the development of the prototype system and the reengineering was allowed to drift for more than three times the intended schedule.

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“[T]here was an increasing gap between the expectations of the project executive, who was asking ‘When is it done? When is it done?’ and the supplier [...], who said ‘Next month’ or ‘In half a year. Give us half a year and then we’re done’. Those are all signals that you should recognise as a project executive: ‘This is bad’. But instead, well, they waited for half a year.”

*Key project staff member 2*

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“[The project executive] didn’t have a clue [about what was going on at the side of the supplier. [I]n my view [...] the project executive was in an ivory tower. He had lists and progress reports and that was that.”

*Key project staff member 3*

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“[We] ascertain that the following best practices [...] have been insufficiently expressed: close involvement of the executive in the governance of the development [...]”

*Evaluation report*

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Towards the final stage of intended development, the developing organisation started to rationalise further delays by claiming that these were just the final additional steps needed towards completion. This suggests the salience of a completion effect as another contingency driving commitment to the failing course of action. The executive organisation, being unable to verify the validity of the statements made by the developing organisation, continued to invest in the course of action that had not yet proved that it would deliver the expected results. After all, the executive organisation did not want to terminate or redirect a project that was at the verge of completion.

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“Non-verifiable statements were given that 95 percent was completed.”

*Key project staff member 2*

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“That is such a 95 percent project. That is exactly what happened here. There was no control. On a certain moment the signal came through: ‘Just a little bit more. We’re almost done, we’re almost done.’”

*Key project staff member 3*

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“That entire year was trouble. [The supplier] didn’t deliver. And they kept making promises. And in the end we got the promise that 95 percent was completed, then and then.”

*Key project staff member 1*

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## Project S

### *Case report*

Project S entailed the development and implementation of a government-to-government (G2G) backend system. The initial objective of the project was primarily to replace a legacy system with a new system. As with the legacy system, the new system would be a decentralised solution, with different regional offices and different agencies each having their own isolated copy of the system. Thus, the project involved a collaborative effort of different autonomous organisations to develop a common e-government system. The initial budget was set and the project planned to be completed in a little less than four years.

After the first three years of design and development of the system architecture and the first functional module, both the approach and objectives of the project were drastically changed. Instead of aiming for a decentralised solution to replace the legacy system, the objective shifted towards the development of a centralised system that would deliver G2G and location independent functionalities. Leading up to the scope shift, the project executive had been replaced six months earlier, as a result of retirement. The new project executive concluded from the results of a pilot, which had started a year earlier that the original scope could no longer be maintained. The main arguments were that the pilots had showed that the current solution had technical complications, and that changing societal and political demands necessitated a change and expansion of objectives. The implementation of these changing demands were part of a change programme that ran in parallel at the key organisation, and implications for project S had become clearer over time. As a result of

the executive's decision, the system architecture and functional module that had been developed so far became practically obsolete. Three years after the initiation of the project, design and development of the system was thus restarted from scratch. More than half of the initial budget was depleted at that point, but no new budget was explicitly set. The planning was adjusted to complete the project with its complete new scope in three more years, which would be six years after project initiation. Although the new scope involved a centralised solution, it still required the collaboration of multiple autonomous organisations to create a shared end result.

After one year and eight months of design and development according to the new scope, a pilot version of the system was delivered that contained the largest part of its functionality. Functional issues that were identified during the subsequent user pilots led to a repetitive pattern of adaptation and new piloting. As a result the pilot period ultimately ran for sixteen months rather than the four months that was initially planned.

The functional issues that were raised in the pilots also started to become a source of conflict between two executive organisations in the collaboration. This conflict endured after the pilot was concluded with a rejection of the system and a stalemate about the system's intended quality and functionality remained. This stalemate continued for seven more months, before a taskforce was finally created to reach a resolution and a new course of action. The creation of the taskforce was triggered by a second change in the project's executive. At the time of this change, slightly less than twice the initial budget had been consumed by the project.

The taskforce changed the course of the project significantly on multiple dimensions, including appointing executive power of the project to only one organisation within the original collaboration. The launch of the taskforce signified the initiation of de-escalation as the new approach led to a termination of the project ten years after its initiation and after having spent twice its initial budget. Although the majority of functionality was implemented at that point, most of the objectives were not obtained. Among the objectives that were not realised was the replacement of the legacy system, which is still running in parallel to the new system.

<b>Project run time</b>	10 years
<b>Number of (explicit) resource allocation decisions</b>	3
<b>Percentage of initial budget consumed by the project</b>	206%
<b>Outcome</b>	Terminated with partial result

Table 4 – Project S overview

#### *Project escalation process*

Project S ran rather isolated and with relative ease for the first two and a half years after initiation. However, because of this isolation, the work of the project organisation became less and less aligned with the changing context of the user organisation. After this initial period of two and a half years, a new project executive was appointed. The new executive was also highly involved with the changing context of the

user organisation and therefore decided six months after his appointment that the objectives of the project should be drastically changed. This decision meant all work in the first three years after initiation had become ineffective. The project remained in drift for two years more, because even though the course of action had been radically altered, management did not signal new problems with the project that made it ineffective until the second pilot was underway.

During this second pilot, it became clear to executive management that the project was indeed in trouble, signifying a transition into the phase of unsuccessful incremental adaptation. These adaptations were unsuccessful as they were technical remedies while the lack of progress in the project was mainly due to a lack of user feedback during development that resulted in problems of adoption.

After rejection of the system in the second pilot, problems were clearly visible but there were persistent efforts to explain or rationalise these problems. This signified transition into the phase of rationalised continuation. In the case of project S, rationalisations focused on arguing that the project had to continue because the risk of continuation was preferable to incurring the losses associated with termination. Furthermore, the project executive at that moment was championing the course of action, even though it was failing.

Finally, a new project executive was appointed as a result of retirement of his predecessor, and the new executive acknowledged that the project was faced with an imminent threat to continuation, and assembled a taskforce to shape its re-direction. This event triggered the initiation of de-escalation.

The timeline and escalation process are modelled in Figure 4. Subsequently, the salience of contingencies over the course of the escalation process as shown in this figure is elaborated.

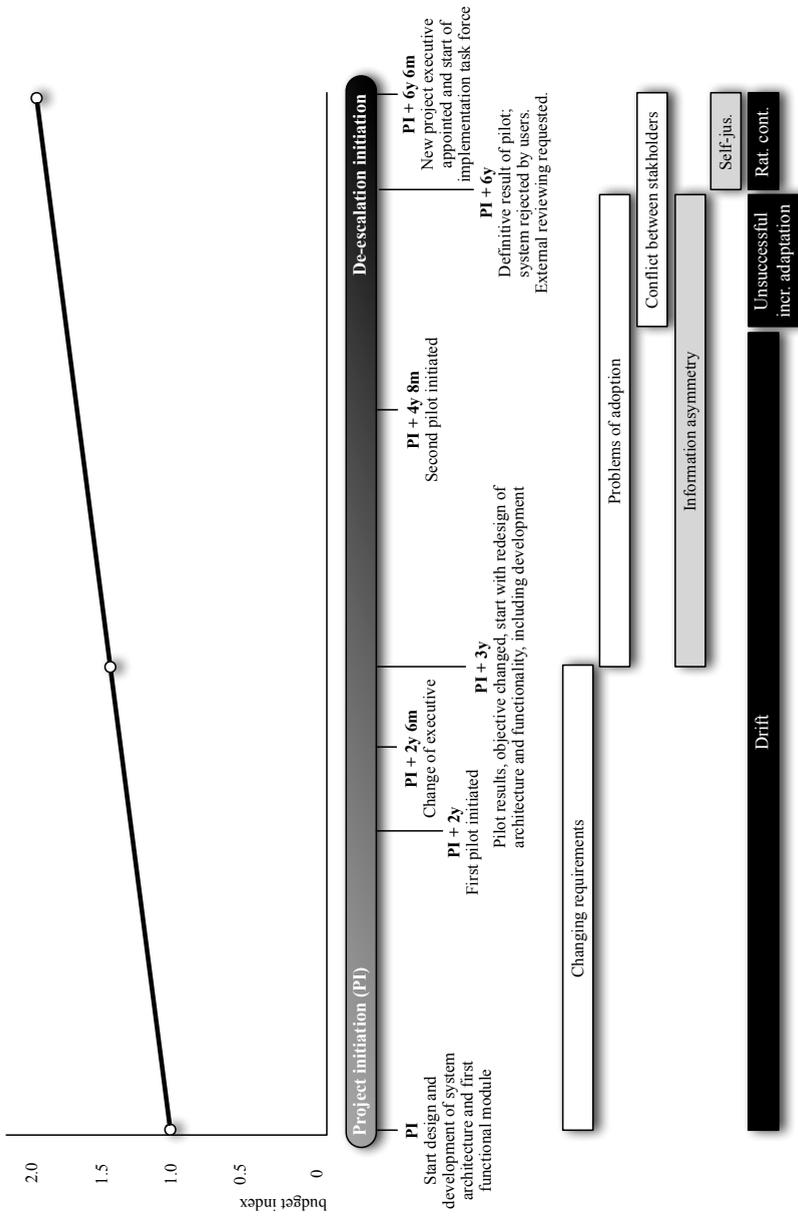


Figure 4 - Project S timeline and escalation process

*Contingencies driving ineffectiveness of the course of action*

In the first phase of project S, the project was eventually completely ineffective due to changing requirements. The user organisation was subject to a very dynamic context, which created new requirements for the system. As the project organisation was separated from the executive organisation, they received little feedback about this changing organisational context and thus did not adapt their deliverables accordingly. When the system was eventually delivered for the first pilot, the lack of fit had become so large that the project executive decided that practically all requirements for the system needed to be changed, suggesting that all investments in the first two years had been entirely ineffective.

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“So all kinds of things were happening, and the project neatly followed their own IT oriented approach. But because of this, it was delivering things that did not fit the context anymore. That connection was missing.”

*Key project staff member 2*

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“With the new approach, no match was made between the needs of the organisation and the objective of the new system. As a consequence, there was no recognition of a potential mismatch or existing gaps between organisation and objectives.”

*External review report*

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“From the pilot, [the executive board] came up with documents wherein proposals were made to reconsider [the project]. [...] Demands that were imposed from a political and societal point of view on the (end)products of the [executive organisation], made the (only) starting point for development of [the system], namely the replacement of [the legacy system], no longer sustainable.”

*External review report*

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After the lack of fit of the project organisation’s activities and the user organisation’s needs was identified in the first pilot, a significant change was made in the course of action by changing the requirements. The project was now still aimed at legacy replacement, but now as centralised solution that also aimed at digitalisation of processes, a location independent working environment, inter-organisational collaboration, and the retrieval of policy information. However, the user organisation remained relatively poorly involved in the realisation, thereby creating a risk for the adoption of the system. That the system did indeed not fit the needs and expectations of the user organisation became apparent over the course of another failed pilot. The eventual rejection from the user organisation that followed from this pilot, implied yet another two years of ineffectiveness.

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“So in other words, the traditional story happened; we delivered an IT system, [...] but the users were insufficiently aware of the new policy. So it was a crappy system”

*Key project staff member 4*

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“And what we then noticed, in the pilot phase, was that the users said: ‘But this is not what we want’.”

*Key project staff member 1*

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“The connection between [what the IT organisation was doing and what the two user organisations wanted] was really thin, with project-board meetings and minimal governance of the IT-organisation. And that IT-organisation did their thing and just powered through. [...] And they made the system and then it exploded, because the users said: ‘We don’t want this. This and this is missing and I can do this with the current system and now I can’t do that anymore’.”

*Key project staff member 2*

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In addition to lack of fit, there was also conflict between the two executive organisations over functional requirements. This all resulted in an eventual rejection of the system in the second pilot, implying more ineffectiveness. The executive power of project S was divided between two organisations, which had different interests. This became

a problem when conflict arose between the two organisations over the results of the second pilot and subsequent adaptations. As a result, there was no decisiveness with regard to redirection of the project's course of action.

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“From the delivery of [the system] it became clear that appointing executive power to two organisation does not work. [...] The complexity of the relationship between [the key partners] caused a complexity that made managing the program impossible.”

*External review report*

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“The project failed among other things because of poor alignment between [the two executive organisations].”

*Press article*

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### *Contingencies driving commitment to the course of action*

From the beginning of the project until the end of the second pilot period, commitment to the course of action was driven by information asymmetry. As the executive board lacked information from the project organisation to accurately assess progress and risk within the project, they allowed the project to continue even though the course of action was ineffective. This happened in the first three years, leading up to the first pilot results, and it happened again in the subsequent two years towards the second pilot. It was mentioned that the lack of

feedback was not only the result of a poorly involved executive organisation, but also of misrepresentations by the project organisation.

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“[T]he IT-project had become a kingdom of its own. The governance was as thin as paper. [...] So with regard to the direction from the [the executive organisation].”

*Key project staff member 2*

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“And that is something that can be said about the project management in that period, that they were telling only half truths in my taste. In a way that it everything appeared to be running well, while under the surface there were all kinds of open ends and questions.”

*Key project staff member 3*

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“[There] were hardly any checks or evaluations.”

*External review report*

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Project S also involved a considerable risk-seeking bias, at least within the key executive organisation, emphasising that terminating the project would lead to an unacceptable loss from both the investments already done as well as from operational problems that would result from not completing the project. As such, the key decision makers implicitly preferred the risky continuation of the

project, with potentially an even larger loss of resources. This bias significantly increased the level of commitment to the course of action, an effect that became salient in the final phase of the escalation process of rationalised continuation. The continuation of the project was rationalised with the argument that there was simply no alternative but to continue, because the legacy system could not be maintained.

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“We had to do it. Because [the legacy system] was really out-dated. So the organisation had to do it.”

*Key project staff member 3*

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“I recently saw the reports again, with dramatic stories, also by the [external reviewer], like: ‘[The legacy system] has to go, [...] [the executive organisation] has to act, it has to renew.’ These images were very strong back then. So termination was [not an option].

*Key project staff member 2*

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“So our assessment was: There is no real alternative, you have to do something. That has been our driver to continue.”

*Key project staff member 1*

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The project executive’s decision to shift the objective after three years, and thereby accept all investment thus far as lost reflects

another contingency that drove commitment to the course of action. Multiple sources stated that this had been a bold move, increasing his personal accountability, and that the project executive acted as a strong advocate of the new approach. In fact, the new approach mainly resulted from his personal vision and ambition. On the one hand, this increased executive involvement, which was beneficial for the project organisation from a practical point of view. On the other hand, it promoted commitment to a course of action through potential self-justification by the project executive. With the appointment of a new project executive, this ceased to drive commitment.

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“And he had a very clear vision, as in ‘this is how it will be’, and he decided. [...] So in that was a certain commitment to the course of action [...]. With that, it also was even more directive. So it was really if you didn’t fit into that direction, if you didn’t cohere, then you would have to go.”

*Key project staff member 4*

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“[The project executive] was the architect of the modern [organisation], of the business rational way of working within the [organisation].”

*Press article*

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## **Project T**

### *Case report*

Project T involved the development and implementation of a range of backend systems within a single government agency. Starting out as a programme to replace out-dated legacy systems, the project's executives decide to follow an approach based on standardised solutions. The reasoning was that standardised solutions would significantly reduce the development time and costs of maintenance. However, the organisation had no existing experience or knowledge with regard to the chosen solution.

The first step in the project was to pilot the chosen solution with the development and implementation of a single, non-complex functional module. Through this, the intention was to develop a better understanding of the solution, that was new to the organisation, and gain insights into the feasibility of the total project. Because of the relative low complexity, the pilot module was successfully completed within the planned first year of the project.

The initially planned second step in the project was to develop and implement the other functional modules needed to replace all the legacy systems. However, the upcoming introduction of new legislation made the project executive decide to combine the objective of legacy replacement with the new objective of implementing the new legislation. In fact, the focus for the second step in the project was to develop a functional module that would support part of the new legislation's execution, meaning that no further contributions to the replacement of legacy systems were made from that point on.

Matching the logic of the new legislation on the standardised solution was challenging and delayed the design phase. Also, the project organisation needed to work with components of the standard solution that were non-proven and for which they held little experience or knowledge. Nine months after the design of the module had started, it was recognised that the initial planning to complete the module in one year could no longer be met. Some initial adaptations were made in the development of the module and a delay of three months was accepted. The module was brought live as release 1 of the new system.

The next step was to develop more functionality that was needed to deliver the new legislation in a second release, as it was recognised that more complex functionality was needed to support the full executional scope. After about six months of design and development, three years into the project, it became clear that both the module of release 1 and the new functionality in release 2 was fraught with technical and functional issues, such as poor performance and stability, the need for many workarounds, and poor maintainability. The project budget was nearly doubled at that point in anticipation of the extra work needed to resolve the issues and still meet all the objectives.

Three years and nine months after project initiation the second release was delivered, but the technical and functional issues remained. The objective of the project then shifted towards resolution of issues related to the new functionality. Further efforts to implement the new legislation and replace the legacy system were abandoned. By releasing new versions of the system the technical and functional issues were to be solved. With each release, that took about two months to deliver, the issues remained unsolved. This necessitated the

development of a next release, which was then promised to be the definitive release to solve the issue.

So far, the project executive had continued, based on the rationalisation and firm belief that the next release would clear the issues. But with the unambiguous feedback of an external independent advisor, his delegates and four failed releases all credibility of that rationalisation was gone. After a swift consideration of alternatives, efforts to redirect the course of action were crafted and de-escalation was initiated nearly four and a half years after project initiation.

With a new approach that involved combining custom-made functionality in generic code with the existing standard solution, and significant changes in governance, the project was terminated within four months. The adjusted budget was depleted at that point. The technical and functional issues were resolved when the project was terminated, but the objective of legacy replacement was not realised and the objective of implementing the functionality needed for the new legislation was only partially realized.

<b>Project run time</b>	6 years
<b>Number of (explicit) resource allocation decisions</b>	3
<b>Percentage of initial budget consumed by the project</b>	193%
<b>Outcome</b>	Terminated with partial result

Table 5 – Project T overview

*Project escalation process*

Project T started to show lack of progress from the moment the pilot was completed, and the development of the first release was initiated. This lack of progress was the result of inherent shortcomings of the project, most dominantly technical issues with the innovative solution that was chosen, thus signifying drift. Although a lack of progress was identified, as can be concluded from the schedule extensions granted during this phase, no structured problems were signalled, as no adaptations were made.

That the course of action of the project was troubled was signalled during the development of the second release. Incremental technical adaptations were made, which were unsuccessful in solving the structural problems that lay within the course of action demanded by the innovative solution. As such, the moment that problems were recognised and the budget adjusted to compensate for incremental adaptations is identified as the start of the unsuccessful incremental adaptation phase.

Some time after the delivery of the second release and on-going attempts to solve the technical issues, problems became clearly visible. This is evident in the fact that during this stage an external auditor reported the problematic situation on multiple occasions. At the same time, there were recurring actions to explain or rationalise these problems by the project executive and thus continue with the project. These rationalisations included using earlier investments as a reason for continuation and downplaying the severity of problems in a belief that the next release would get the project back on track. This

phase of rationalised continuation ran from the first report by the external auditor until the delivery of the fifth failed release.

After five unsuccessful releases and the project executive had received unbiased and clear feedback about the state of the project by the external advisor and key project staff members, it became clear to him that there was an imminent threat to continuation. The fifth release had been positioned as an ultimatum to prove that the rationalisations were justified. When this release failed to deliver, the project executive and his staff initiated project de-escalation.

The timeline and escalation process are modelled in Figure 5. Subsequently, the salience of contingencies over the course of the escalation process as shown in this figure is elaborated.

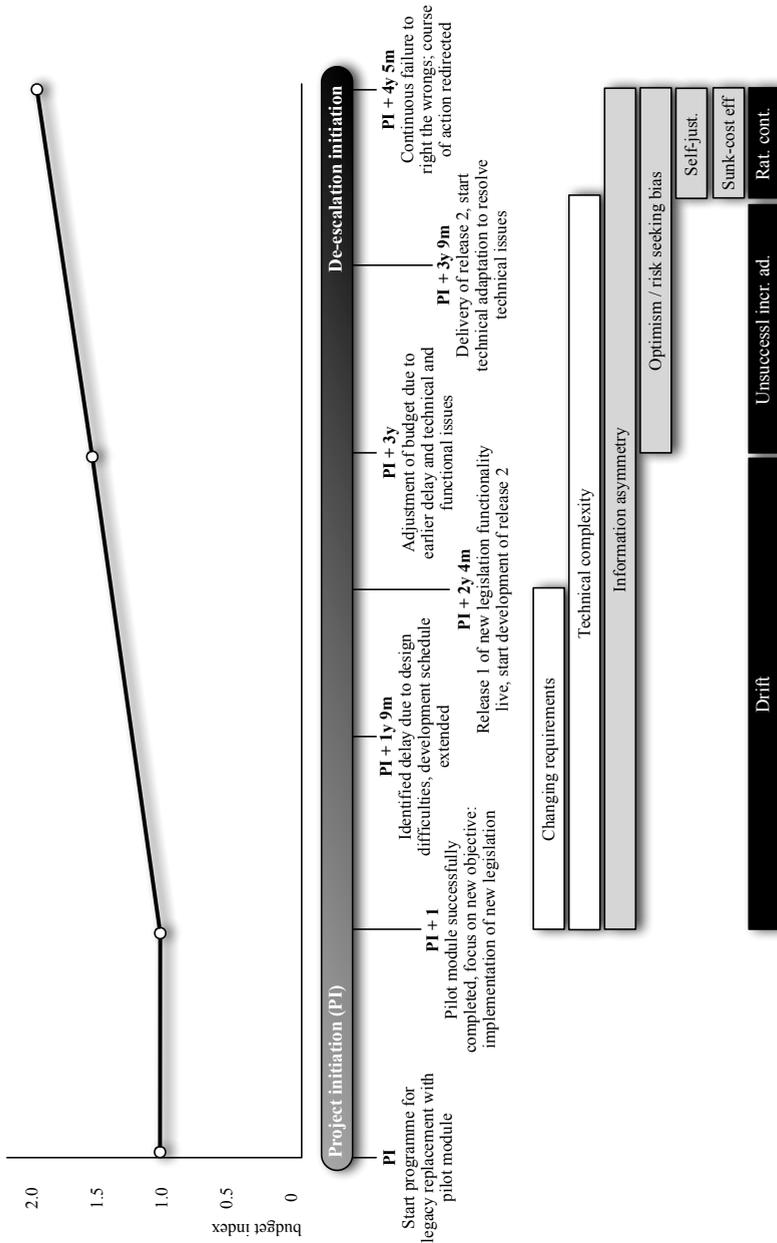


Figure 5 – Project T timeline and escalation process

*Contingencies driving ineffectiveness of the course of action*

Initial ineffectiveness in the course of action of project T occurred due to lack of fit with unclear requirements, associated with the new legislation that had to be implemented by the executive organisation. The full executional scope of the new legislation still had to become clear during development, leading to lack of progress due to introduction of new requirements.

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“And when we started, we didn’t have the picture clear that [the new legislation] would imply a composite product. So we saw with [the new legislation] mainly [this single functionality], and it only became clear over the course of the first year that it would also involve [other functionalities].”

*Key project staff member 2*

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“That first design phase took way too long. Because [...] there was a lot of uncertainty about: ‘There is new legislation, but what will this new legislation really look like in terms of implementation?’”

*Key project staff member 2*

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“We thought that we could suffice with certain modules. And then when started to better model [the new legislation], we discovered: ‘No, we really do need other modules.’”

*Key project staff member 2*

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“The combination of system renewal with the implementation of new legislation has resulted in the beginning in much discussion with regard to functionality.”

*External review report*

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Project T also struggled with technical complexity from the moment that development of the functionality for the new legislation began. Many technical issues surfaced during this development. This created a steep learning curve and it could not be predicted where the learning curve would end. These problems were partly a result of the decision to pursue a technical solution that was largely unproven. Also, using the solution within a government context to operationalise new legislation was an entirely new application of this technology and thus experimental.

Initially, the project’s course of action was to anticipate technical complexity by beginning with a pilot. However, a relatively easy and functionally predictable part of the system was chosen for this pilot. As such, the pilot was not truly representative of the technical complexity that was present.

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“We had a new product with all uncertainties involved, [...] a totally new technology, a new methodology. [...] That’s asking for trouble. In all honesty.”

*Key project staff member 2*

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“And it was undoubtedly a case of increasing insight. If you have never have worked with the [technology], it is no surprise to me that in month thirteen you say: ‘Gosh, this is how it really should be done.’ But in month fifteen you discover that it still can be done in a better way. And that learning curve is not at all at its end in month fifteen.”

*Key project staff member 1*

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“[The technology] was an entirely new world to the [project organisation], how you should do that. So you begin a trajectory of millions, with two technological components that you totally do not grasp.”

*Key project staff member 1*

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“Risks of the project are:

- Technical complexity: innovative character of the technology [...].”

*External review report*

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*Contingencies driving commitment to the course of action*

Project T applied a typical principal-agent structure for the governance of the project, with a separate project organisation. From the evidence it can be inferred that the project organisation, which had grown to a size of around one hundred people at the start of development of the second release, had come to operate quite isolated from the executive organisation. As a consequence, the project executive and his delegates lacked the information and knowledge needed to assess the risks and progress within the isolated project organisation. This implied that there was an information asymmetry, which eventually played an important role in commitment to the failing course of action.

For example, the project executive remained unaware of the design difficulties in the first release for nine months. Later, the technical and functional issues in the second release were not identified before eight months of development. One key informant used the metaphor of a submarine for this phenomenon. The project organisation would submerge and would have no idea when and where it would surface again.

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“[T]here had been talk for quite some time on issues, without that those had been brought up.”

*Key project staff member 2*

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“The [project organisation] were working relatively autonomously on their own things, and that just went on. [...] Especially in terms of money and not in terms of results. So that was the big issue.”

*Key project staff member 1*

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“There was a burn-rate of a million, but there was no idea what we would get for that million.’ You can certainly say that [the executive had no realistic picture of progress or risk].

*Key project staff member 1*

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“[The project went] under water for a long time, and then you can only hope that that submarine would surface at the right time at the right moment. But it didn’t.”

*Key project staff member 1*

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Both during unsuccessful incremental adaptation and rationalised continuation, there was an optimism bias with the project executive. Even though lack of objective information due to information asymmetry made such assumptions unfounded, the executive had a strong belief that the project was going to succeed. In spite of several warning signs, including critical reports from an external auditor, optimism about the positive outcome of the project remained high and this meant that no steps were taken to terminate or re-direct it. This

overconfidence was related to the fact that part of the functionality of the system was already in production as a result of the pilot.

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“So it was new and with these confident signals, [the project executive] was thinking: ‘[These warnings are nice], but it will work out fine.’”

*Key project staff member 1*

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“[S]omething was already running in operation, so that gave the trust like: ‘Why wouldn’t it succeed? It is already running. Some adaptations need to be made, but that’s logical.’”

*Key project staff member 2*

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From an early stage in the project, the project executive had also championed the objectives and chosen course of action of the project, both internally and externally. According to different key informants, the project and the course of action had as such become an object of prestige for the project executive. The reputational stakes of the project executive implied that self-justification was driving commitment to the course of action in project T, particularly as a reason to rationalise continuation towards the end of the escalation process. Indeed, to initiate de-escalation the project executive experienced severe reputational loss to finally abandon the failing course of action.

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“So he had been the great advocate of this program, also internally. He had always said: ‘I’m the executive and I will make sure it succeeds.’”

*Key project staff member 1*

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“And that’s what I’m trying to make clear, that he committed himself as project executive too much to the choices within the approach.”

*Key project staff member 1*

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“If you look for example to [the project executive], he has a drive, but also put a lot of his prestige on this [project].”

*Key project staff member 2*

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A sunk cost effect was also driving commitment to the failing course of action. As the level of incurred costs was already significant at the moment that problems became clearly visible to the project executive during the series of failed releases, it formed a rationalisation to continue with the course of action. Two key informants confirmed that sunk costs were taken into consideration in decisions to continue, as it was argued that these costs had to be somehow justified by completing the project through the course of action for which the costs were incurred.

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“Look, you invested in this heavily. You also know that if you throw it out of the window, you will need time to rebuild it. We already had an earlier delay in the beginning, so to come up yet again with a severe delay is not a success. You hope [...] that the basis can be maintained and that with [incremental] adaptations you can still save the [project].”

*Key project staff member 2*

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“[We] couldn’t get away with... because we bought the world in licenses... saying ‘we’re going to throw that in the trash’.”

*Key project staff member 3*

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## **Project Q**

### *Case report*

Project Q was an initiative to implement a citizen-to-government (C2G) system to support law enforcement. Similar to project D, project Q involved the development of unfamiliar technology. To anticipate for the uncertainties that this involved, the project followed an incremental approach for delivering the project results. This incremental approach first involved a number of suppliers who were asked to set up their potential solutions for the system in a laboratory setting. These solutions were not developed for the particular purpose of the project yet, but nonetheless fully functional. The laboratory setup was completed within four months after project initiation.

The laboratory setup was mainly aimed at discovering the possibilities and limitations of the unfamiliar technology. As such, the project organisation had an early understanding of technical contingencies and involved risk that would help to shape the expectations and requirements in the remainder of the project. Using the insights from the laboratory setup, a live pilot was set up according to more informed and adjusted technical requirements. Still, to prevent premature commitments that wouldn't allow further adaptations to more contingencies, no official procurement was done yet. Instead, the pilot could be executed within the legal boundaries of public procurement with a random selection of two suppliers, who were asked to each deliver a version of the system that was already more tailored to expectations and requirements. The pilot started approximately eight months after project initiation. Because it took place in a live setting with real users and within the real organisational context, more feedback was collected with regard to key technical and user requirement contingencies.

After little less than a year of piloting and about one-and-a-half years after project initiation the public procurement procedure was initiated. However, the insights that were gained in the pilot phase with respect to technical and functional contingencies had lead the executive board to decide for a different course of action. Instead of purchasing the system, which was the originally intended strategy for the procurement, it was decided to lease the system as a service. This way, the chosen supplier would remain responsible for adapting the system to fit with future contingencies. Several suppliers showed interest in this setup and made an offer. The selected supplier eventually delivered the first version of the system according to the latest functional and technical requirements within six months. Over

the course of two more years, adaptations were made and the scale of the system was extended towards eventual completion of the project.

By ensuring fast feedback and adaptation throughout the project trajectory, it was thus eventually fully completed within four years after initiation. The adjusted course of action with regard to the procurement of the system had also implied a cost saving, resulting in completion with only 92 percent of the initial budget used.

<b>Project run time</b>	4 years
<b>Number of (explicit) resource allocation decisions</b>	1
<b>Percentage of initial budget consumed by the project</b>	92%
<b>Outcome</b>	Completed

Table 6 – Project Q overview

*Contingencies driving ineffectiveness of the course of action*

Project Q encountered many contingencies over its course that drove the course of action to be less effective. The laboratory phase made clear mainly technical complexities and uncertainties. One of the main discoveries was that, contrary to initial assumptions, the technology was not yet proven and was thus changing at a rapid pace.

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“Whereas beforehand we had the picture: ‘We should buy [the system]. It’s proven technology’, we developed a picture over the course of the project that the technology was not at all at the end of its development.”

*Key project staff member 1*

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“The procurement strategy for project [Q] has been changed. [...] The main reason is the status of the technology and a planned large-scale [change in organisational context].

*External report*

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In the subsequent pilot phase, more technical complexities were encountered, which were mainly related to the user interface of the system. Significant technical changes had to be made in this respect to solve the issues.

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“When we implemented [the system in the real user environment], it turned out that it didn’t work at all. People couldn’t use it intuitively; there were technical failures, that sort of thing. So that’s when we said: ‘We’re going to do this differently.’”

*Key project staff member 2*

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“Another lesson was that it wasn’t practical that the system was running on an Asian version of the operating system. The error messages (hard system errors) in critical situations were hard to understand and resetting was thus a challenge.”

*External report*

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The pilot phase of the project also resulted in changing user and operator requirements due to live experiences with the use of the system. These changed requirements needed to be integrated in the course of action to remain effective.

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“[E]specially the experience of [the users] was for us as [a stakeholder] a reason to say: ‘This is not it. We need something different.’”

*Key project staff member 2*

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“People were confronted with a system for which they didn’t have a clue about what it was, what it could do and how to use it. So we had a very good look at the human interface. A totally different concept was then delivered [...]. Human interface was set up in a completely different way than existed at that point.”

*Key project staff member 3*

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“After evaluation it will be determined what the specifications are for the definitive setup and what is most comfortable for [users] in operating. In this, the experiences of [users] and [operators] will be integrated.”

*Press article*

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*Contingencies driving commitment to the course of action*

Knowing that there was a reasonable chance that they would be faced with technical complexities and changing requirements, the executive team of project Q took an approach that would maintain a certain degree of flexibility. Although not consciously, these measures proved to be effective in circumventing contingencies that could promote commitment, mainly with regard to information asymmetry and sunk costs.

The laboratory setup and pilot provided early and accurate, operational feedback. As a result, the executive team of the project was able to take many smaller and larger redirective actions and adapt to contingencies like technical complexity and changing requirements. The most significant example of redirection was to change the public procurement strategy from buying the system to leasing it (as-a-service procurement). The early and accurate feedback meant that information asymmetry was never especially salient as there was sufficient awareness about potential problems with the course of action.

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“We placed [several] different versions of the [system] in our laboratory. And we played with it for a couple of months, technicians worked it, and we had different people make use of it. [...] So that also gave us a lot of information for the second phase.”

*Key project staff member 1*

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“The feedback has always been really fast and direct, at least in my direction. I never experienced problems with that. [...] But we also put [the system] into operation very fast. So when it was there [...] people could experience first-hand if and how it would work.”

*Key project staff member 2*

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“[By creating the laboratory setup] you show what you are working on as a project, you show results. You show: ‘You’re money is being spent in a right way.’ At the same time, you also show: ‘There is lot of uncertainty facing us all.’”

*Key project staff member 3*

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A potential sunk cost effect was also circumvented, by only making gradual investments as more information about the most effective course of action became available. The most explicit example of this was that the procurement procedure was postponed to the latest possible stage in the project. At that point, the project team had

already collected a lot more information about contingencies that influenced the effectiveness of the project and could adapt to them without having to accept sunk costs of large investments in an ineffective course of action. Furthermore, the eventual procurement strategy ensured flexibility from the perspective of sunk costs by leasing rather than purchasing the system. As a result, sunk costs did not play a role as a potential driver of commitment to the course of action in project Q.

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“[We didn’t want to] become financially responsible forever for something, [without knowing] what the quality is of the stuff we implement here. No, make sure that you have a marking point somewhere where you can still turn around.”

*Key project staff member 3*

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“We couldn’t implement it [full scope], because that would become too expensive. But we did say: ‘We want a robust pilot, so that we can take more than just a learning of [small prototype system].’”

*Key project staff member 2*

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“So then we said: ‘How smart would it be to buy and implement something now that has a lifecycle of ten years [...] and where you have a large risk that you want all sorts of changes, and you don’t know if it is what you want?’ Or functionality changes so much that with three or four years you say: ‘I want something else.’ Or much smarter technology is introduced. Or new legislation is introduced, that says: ‘You also need to do this and that.’”

*Key project staff member 3*

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## **Project P**

### *Case report*

Project P was a project aimed at legacy replacement and modernisation of the information technology landscape at a central information service of the Dutch government. Designed as an ambitious programme, the initial project executive consulted an e-government project expert on the most appropriate approach. This was motivated by previous experiences with escalated projects within the vicinity of project P, including project S (Chapter 4).

Based on the advice of the e-government project expert, the project executive decided to start with a small increment of the entire programme, that could be completed within a relatively short-time frame and which would have immediate value to the user organisation, even if other intended parts of the programme were never. This was a deliberate choice, as it was recognised in particular

that there would be significant uncertainties in the modernisation, which involved innovative technology. Nonetheless, an initial multi-year budget was assigned for the entire programme.

A suitable first increment was defined with the development of an information portal. This increment was assigned to another project executive who had already been responsible for a similar initiative in a previous context. The development of the information portal would entail close collaboration between the executive organisation and a partner government agency for the exchange of data. A business case and plan was developed, which included a first increment that would consume an investment of two-and-a-half percent of the total budget and require approximately six months to complete.

Within the first few months of development, it became apparent that the initial assumptions with regard to availability of critical data for the information portal were false. As a result, the completion of the portal required a significantly higher investment to correct errors, leading to changes that saw eight percent of the total project budget and three times the initial schedule being allocated to the first increment. Eventually the information portal was completed and launched, fully functional.

During development, it had also turned out that the organisational readiness of the executive organisation was not at the level assumed necessary to complete the programme, in terms of capabilities to govern a programme of that magnitude and in relation to agreement concerning the architectural design. This also led to some adaptations of the course of action.

Based on the insights of the development of the information portal and institutional developments that required cuts to the multi-year budget, the project executive decided that it would be best to suffice with this partial result and terminate the programme one-and-a-half years after initiation, with only the eight percent of the total budget consumed.

<b>Project run time</b>	1.5 years
<b>Number of (explicit) resource allocation decisions</b>	1
<b>Percentage of initial budget consumed by the project</b>	8%
<b>Outcome</b>	Terminated with partial result

Table 7 – Project P overview

*Contingencies driving ineffectiveness of the course of action*

As was somewhat expected, project P was fast confronted with technical complexities. Due to incorrect assumptions, the availability of qualitative data was an issue that required significantly more time and resources to be resolved than was anticipated in the initial course of action. As a result, the scope had to be extended with additional technical enhancements to solve the data problems.

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“What we delivered to [the executive organisation] from the [system of the partner organisation], aggregated data, turned out not to be sufficient. There were things unavailable that we needed. [...] This we discovered.”

*Key project staff member 1*

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“The discussion over the quality and cohesion and uniform delivery via the portal to users caused delay. [So this was related to data quality].”

*Key project staff member 1*

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“[The technology] entailed a lot of things that were new, with which we still needed to gain experience. And definitely in the beginning this was not running properly.”

*Key project staff member 2*

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“It has been established that [...] after three months it turned out that there was no agreement about the content and execution [needed] to establish exchange of data.”

*External review report*

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Project P was also faced with problems of coordination, which were mainly related to the organisational readiness to govern the

programme, including the first increment of the information portal. This necessitated some organisational interventions, such as a review of the governance structure and subsequent adaptations.

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“This was really the test for the underlying architecture, the project management, the governance, those things needed to do right as conditional for a project. And you see that the test resulted in significantly different outcomes in terms of schedule, quality and money than planned. And also on other organisational aspects you see that it was still not a course of action, if you would continue, that you would say: ‘I now have sufficient certainty to start with the big picture.’”

*Key project staff member 1*

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“Along the way we discovered that [...] the new way of working also required different mechanisms for governance than [the executive organisation] had used until then. So that had to be developed, too.”

*Key project staff member 2*

---

“You’re undertaking a programme that is assuming that that organisation is ready, in terms of architecture, in terms of vision for the future, that everybody understands what you’re doing and logically contributes to this. Well, [...] it turned out that this was not the case.”

*Key project staff member 2*

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*Contingencies driving commitment to the course of action*

Learning from previously escalated projects, the project team for Project P took actions that were cautious and intuitively took precautions to prevent project escalation.

There were two precautions that proved to be effective in circumventing information asymmetry. First, there was the choice for an iterative approach. This guaranteed that there would not be a long period of low project visibility. The delivery of each iteration would serve as a visible checkpoint of progress.

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“We deliberately chose a different approach than other big projects before us, [...] with short-cycled iterations and close involvement of the business. By making small steps you can process changing insights really fast and you’re able to keep monitoring the relevant environment on the go.”

*Key project staff member 2*

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Second, an independent auditor was hired from the outset, to constantly review risk and progress on behalf of the project executive.

---

“In hindsight, what I believe was a good measure, was to have continuous quality assurance [...]. That kept us alert, like: ‘This is not going well at all.’ I myself, as a member of the executive board only had time to look at the official reports once a month. [...] If we wouldn’t have kept constant vigilance, we wouldn’t have been able to keep the project under control. [...] Then we simply wouldn’t have been informed properly about the progress.”

*Key project staff member 1*

---

“There was quality assurance on behalf of the project executive on the project. [...] [T]here were all kinds of risks in the project, which brought us to the thought: ‘We need some external expertise there that will monitor together with us on both [the side of the project organisation and partner organisation], to ensure that we can adapt in timely fashion if unwillingly it would turn out that things are not running well, or we have some potential learning along the way.’”

*Key project staff member 4*

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The iterative approach also had another important result from the perspective of escalation prevention; it was a way to reduce the effect of sunk costs. By delivering a fully functional incremental result, which just had value in it self regardless of future investments, the risk of justifying past investments with future investments was reduced. This was referred to by one of the informants as circumventing a ‘fixed-cost industry’, which he defined as a project

that only generates any value once it is fully completed and all costs are incurred, like when digging a canal.

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“[With the first increment] you directly have a case. So you break free from the ‘fixed-cost industry’ phenomenon, because you have something that immediately has value.”

*Key project staff member 1*

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“A very important aspect of what we have done is [...] chopping it up in smaller pieces, with each [piece] delivering value in itself. But after each increment it should be possible to say: ‘We had a good run, we’re terminating. It’s growing over our heads, it’s too complicated, it’s not the right course of action.’”

*Key project staff member 3*

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“Indeed, very important: Imagine that [the project] would terminate, the products that it delivered should have value independently.”

*Key project staff member 2*

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Finally, the accounts of the informants of project P showed that the incremental approach had significantly reduced self-justification as motive to continue. On a psychological level, the respective project executive expressed that they did not perceive the project as a failure, even though it was terminated in an early stage, because it had

delivered value. Their earlier decisions to initiate the project had thus been justified.

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“I’m not saying that [the project so far it was executed] is a failure. [The initial result] has been delivered, it’s running, it’s delivering relatively good information, and it has given us a lot of information about how you should do it.”

*Key project staff member 1*

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“[The project] didn’t fail. It was terminated, but it didn’t fail. It delivered what was intended in that first phase.”

*Key project staff member 1*

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## **Discussion**

The salience of both contingencies driving ineffectiveness of the course of action and contingencies driving commitment in the investigated cases of escalated projects, compared with the cases of non-escalated projects, leads to the pattern shown in Table 8.

Table 7 shows that while both the observed escalated and non-escalated projects were confronted with contingencies that made the course of action less than effective at some point, only the escalated projects also showed contingencies that drove commitment to the course of action. Examples were found of sunk-cost effect,

completion effect, self-justification, information asymmetry, and optimism and risk-seeking biases. Political and social pressures were not explicitly found as a contingency for commitment.

		Escalated projects			Non-escalated projects	
		D	S	T	Q	P
<b>Driving ineffectiveness</b>	Technical complexity	✓		✓	✓	✓
	Problems of adoption		✓			
	Conflict between stakeholders		✓			
	Problems of coordination and communication					✓
	Changing / new requirements		✓	✓	✓	
<b>Driving commitment</b>	Sunk cost effect			✓		
	Completion effect	✓				
	Self-justification		✓	✓		
	Information asymmetry	✓	✓	✓		
	Optimism and risk-seeking biases		✓	✓		
	Political and societal pressures					

Table 8 – Salience of contingencies driving ineffectiveness or commitment in escalated and non-escalated projects

In the non-escalated projects, measures that were explicitly taken to address uncertainties also served to successfully circumvent contingencies driving commitment. The most prominent of these measures were short-cycled, incremental development methods and continuous independent reviewing of performance.

The second objective of this study was to generate new theory about what contingencies drive e-government project escalation over the course of the escalation process, and how these contingencies differ between escalated and non-escalated e-government projects. Based on the analysis of the case data as presented in Table 8, the following theoretical propositions are offered with regard to the role of different types of contingencies in escalated and non-escalated e-government projects.

**TP2.1** Both in escalated and non-escalated e-government projects technical complexities, problems of adoption, conflict between stakeholders, problems of communication and coordination, and changing requirements drive ineffectiveness of the course of action.

**TP2.2** Only in escalated e-government projects do sunk-cost effect, completion effect, self-justification, information asymmetry, and optimism and risk-seeking biases drive commitment to a failing course of action.

The findings of this study suggest that certain contingencies will drive ineffectiveness of the course of action in any e-government project at some point. However, some projects are able to circumvent the identified contingencies that drive commitment to a course of action. In these cases, it is likely that the ineffectiveness is identified and

corrected by either changing the course of action or terminating the project.

Based on the definitions of the phases of project escalation from the model of Mähring and Keil (2008) and the definitions of contingencies as put forward in the theoretical framework, the data from the investigated e-government projects was also analysed for connections between the salience of contingencies and the phases of the escalation process. The results of this analysis for all escalated cases are summarized in Table 9.

The results of this analysis of the case data lead to the following theoretical propositions with regard to the salience of certain contingencies over the course of the escalation process.

**TP2.3** Ineffectiveness driven by technical complexity, problems of adoption, problems of coordination and communication, or changing or new requirements, combined with commitment to the course of action driven by information asymmetry sets e-government projects into escalation during the drift phase of the escalation process.

Although this might be expected in the political and public environment of e-government projects, no evidence was found that suggests that political and social pressures are salient contingencies in driving commitment to a failing course of action. For the cases that were part of this study, there were no external pressures pushing the projects towards continuation. The escalation process seemed to be primarily an internally focussed process, which was to a large part hidden to the outside world.

	<b>Drift</b>	<b>Unsuccessful incremental adaptation</b>	<b>Rationalised continuation</b>
<b>Contingencies driving ineffectiveness</b>			
Technical complexity	✓	✓	
Problems of adoption	✓	✓	
Conflict between stakeholders		✓	
Problems of coordination and communication	✓		
Changing / new requirements	✓		
<b>Contingencies driving commitment</b>			
Sunk cost effect			✓
Completion effect			✓
Self-justification			✓
Information asymmetry	✓	✓	✓
Optimism and risk-seeking biases		✓	✓
Political and societal pressures			

Table 9 – Salience of contingencies in the phases of the escalation process

The case evidence did suggest that contingencies driving ineffectiveness are most salient in the early phases of the escalation process. However, from a theoretical point of view it is logical that there should also be at least some contingencies that drive commitment in this stage. Otherwise, the ineffectiveness would be recognised and the course of action would be changed or the project even stopped. Results of this research suggest that in the first phase of the escalation process, it is mainly information asymmetry driving this commitment. This means that commitment in the drift phase of the escalation process is more an unconscious phenomenon, as it is the lack of awareness that any problem exists that results in the course of action remaining unaltered.

**TP2.4** Further ineffectiveness driven by technical complexity, problems of adoption, or conflict between stakeholders, combined with commitment to the course of action driven by information asymmetry or optimism and risk-seeking biases, keeps e-government projects in escalation during the unsuccessful incremental adaptation phase of the escalation process.

During the unsuccessful incremental adaptation phase, it was found that there were still contingencies, though fewer, which could drive ineffectiveness further. As incremental adaptations were made, this would lead to more technical complexity, new problems of adoption, or conflict between stakeholders. Meanwhile, in addition to the role of information asymmetry in driving commitment during this phase, in the initial face of challenges to the project optimism and risk-seeking biases also became salient as drivers of commitment.

**TP2.5** Sunk cost effect, completion effect, self-justification, information asymmetry, or optimism and risk-seeking biases strengthen commitment to the already ineffective course of action in the rationalised continuation phase of the escalation process of e-government projects.

The findings of this study suggest that in the rationalised continuation phase no new contingencies emerge that lead to more ineffectiveness in an already ineffective course of action. In this phase, more contingencies become salient that strengthen commitment. Whereas in the preceding phases of the escalation process commitment was mainly driven by lack of information or biases, in the rationalised continuation phase other contingencies are also strengthening commitment in other ways. Sunk cost effect, completion effect and self-justification are all contingencies that serve as rationalisations for continuation and therefore it is logical that they emerge in this phase of the escalation process.

Summarizing the theoretical propositions, the study presented in this chapter suggests that both escalated and non-escalated e-government projects suffer from ineffectiveness driven by a number of contingencies. It seems that e-government projects are risky and complex undertakings that will face some form of challenge with regards to their effectiveness at some point in their life. However, only when the contingencies that were specified as drivers of commitment to a course of action emerge will this ineffectiveness also lead to project escalation. Moreover, this study has uncovered a potential pattern in how contingencies unfold over the course of the escalation process. Ineffectiveness is mainly driven by contingencies in the early phases of the escalation process. In these early phases, contingencies that are related to lack of information are the main

drivers of commitment. In final phases of the escalation process, contingencies that are related to rationalisation become dominant in maintaining and strengthening commitment.

Whereas the aforementioned theoretical propositions provide perspective on what drives the e-government project escalation over the course of the escalation process, the next chapter aims to provide more insight concerning how to effectively prevent e-government project escalation in the first place.

### **Chapter 3     Avoiding the Storm: Diminishing the Likelihood of E-government Project Escalation**

“Despite numerous efforts to provide managers and policy makers with interventions to prevent escalation of commitment, escalation continues to plague and cost individuals, organisations, and society.”

(Ku, 2008)

#### **Introduction**

Virtually all e-government projects suffer from an ineffective course of action at some point in their trajectory. That is, at some point in the project, the efforts may not lead to the desired results, because of contingencies like technical complexity, problems of adoption, conflict between stakeholders, problems coordinating communication, and changing requirements. However, not all e-government projects that face ineffectiveness at some point also suffer from project escalation. The ability and willingness to change an ineffective course of action seems to determine whether a project potentially escalates or not.

This chapter presents a case study of an e-government project for which it was recognised that flexibility would be needed to remain effective. With an approach specifically designed for continuous monitoring and adaptation it proved effective in preventing project escalation. With the insights on how escalation unfolds presented in

the previous chapter, the investigation of this case provides instrumental insights for addressing the research question:

- What practices diminish the likelihood of e-government project escalation?

### **Theory**

This study builds on escalation of commitment theory and contingency theory, by proposing that there are certain contingencies that drive the emergence of project escalation, and that if the likelihood of these contingencies is diminished, the likelihood of project escalation is diminished. Specifically, there are contingencies that contribute to likelihood of e-government project escalation by driving ineffectiveness of a course of action and there are other contingencies that contribute to the likelihood of e-government project escalation by driving commitment to a course of action.

The findings of chapter 2 also suggest that all e-government projects are faced with ineffectiveness at some point, driven by technical complexity, problems of adoption, conflict between stakeholders, problems of communication and coordination, and changing or new requirements. Although such contingencies can be managed to some extent, ineffectiveness cannot be prevented entirely. The key to prevention of project escalation is therefore sought in practices that diminish the likelihood of contingencies that drive commitment to a course of action. According to the findings of chapter 2 these are sunk cost effect, completion effect, information asymmetry, self-justification, and optimism and risk-seeking biases. The main premise underlying the theoretical framework of this chapter is that, unlike

contingencies that drive ineffectiveness, certain practices can prevent these contingencies from arising in e-government projects. Doing so will mean that commitment remains low and decision makers are more able and willing to adapt ineffective courses of action. This makes it possible to avoid e-government project escalation.

### Theoretical framework

Following the aforementioned line of reasoning, the theoretical framework for this study is constructed and depicted in Figure 6.

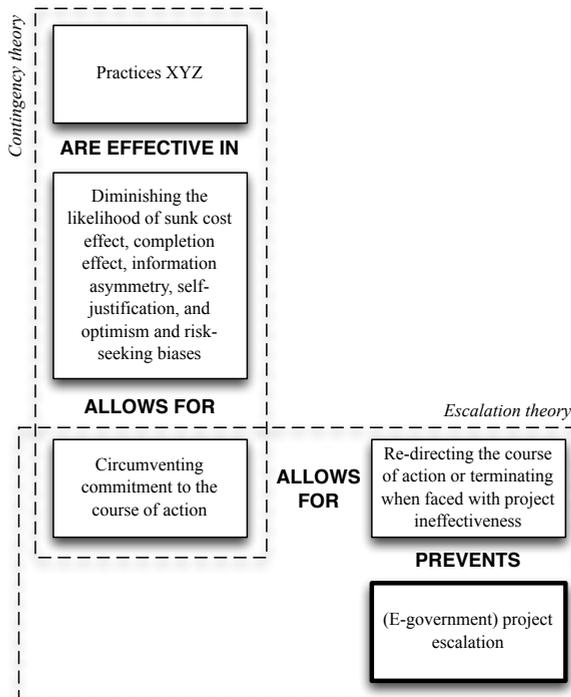


Figure 6 – Theoretical framework for prevention of e-government project escalation

## Method

Within this chapter a single case study is presented. This method has been identified as appropriate, when the investigated case represents a critical case in testing a well-formulated theory (Yin, 2009). As the theoretical framework presented for this study builds on well-defined escalation theory, which was further validated and informed in the study of chapter 2, this condition is met for the study at hand.

A critical case study should be an acceptable real-life example of the circumstances in which the theoretical propositions need to be investigated. Project O was an e-government project where escalation was prevented, despite several project contingencies emerging over the course of the project and necessitating adaptation to stay effective. The approach for this project was specifically designed to adapt the course of action if results, or lack thereof, required. This approach, called Agile Scrum, might therefore hold practices that permit circumvention of commitment to a course of action, thereby making project O a suitable case for further exploration based on the theoretical framework for prevention of (e-government) project escalation.

### *Data collection*

To perform the case study, data was collected with regard to project O. Seven semi-structured interviews were conducted with key project staff members and stakeholders. Extensive documentation was collected from ten different sources, totalling 79 A4 pages with information specifically on the approach and process of the project. An overview of the data collected is shown in Table 10. An extended

interview guide that added the questions shown in Appendix 2 was used to collect data for the research at hand.

<b>Case</b>	<b>Interview count (total hours)</b>	<b>Document count (total pages)</b>
Project O	7 (7 h.)	10 (79 p.)

Table 10 – Data collected

### *Analysis*

Similar to the study in chapter 2, the general analytical strategy for the critical case study relies on a combination of theoretical propositions and the development of a case description. This involves the development of a descriptive framework to organise and understand the research subject (Yin, 2009). In this case, the aim was understand a project approach that was aimed at the flexibility to adapt the course of action when it would be ineffective. This approach could potentially hold practices that are effective in circumventing commitment to the course of action. Descriptive studies have been identified as a suitable approach for answering ‘what’ research questions (Blumberg, Cooper, & Schindler, 2005).

Based on the basic characteristics of the project and the theoretical framework for this study, the descriptive framework is as follows:

1. Context
2. Objectives
3. Approach
4. Project results

More specifically, two analytical techniques were applied to the objective of the study. First, pattern matching was used to investigate the plausibility of the proposed theoretical framework for the prevention of e-government project escalation (Figure 6). Second, it is investigated where the theory can be extended from the data, in areas where more understanding is still needed. In this study, this was done with respect to the practices that are effective in diminishing the likelihood of contingencies that drive commitment. For extending theory, a critical case study has also been identified as an appropriate method (Yin, 2009). The case study analysis that follows from this is hereafter presented, organised according to the descriptive framework.

### **Context**

The context of project O was a government-to-citizen (G2C) service that was delivered via a wide range of semi-government institutions. The responsible ministry funds these institutions and funding is administratively handled by a specially assigned agency. The amount of funding that each institution receives is dependent on two criteria: the number of citizens using the service via that particular institution and the outcome of the service delivery.

The funding agency was charged with implementing a different way of identification within the funding process, as dictated by newly issued legislation. However, the information systems within the agency were becoming out-dated which made them increasingly unsuitable for such a change and future improvements. It was therefore desirable to combine the legislative implementation with a modernisation of the internal information systems.

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“The initial motive was legislative trajectory with regard to funding [...]. That motive was soon enough no longer the driving force to continue with the project in the years past.”

*Key project staff member 1*

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The funding process was a subprocess of the overall administrative process for the delivery of the G2C service, which also included the processing of citizen’s applications for the service, and institutional registration of the users of the service, and service delivery outcomes. The overall process thus involved different forms of data exchange between citizens, institutions, and the agency. Traditionally, these exchanges were separate, batch-based, and largely manually processed data streams. This had a number of drawbacks, including the necessity for citizens to provide the same information multiple times and long processing times of batches of data that delayed the funding process.

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“The preceding process [...] was a batch-based process, which involved a lot of manual data exchange.”

*Key project staff member 2*

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When the affected institutions were approached by the agency to cooperate in the legislative implementation, as this required some changes on their part too, they demanded that the entire process be modernised to overcome these drawbacks. The agency, recognizing that this could significantly increase the support and buy-in of the institutions for the legislative implementation and modernisation of the information landscape, agreed to include this in the effort. Project O was born.

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“So we this is what we presented to the [institutions]: ‘This is your process, and we want to modernise it.’ And their first reaction was: ‘That’s all very nice, but also very driven from [the agency]. [W]e are not really benefiting [...]. We want to add something.’ So that became the deal, as to say.”

*Key project staff member 3*

---

## **Objectives**

With initiation, the objective of project O was threefold:

1. Implement the new way of identification within the funding process;
2. Modernise the internal information systems of the agency, based on central information registers;
3. Establish fully automated, real-time, case-based, 24/7 available data exchange between the institutions, citizens and the central information registers within the agency.

With regard to the third objective, a choice was made to facilitate data exchange through a data broker that was already set up and active on behalf of the institutions in centrally collecting and delivering application data of citizens. Instead of having a separate structure for real-time data exchange between the institutions and the agency for the funding process, it was decided that all data streams would use the existing data broker.

The institutions claimed that one of the most valuable improvements, in terms of reducing administrative burden, was to automatically collect information from the central register of the agency when a citizen filled out an application. This way the citizen would no longer need to manually supply information that was already available with the agency and the institutions would no longer need to subsequently check this manually supplied information with the agency. Therefore, it was decided that the focus of the new fully automated, real-time, case-based, 24/7 data exchange would be on the application process.

The scope of project O, in terms of objectives, is depicted in Figure 7. The intended result of the project was to have a two-way, automated, real-time data exchange between institutions and the agency for the funding process and a one-way data stream from a central agency register to citizens for the application process. The automated data stream from the citizen to the institutions was already present as was the data-broker facilitating. In the case of the exchange between the institutions and the agency, data regarding the number of citizens using the service and service outcomes would stream towards the agency and data regarding the funding to be received would stream the other way. All data-streams would be fully automated, real-time,

case-based, available 24/7, make use of the new identification as determined in the new legislation, and flow through the data broker.

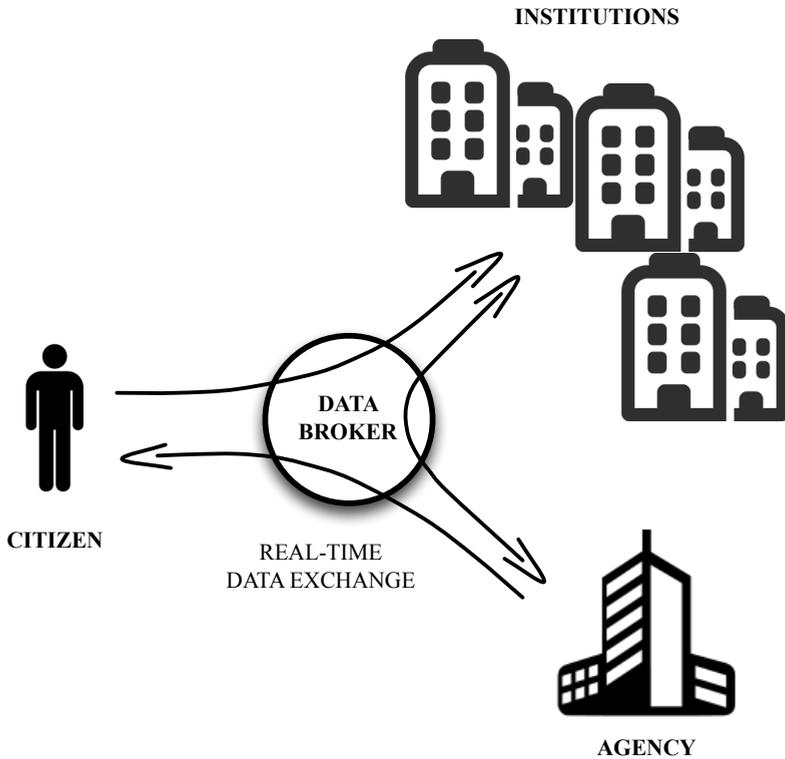


Figure 7 – Project O scope

### Approach

Partly fuelled by difficulties encountered in previous large-scale e-government projects, the agency, being the lead organisation in project O, decided to follow a significantly different approach for the

governance and realisation of the project. This approach is called Agile Scrum.

An important difference in Agile Scrum, when compared to traditional approaches to the governance and realisation of IT projects, is the way that product delivery is organised. Traditional approaches typically follow a phased project setup that starts with analysis, design, development, testing, and ends with the release of a complete product at the end of the project. Agile Scrums involves the same cycle, but condenses it into two to four week periods called sprints. In a sprint, the full cycle is completed for an increment of the complete product, making it possible to start delivery of working and thus deployable functionality in a matter of weeks. These cycles are repeated until sufficient cycles have been performed to deliver an acceptable overall product. An essential condition in this approach is that, although it is only a part of the complete product, each increment should be deployable and yield business value regardless of future sprints.

To support fast and continuous product delivery, it is not attempted in the Agile Scrum approach to prespecify all requirements of the complete product. Instead, a dynamic list of requirements, called a backlog, is used. The backlog is prioritised, with the most immediately desired functionality at the top of the list. A selection of functionality that would fit into a sprint and result in a valuable and deployable product increment is then made from the top of the backlog. At the end of each sprint, the delivered product increment is demonstrated as a form of progress reporting and to check product fit with stakeholder expectations and other circumstances. The resulting feedback is processed to update the backlog and define the next sprint. Also, a review session called a retrospective is held to reflect on

potential improvements in the course of action for the next sprint. As such, each sprint not only forms a product delivery cycle, but also a feedback and adjustment cycle.

To be able to deliver a deployable product increment in the relatively short timeframe of a sprint, all required disciplines (analysis, design, development, testing) collaborate in a multi-disciplinary team. In this way it is possible to specify the requirements for the product increment, make a technical design, and develop and test the subsequent software in a parallel and more efficient process. To reduce the need for time-consuming documented handovers, the team is co-located. This also ensures direct interaction and alignment by permitting at least one short coordinative team session, called a daily stand-up.

The described Agile Scrum process, including the backlog and a sprint selection of functionality as in the input, the sprint cycle with the daily stand-up, and a deployable product increment as the outcome, is visually depicted in Figure 8.

Project O applied sprints of four weeks in length. During the sprints, six multidisciplinary Scrum teams worked simultaneously on the same selected functionality from the backlog in the sprint. Three teams worked to complete the functionality on the agency side, two on the institution side, and one on the side of the data broker. Together, these teams designed their products and planned their activities for each sprint in a joint forum, which was called the working group. Two project managers were responsible for coordinating and synchronising the activities of the six teams.

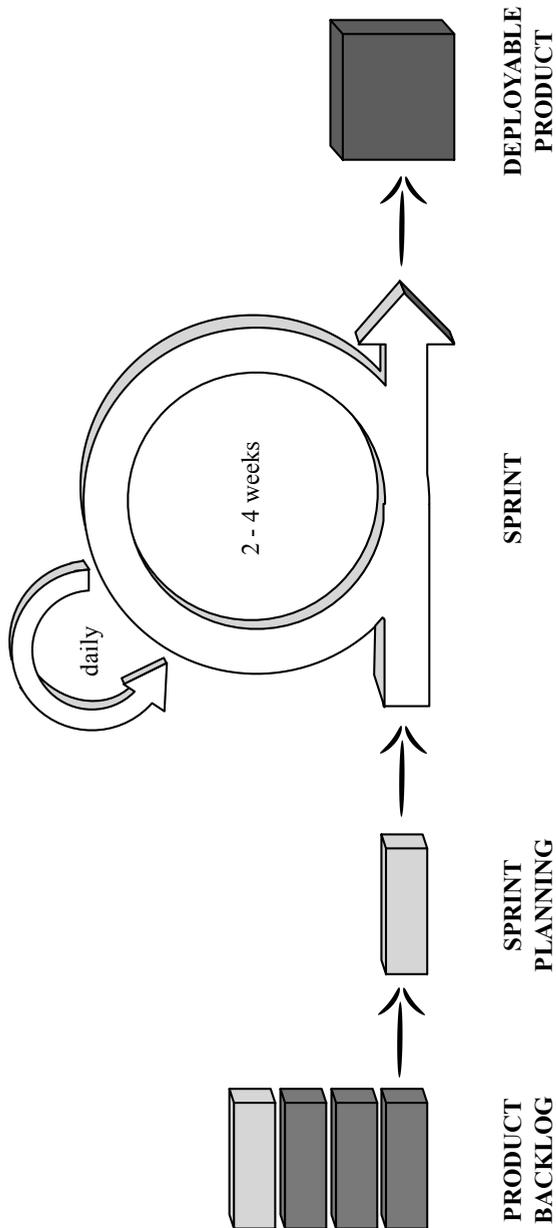


Figure 8 – Agile Scrum process

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“Every four weeks we would gather [and] we would discuss the functionalities that would be in the next sprint. [...] We would then part and develop that. [...] And within four weeks we had everything integrated on an external environment, where [the users] had access after those four weeks to see what had been made.”

*Key project staff member 3*

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In parallel with the planning of sprints by the working group each four weeks, the results of the previous sprint were demonstrated to a group of representatives of the stakeholder organisations. This group, called the project group, consisted of expert members from the stakeholder organisations and it was mandated to populate and prioritise the backlog, validate sprint planning, and accept the products of each sprint. The project group thus directed incremental product delivery from the user or business perspective, a role known as product ownership.

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“So the [Scrum teams] continuously and simultaneously made software in four weeks that would make it possible to do something in the process. [...] And this way we expanded.”

*Key project staff member 2*

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In the case of Project O, the project group prioritised to start with the technically most challenging and therefore riskiest part of the product, which was establishing the facilities for real-time data-exchange. After that, increments would be delivered in order of highest added business value. Each increment was released in a synchronised copy of the production environment, so that there could be a live assessment that the delivered product increment functioned properly within the production context. After a determined period, differing in length between two and six months, the accumulation of delivered product increments would be integrally tested by user teams and released in the actual production environment upon acceptance. Since each increment was already delivered in a live copy of the production environment at an earlier stage and tested at that point by the project teams, no significant issues were ever found in user tests conducted before release to the real production environment.

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“The first items that we were to deliver were the most riskiest, but also had the most business value.”

*Key project staff member 3*

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For planning, project O used a method based on point estimates of the effort required to complete each remaining requirement on the backlog. These so-called ‘story points’ were used to estimate the relative effort size of each requirement and the project quickly learned what their ‘velocity’ was in each sprint. That is, after a few sprints the teams exhibited stable productivity in the number of story points they could complete in a sprint. This knowledge helped significantly for

planning because the team could accurately calculate how many story points they expected to still complete within the remaining sprints of the project schedule. This urged the project group to constantly assess priorities in the backlog, and even to place certain requirements deliberately outside of the scope if there were more story points remaining on the backlog than could be completed in the remaining sprints.

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“And continuously people were aware: ‘This is the backlog. We’re processing this many points per sprint. We have so much time left in the schedule. So this will be in and this will fall out.’ [...] So that discussion was done by [the users] themselves. Because the end date, that was really fixed at some point.”

*Key project staff member 2*

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The project group was mandated to act as a product owner by an executive management team. This team was called the governance platform, and consisted of senior executives of all stakeholder organisations. The governance platform held quarterly meetings to be informed about the progress by a programme manager they had appointed, and whom was chairing the project group meetings. The governance platform had the authority to make decisions with regard to issues in high-level scope and planning, including budget and schedule. To ensure that no such issues would be overseen on the level of the governance platform, an independent reviewer was also hired to do continuous audits on the state of the project.

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“We had the governance platform, as we called it. The master plan, that held the process steps that we would modernise, we had agreed upon with the executives. [...] They understood that it was important that they were involved in case they had to redirect.”

*Key project staff member 1*

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The entire organisational structure of project O, aimed at governance in accordance with the Agile Scrum approach, is depicted in Figure 9.

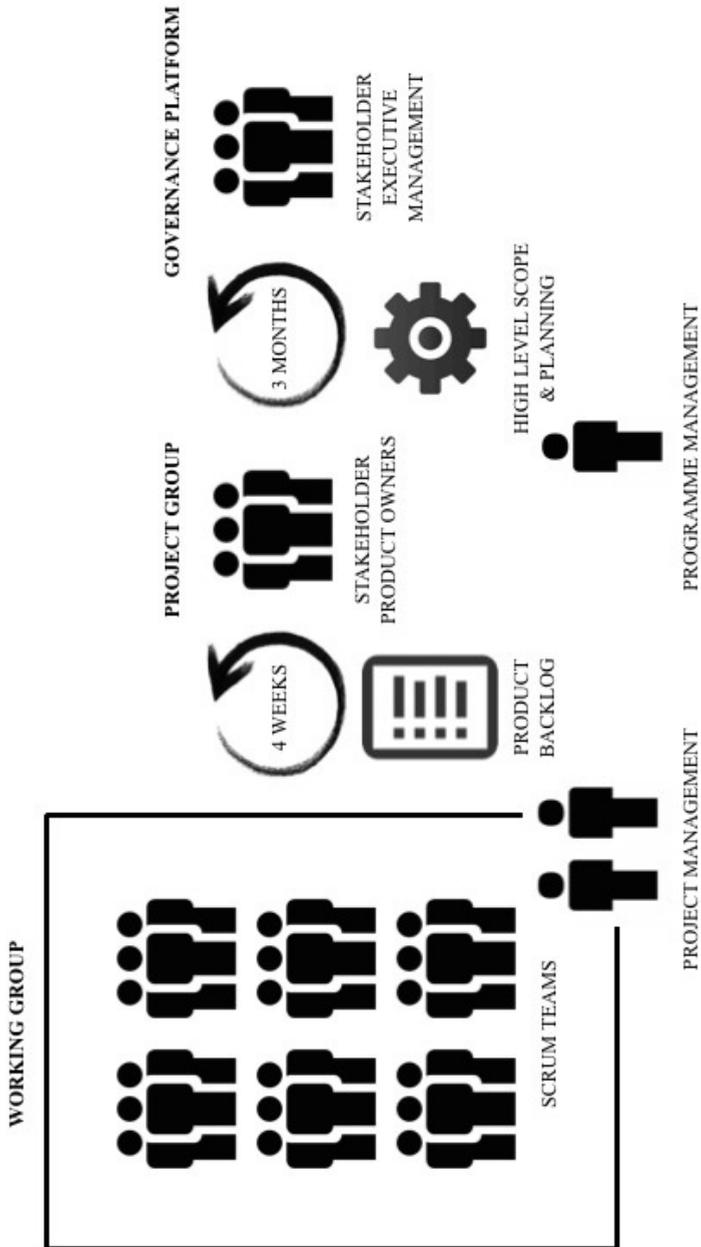


Figure 9 – Project O organisational structure

### Project results

Project O succeeded at completing its objectives within the intended schedule, and without any significant quality issues. The budget had been extended with a little less than fifty percent, mainly because of a deliberate choice to ‘buy’ additional sprints to develop additional functionality that accommodated legislation that was introduced halfway through the project. Ironically, this functionality was later withdrawn, requiring even more sprints, because the new legislation was cancelled. The project had thus adjusted to institutional contingencies too quickly. The resulting stats for project O are shown in Table 11.

<b>Project run time</b>	3 years
<b>Index of initial budget consumed by the project</b>	1.49
<b>Outcome</b>	Completed

Table 11 – Project O overview

Because of the specific organisational setup of project O, the aforementioned additional sprints could be taken up within the same time schedule by maintaining some Scrum teams that would otherwise have been disbanded. The independent reviewer officially stated that although there was budget extension, the motivations were legitimate and the delivery date was not compromised. In the case of project O, the processes that the new system supported were subject to a fixed

yearly cycle and thus the delivery date was considered a more important governance criterion than budget.

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“The realisation of [project O] in terms of the backlog has to deal with overruns. The reasons for this [...] are legitimate and also the go-live date is not at risk.”

*Audit report*

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Project O was not only considered a success in terms of the well-functioning and timely delivered product. It was also considered to have two important additional benefits. Firstly, it had significantly improved the level of trust and cooperation between the ministry, the agency, and the institutions. Secondly, the effectiveness of the Agile Scrum approach was acknowledged to have a positive effect on governance and a reduction in escalation risk. The approach would therefore also be applied in future e-government developments in this domain.

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“[The system of Project O] has been taken into production without any significant problems and in time. The enthusiasm about the technical possibilities of [the system] is so high that also other [domains] will connect. The approach for collaboration between the partners [...] will also be continued in the future development and maintenance of [the new system].”

*Press article*

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### **Discussion**

The data of the case study of Project O supported the plausibility of the theoretical framework, while extending it with insights on practices that seem to be effective in diminishing the likelihood of sunk cost effect, self-justification, optimism and risk seeking biases, completion effect and information asymmetry.

The data could be matched with the theoretical proposition that some level of ineffectiveness is typical for all e-government projects. One of the contingencies that caused project O to be less effective was a change in requirements. New legislation was issued during the project that would affect the system. As the legislation was still under design, the governance platform assigned additional resources to expand the scope with functionality needed to accommodate the future implementation of the new legislation. In this case however, this decision eventually implied even more ineffectiveness, because the introduction of the new legislation was later cancelled, while the

project already had developed the necessary functionality. The informants stated they learned from this to wait for the latest possible moment in subsequent initiatives, before adapting to new legislation.

Technical complexity was another contingency that led to ineffectiveness of the course of action in project O. Existing systems with which the project O system needed to interact within the information system landscape proved to be instable. This was identified and lacking maintenance had to be taken care of first.

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“[The agency] of course doesn’t exist only out of [the project O system]. [It] was highly dependent of the system landscape and the stability of it. [...] So with the ‘Scrumming’, they wanted to show the result at the end of the month, but they continuously couldn’t connect to one of those [other systems]. Because that system was down once again. And because those systems were increasingly interdependent, it became necessary the system landscape would also be organised properly.”

*Key project staff member 1*

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The findings also supported the plausibility of the theoretical framework by showcasing that some practices indeed seem to diminish the likelihood of contingencies that drive commitment to the course of action and, as a result, the project was able to circumvent commitment and adapt its course of action whenever it had become ineffective to prevent project escalation. By uncovering some of these practices, the data provided some potential extensions of the

theoretical framework. This leads to the following theoretical propositions, which are open to further validation.

**TP3.1** Delivering progress information and independently valuable product increments as early and frequent as possible in a project diminishes the likelihood of contingencies that drive commitment through high stakes, such as self-justification, sunk-cost effect, or risk-seeking bias.

With short-cycled, incremental product delivery, the pressure to justify previous investments or decisions, or engage in risky behaviour with regard to prospective gains or losses is much lower because continuation decisions are made earlier, more frequently, and thus at moments when the stakes involved are generally much lower.

Furthermore, the need to justify earlier investments with future investments is less salient when these investments are already valuable. As such, the likelihood of sunk-cost effect, self-justification and risk-seeking bias were effectively diminished within the approach of project O. This is significantly different from traditional development methods, which typically follow a phased approach of analysis, design, development, testing, and release and in which all business value is delivered at the end of the project in the release phase.

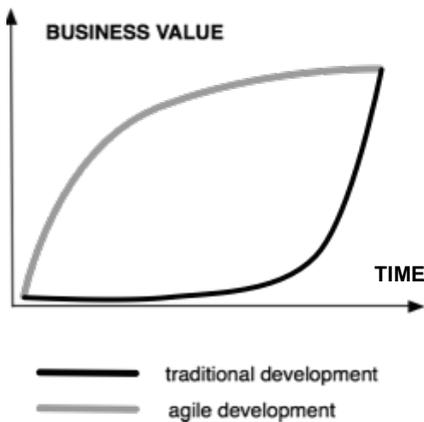


Figure 10 – Difference in business value delivery

The difference between traditional approaches and the agile approach applied in project O with regard to the timing of business value delivery is visually depicted in Figure 10.

**TP3.2** A short-cycled feedback loop, involving tangible and demonstrable results every four weeks, diminishes the likelihood of contingencies that promote commitment through lack or distortion of information, such information asymmetry, optimism bias, or completion effect.

Information asymmetry, optimism bias and completion effect were unlikely in project O, as executive authority was appointed to staff that was highly involved in the realisation of the project. These project staff members, mainly positioned within the so-called project team, were informed at least every four weeks of progress and potential issues, in the form of live product demonstrations. The demonstrations provided unambiguous feedback, reducing the

likelihood of missing essential progress information, having an overly optimistic view of project feasibility, or an incorrect perception of the expected date of project completion.

As an additional assurance with regard to clear and unambiguous feedback, the executive platform had arranged continuous independent reviewing and demanded regular reporting from their mandated representatives in the project group, making it even more unlikely that any vital information would be missed in the project's governance.

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“Collaboration between partners, aligning [every four weeks] on:

- Processes
- Functional aspects
- Technical aspects
- Planning”

*Project presentation*

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In contrast to the approach of project O, visibility to the executive organisation in traditional development is high in the beginning of the project, as the analysis phase involves the gathering of system requirements from users and stakeholders. In the subsequent phases of design and development, visibility is rather low until the testing phase when users are presented with a product for acceptance testing. This characteristic of traditional development was described as the ‘submarine-effect’ by one of the informants of project T presented in chapter 2. A project submerging in a long period of design and

development, out of sight of the executive organisation, can be seen as a form of information asymmetry. Potential issues, such as a lack of fit between the product and user expectations are not identified until a late stage of the project, when stakes and thus commitment are already too high to redirect.

The difference between the agile approach of project O and more traditional approaches in terms of visibility is depicted in Figure 11.

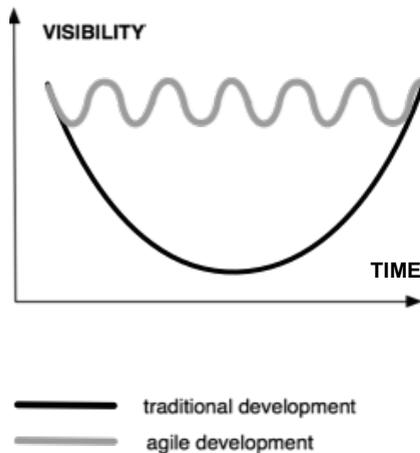


Figure 11 – Difference in visibility

Concluding, the findings of the study presented in this chapter suggest that e-government project escalation can be prevented by diminishing the likelihood of contingencies that drive commitment to a certain course of action. As it is supported that even successful, non-escalating e-government projects will be faced with contingencies that

have a negative effect on project effectiveness, it is by circumventing commitment that a course of action can be adapted when challenges arise. In some cases, this adaptation might demand termination of a project.

The findings also bring forward some insights on what practices may be effective in diminishing the likelihood of contingencies that drive commitment as discussed. First, early and frequent delivery of business value through incremental and iterative development may prove effective in diminishing the likelihood of contingencies that are related to rationalisation of continuation based on high stakes (sunk cost effect, self-justification, risk-seeking bias).

Second, short-cycled and relatively unambiguous feedback through live product demonstrations and closely involved business representatives may be useful in increasing visibility of the project effectiveness, and as such diminishing the likelihood of contingencies that are related to lack of accurate information (information asymmetry, completion effect and optimism bias).

In some cases e-government projects are beyond the point that they can prevent project escalation by applying the practices discussed in this chapter. In those cases, project escalation has already occurred and decision makers are better served with a deeper understanding of tactics that are effective to de-escalate the project. However, the environment of e-government projects can be highly politicised, implying that de-escalation in e-government projects may be somewhat unique. Therefore, understanding effective de-escalation tactics in a highly politicised environment is the subject of the next chapter.

## **Chapter 4 Escaping the Storm: Project De-escalation in a Highly Politicised Environment**

“More research is needed to develop strategies and tactics to align and integrate project members with the new course of action during the de-escalation process. [P]eople have almost an uncanny ability to bias facts in the direction of previously accepted beliefs and preferences, and failure to align and integrate project members’ attitudes towards the new course of action could lead to a political battle between those who are substantially involved in the escalation episode and those that advocate project termination or redirection.”

(Pan, Pan, & Flynn, 2004)

### **Introduction**

For an escalated project to be de-escalated, commitment to the failing course of action needs to be lowered in order for abandonment or redirection to become viable options for decision makers (Montealegre & Keil, 2000). However, if these decision makers are actors in a politically charged environment, de-escalation can have significant personal implications and it may therefore be particularly challenging in those cases. It has been recognised that e-government projects are generally undertaken in such complex political environments (Bozeman & Bretschneider, 1986; Heeks R. , 2006; Heintze & Bretschneider, 2000; Yildiz, 2007).

The study at hand makes use of a rare opportunity to gain insight in the political processes during e-government project escalation and de-escalation in a revelatory case. It is therefore applied to address the following research question:

- How can project escalation be exited (de-escalation) in a highly politicised environment?

To set the stage for this study, more light will be shed first on what constitutes a politicised environment. Furthermore, some theoretical background will be provided on the process of de-escalation.

## Theory

### *Political theory*

Although the definition of what constitutes ‘politics’ has been subject of debate since ancient times (Sartori, 1973), one commonly used definition today is that *politics involve intentional acts of influence to enhance or protect the self-interest of individuals or groups* (Allen, Madison, Porter, Renwick, & Mayes, 1979). In general, politics is practiced to obtain values as deference, safety or income for oneself or one’s reference group (Laswell, 1939). It has been identified, for example, that in case of unsuccessful projects, organisational politics can enable managers to gain protection for their careers (Grimland, Vigoda-Gadot, & Baruch, 2012). A politicised environment can be defined as *an environment with a high relevance and salience of politics*.

The executive responsibility for e-government projects generally rests with top-level bureaucrats. Both politicians and agency superiors hold discretionary power over the careers of these bureaucrats. As such, it has been recognised that top-level bureaucrats are enmeshed in politics, both on the level of the elected officials and the agency (McGregor, 1974). To enhance or protect their career interests when responsible for e-government projects, top-level bureaucrats can apply several political tactics including attacking or blaming others, strategic use of information, image building, ingratiation, formation/alignment with power coalitions, associating with influential stakeholders, and reciprocity (Allen, Madison, Porter, Renwick, & Mayes, 1979).

Some of these tactics are reactive and typically applied in face of negative outcomes, such as e-government project escalation. For example, attacking or blaming others involves the political actor reactively or proactively avoiding the association with undesirable results by pointing blame to others for the outcome. Also, the use of information might be applied by withholding information that might be detrimental to self-interest, such as negative project feedback.

#### *De-escalation theory*

The concept of project de-escalation is defined as *the outcome of the escalation process by reducing commitment to the failing course of action, which is manifested by either termination or redirection of the project* (Montealegre & Keil, 2000; Mähring & Keil, 2008).

In escalation of commitment theory, it is generally accepted that project de-escalation is not an instant event but an emergent process, similar to project escalation. The project de-escalation process has

been characterized as a sequence of stages that proceed from problem recognition, re-examination of prior courses of action, search for alternative courses of action to the implementation of an exit strategy (Montealegre & Keil, 2000). Other researchers have portrayed the process as consisting of sequential unfreezing, changing, and refreezing of commitment (Pan G. , Pan, Newman, & Flynn, 2006).

Which is common in de-escalation theory is the recognition that it is a process. This process involves at least the lowering of commitment through certain events or tactics and subsequent corrective action. The process of project de-escalation is triggered when decision makers weigh-off the attributes that encourage persistence and attributes that encourage abandonment (or redirection), and they shift from putting more weight on persistence to putting more weight on abandonment or redirection. This perspective is the approach-avoidance theory, which is compatible with the dominant theoretical explanations for escalation of commitment, such as self-justification theory, prospect theory and agency theory (Pan, Pan, & Newman, 2009).

De-escalation tactics are deliberate actions aimed at shifting the balance from persistence towards abandonment or redirection. Tactics identified in the literature include changes in top management, identification of alternatives, regular evaluations, unambiguous feedback, improvement of organisational tolerance for failure, and de-institutionalisation of the project (Keil M. , 1995a; Montealegre & Keil, 2000; Pan, Pan, & Flynn, 2004). From an approach-avoidance perspective, some of these tactics seem to make logical sense when related to the contingencies driving commitment to a failing course of action that were identified in the study in chapter 2. For example, unambiguous feedback may be effective if commitment is driven by information asymmetry. Likewise, if commitment is driven by self-

justification, it will probably be effective if an actor that is untainted by previous decisions replaces the self-justifying decision maker. More relationships that can be made between drivers of commitment and de-escalation tactics from the literature are shown in Table 12.

<b>Contingency driving commitment</b>	<b>Potential de-escalation tactics</b>
Information asymmetry, completion effect and optimism bias	<ul style="list-style-type: none"> <li>➤ Unambiguously negative feedback (Garland, Sandefur &amp; Rogers, 1990, Snow &amp; Keil, 2002, Heng, Tan &amp; Wei, 2003b)</li> <li>➤ Regular evaluation of the project (Drummond, 1995, Keil &amp; Robey, 1999)</li> <li>➤ Early warning systems (Montealegre &amp; Keil, 2000)</li> <li>➤ Accuracy in project status reporting (Snow &amp; Keil, 2002)</li> <li>➤ Greater receptivity to bad news (Montealegre &amp; Keil, 2000)</li> </ul>
Self-justification	<ul style="list-style-type: none"> <li>➤ Separation of responsibility for initiating and evaluating projects (Keil &amp; Robey, 1999, Newman &amp; Sabherwal 1996)</li> <li>➤ Changes in top management or project championship (Keil, 1995a, Ross &amp; Staw, 1993)</li> <li>➤ Increasing organisational tolerance for failure (Keil &amp; Robey, 1999, Heng, Tan &amp; Wei, 2003a, Newman &amp; Sabherwal, 1996, Snow &amp; Keil, 2002)</li> <li>➤ Making negative outcomes less threatening (Keil &amp; Robey, 1999, Simonsen &amp; Staw, 1992)</li> </ul>

Sunk-cost effect, and risk-seeking bias	<ul style="list-style-type: none"> <li>➤ Publicly stated limits (Brockner, Shaw &amp; Rubin, 1979, Heath, 1995, Keil &amp; Robey, 1999, Simonsen &amp; Staw, 1992)</li> <li>➤ Setting minimum target levels (Keil &amp; Robey, 1999, Simonsen &amp; Staw, 1992)</li> <li>➤ Visibility of project costs (Brockner, Shaw &amp; Rubin, 1979, Montealegre &amp; Keil, 2000)</li> <li>➤ Availability of alternative investments (Keil, Mixon, Saarinen &amp; Tuunainen, 1995, McCain, 1986, Montealegre &amp; Keil, 2000)</li> </ul>
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Table 12 – Contingencies driving commitment and potential de-escalation tactics

What hasn't been explicitly recognised in the literature, however, is the role of the political environment in de-escalation. As such, little theory as yet exists on how political interests may be aligned towards a new course of action, and as such how to effectively de-escalate a project in a highly politicised environment. It has been recognised that more research is needed in this particular area (Pan, Pan, & Flynn, 2004).

This study applies existing knowledge of both political and de-escalation theory, to understand how an escalated e-government project was de-escalated in a highly politicised environment, in order to arrive at proposition that may extend the theory in this specific area.

## Method

The study in this chapter is a single, explanatory case study. It has been put forward that ‘how’ and ‘why’ questions have a more explanatory nature, and likely to lead to the use of case studies (Yin, 2009).

The case study addressed a so-called revelatory case, which has been acknowledged as valid rationale for a single case study. A revelatory case comprises a situation where the investigator has the opportunity to observe and analyse a phenomenon, which is rarely accessible to scientific research (Yin, 2009). As the political interests of actors involved in escalated e-government projects are often conflicting with public interests, and therefore can damage careers even in retrospect, information in this regard is rarely disclosed. However, during the course of investigation, one of the informants (key project staff member 1) of a particular case, project T, felt confident enough to open up due to the confidential nature of the interviews. As such, the opportunity to investigate the political objectives and tactics applied in a severely escalated e-government project arose largely coincidental during the data collection process.

### *Data collection*

During two hours of semi-structured interviewing of one of the informants for the study presented in chapter 2, this informant disclosed quite extensively on the political objectives and tactics that played a role in the escalation and de-escalation of the e-government project they had been involved in. This happened in response to the ‘what happened next and why’-question in the interview script. The investigator responded by asking the informant to elaborate on these

remarks. To extend and increase the reliability the data, triangulation of the account was done with the accounts of the other informants of this case and with documentary evidence collected for the case. This is known as converging lines of inquiry (Yin, 2009).

### *Analysis*

The general analytical strategy applied to structure and make sense of the retrieved data, was to develop a case description with regard to the political environment and the role it played in the de-escalation process of project T. The descriptive framework that was developed to accommodate this was the following:

1. Context
2. Political values
3. De-escalation tactics
4. Outcome

The specific analytical technique was that of explanation building. This procedure is specifically relevant for explanatory case studies, as the objective of this technique is to build an explanation about a case. A common way to apply the technique is by generating theoretical propositions that make sense of the processes and outcomes of the case. This is the technique of choice in the study at hand; the aim of the analysis is to arrive at theoretical propositions, logically following from the case description in the aforementioned framework, that help to explain how the project was de-escalated given its highly politicised environment.

To increase the validity of the inferences made from the data through the described analysis, two independent referees were asked to assess

whether the raw data indeed reflected the inferences made in the case description and discussion. The inferences were only valid if both referees supported the analysis of the data as done by the researcher. The referees were the same as those who did the assessment for the study in chapter 2.

### **Context**

As described in chapter 2, Project T was originally aimed at replacing legacy back office systems of a government agency, but objectives of the project shifted towards implementation of functionality for new legislation during execution and later towards only the stabilisation of part of this functionality. The change of requirements and problems with innovative technology had driven the project into an ineffective course of action. Moreover, lack of accurate information on the problems followed by optimism bias, self-justification, and sunk-costs led key decision makers to sustain an ineffective course of action for four-and-a-half years. The damage of this escalation of commitment was that almost twice the original budget was depleted with only marginal results.

Initiation of the de-escalation of project T was the result of an intervention by an independent reviewer hired to review the project and advise the project executive as it went ahead. Replacing a colleague, the reviewer started his assessment of the project three-and-a-half years after the project was initiated. In the first months of his assignment, the problems with the project's realisation mounted with a number of bad releases. The reviewer therefore started to raise concerns, advising the project executive to redirect the project's course of action significantly.

It became clear to the reviewer that there was a significant reluctance to redirect or terminate the project due to a number of political impediments associated with de-escalation primarily for the project executive. For example, the project executive seemed to not want to accept any negative feedback that was given. Such feedback was dismissed with a strong but unfounded belief that the course of action would eventually be successful.

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“And then [the reviewer] said, and also wrote down: ‘If I were you, I would start worrying and re-direct.’ [...] And their reaction was: ‘They’re saying that it is going better now, so first have another look.’”

*Key project staff member 1*

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As the problems endured and rationalisations for continuation lost their credibility, the project executive realized that something had to be changed, as the course of action would not become successful by itself. However, the political impediments were still in place. Hence, the reviewer devised a strategy for de-escalation that involved deliberate tactics to overcome the political impediments.

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“Then [the reviewer] said: ‘I still see some light, but we need to take some important measures. [...]’ And then in the following week, in a couple of sessions, we discussed it further: ‘How should we proceed? What needs to happen now?’”

*Key project staff member 1*

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### **Political values**

As mentioned, political acts are intentional acts of influence to enhance or protect values of self-interest. Such values may be classified as deference, safety, or income (Laswell, 1939). From the case data it can be inferred that professional reputation, or prestige, was the primary value the project executive obtained through his role and acts of influence in Project T. Professional reputation, which would be classified as a form of deference, is a value that could enhance the project executive’s career. As such, it would likely also indirectly lead to enhanced income. It was recognized that the project executive intentionally associated himself with the project and positioned himself as a change champion. He was indeed credited for his role as such and managed to raise political support and funds for the project because other stakeholders felt they would benefit from the project through the enhanced reputation it would give to the entire organisation.

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“[I]t was really the project of the project executive, who had raised the money for it in The Hague. And that was extraordinarily cunning and good, that he recognised that the legacy had to be replaced and that he invested in the organisation. That was an outstanding feat by [the executive].”

*Key project staff member 1*

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“[T]here were and still are people within [the organisation] who say: ‘This must become a beautiful system, which will have the potential to deliver future benefits for us as an organisation. Or a future strategic position. If we do this well, we will be able to take over pieces of this and this agency or we can arrange it splendidly for the entire State.’”

*Key project staff member 1*

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“[The project executive] had been the great advocate of the project, also internally. He had always said: ‘I’m the executive and I will ensure that it will go well. [...] I’m completely behind this and it will be a big success.’ So within his own organisation, [the project executive] was the figurehead of the project, because ‘this is our future’. And also externally.”

*Key project staff member 1*

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As the problems of the ineffective course of action became increasingly clear and rationalisations were losing credibility, the political objective for the project executive shifted from enhancing towards protecting the value of professional reputation. If the problems would become visible to organisational superiors and public officials, it would pose a significant threat to the executive's professional reputation and subsequently his career prospects. Therefore, the executive's interest to protect his professional reputation from the threat of public association with the ineffectiveness of the project formed a serious impediment to de-escalation.

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“There are two things you will have to do when you terminate the project; you will have to say to your superiors ‘the money is gone’ or ‘we’re going to do something completely different, maybe it’s not gone, but we still have a huge problem’.”

*Key project staff member 1*

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“If you look at [the project executive], he has a drive, but he also put a lot of his prestige in this project.”

*Key project staff member 1*

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“We were getting into a situation, that we were afraid that [our superiors], but also within Parliament questions would start to be raised: ‘Why is [the project] still not completed?’”

*Key project staff member 2*

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“[We were afraid] that we would get questions. That we would get into trouble. ‘What did this cost us? Why did it take so long?’ [...] I think we were lucky that there were too many other projects that were going wrong, in all honesty. That’s the way it works in the end. So that can create a lot of trouble.”

*Key project staff member 2*

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### **De-escalation tactics**

To overcome the political impediments to de-escalation, a number of de-escalation tactics were sequentially applied.

#### *Unambiguous negative feedback*

The first tactic that played a crucial role in the de-escalation of project T was the unambiguous negative feedback delivered by the independent reviewer with regard to the state and prospects of the project and its approach. It took some time for the reviewer to obtain sufficient recognition for his concerns. Until that moment, the project executive had been primarily dependent upon feedback from the

project organisation itself, which was mostly optimistically biased. Furthermore, because of the need to justify earlier decisions, the project executive did not want to accept any negative feedback that was given.

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“So [the reviewer] looked for another month and had some more talks. Then [he] came back and said [...]: ‘Sorry, but it has not become better. I’m still not convinced. You will not be able to make this work.’”

*Key project staff member 1*

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The independent reviewer needed to give negative feedback over a longer period of time and gain support from senior project associates to eventually convince the project executive that the course of action was ineffective. The acknowledgement by the project executive that the course of action would not lead to desired results was an essential condition for other de-escalation tactics to become viable. As such, unambiguous negative feedback was the first step towards de-escalation in the highly politicised environment of project T.

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“And then we were sitting with [the executive], and [the senior project associate] said: ‘[I] think [the reviewer] is right. We’re not going to pull this off. Something is really wrong here.’”

*Key project staff member 1*

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“Well, when the [senior project associates] came clean, [the project executive] understood that he could not hold his position.”

*Key project staff member 1*

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*Making negative outcomes less threatening*

Although the project executive acknowledged that the course of action was failing, termination or redirection remained an unviable option for him because of the political implications that this would have. The second de-escalation tactic was therefore to make the negative outcome less threatening by doing two things.

First, an alternative course of action was investigated for feasibility in a very short timeframe, which would salvage at least part of the value that the project should have delivered; operationalization of the main part of the new legislation. Applying a development method that was especially suitable for fast delivery of results, called Agile Scrum, met this need. This alternative had the potential of delivering a minimally viable result within a relatively short time frame and for acceptable additional costs. The functionality developed so far would be consolidated as much as possible. The executive board decided to organise a Proof of Concept that would run for no longer than two months. The Proof of Concept was a success and the negative outcome of de-escalation became somewhat less threatening because there was an alternative course of action.

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“And than we agreed on a Proof of Concept [...]. A sort of very basic system. To replace.”

*Key project staff member 2*

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“[Now] we had trust in the foundation. So in terms of the architecture, the way of working, those kinds of things. And that was an important turning point for us.”

*Key project staff member 2*

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Second, impression management was applied to create a public image that the project had succeeded. To do this, the emphasis in official communication was on the results obtained with the alternative course of action. The results that were not obtained, legacy replacement and full implementation of the new legislation, and the much higher costs were downplayed or obscured. One deliberate action to support this image was to end the project as if it had been completed.

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“[W]hat happened was that, with the state-level attention to big e-government projects, the executive organisation wanted to remain under the radar.”

*Key project staff member 1*

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“And the original goal of the project was the complete replacement of the legacy. That goal we simply never achieved. We said at a certain moment: ‘[...] Now we will only deliver a number of parts still under the name of [project T]. And now we’re going to put a thick stripe through the name [project T]. Because that name is heavily tainted.”

*Key project staff member 2*

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“The only thing of political importance was [the new legislation]. That is a new law, with commitments towards Parliament, so that has to go ahead. [...] What you see often is that the first elements get most attention, also in terms of PR. So that was extensively celebrated within [the agency].”

*Key project staff member 2*

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“[Project T] was completed [six years after initiation].

*Parliamentary documentation*

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### *Withholding and distorting information*

So now the project executive had recognised the ineffectiveness of the course of action and had an alternative course of action that could create an impression that the project was a success. A final de-escalation tactic was needed to ensure that the actual problems that the project had encountered would not be uncovered. This tactic was to withhold or distort any information that could make visible the real

reasons that project T had consumed twice the original budget to deliver only partial results and prevent association of the project executive with this negative outcome.

A number of things stand out with regard to the official information concerning the outcome of project T. First, any questions related to why the project consumed twice the initial budget were answered by suggesting this was due to the changes in project scope. In this way, responsibility for the budget overrun was placed outside the direct control of the project executive team.

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“[Project T has] overrun in costs, due to in between changes in the scope of the project.”

*Parliamentary documentation*

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“The increase in costs of [Project T] can be attributed to expansion of the scope of the project.”

*Parliamentary documentation*

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Second, questions with regard to the incompleteness of the results of the project, another undeniable fact, were countered with evasiveness. Either the response was not really an answer to the question or in the response it was suggested that the replacement of the legacy was actually part of regular operations rather than an objective of project T.

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“Why is the new system only being used for [the new legislation]?”

[Project T] delivers a system according to ‘Service Oriented Architecture’ (SOA). Part of this architecture (‘services’) is already being used to replace parts of existing systems [...]. Furthermore, with the realisation of the different parts for [the new legislation] a foundation has been laid for further replacement of existing systems.”

*Parliamentary documentation*

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“The old systems will be replaced gradually over the coming years. This will happen in an organic fashion, in which parts of the old systems will gradually be replaced by new ‘services’. Replacing the old systems is part of our own project portfolio and as such will be funded from the regular operational budget of [the executive organisation].”

*Parliamentary documentation*

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### **Outcome**

The outcome of the sequence of de-escalation tactics described was that the project was indeed de-escalated, despite the highly politicised environment, and it was subsequently terminated with partial results. At that point, 193% of the initial budget had been consumed. Nonetheless, and this was considered by those involved to be perhaps the biggest success, those responsible for the project had

managed to terminate the project with minimum damage to their professional reputations.

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“Much smaller projects have come in publicity much bigger than this one. So that was a success.”

*Key project staff member 2*

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Another interesting outcome of the de-escalation process was that independent auditing concluded that although there had been challenges, the project could not be criticized for lacking control. As such, the official documentation conveys a message that resembles: ‘although the patient is deceased, the surgery was successful.’

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“[The auditor] concludes that [the executive organisation] has taken sufficient measures to be in control of [project T].

*Parliamentary documentation*

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“[The auditor] closes with the finding that [the executive organisation] has taken steps for a better governance of projects, but that it is challenging to find a balance between ambitions, resources, and time.”

*Parliamentary documentation*

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## Discussion

The de-escalation of project T in a highly politicised environment can be modelled as a process, as it is depicted in Figure 12.

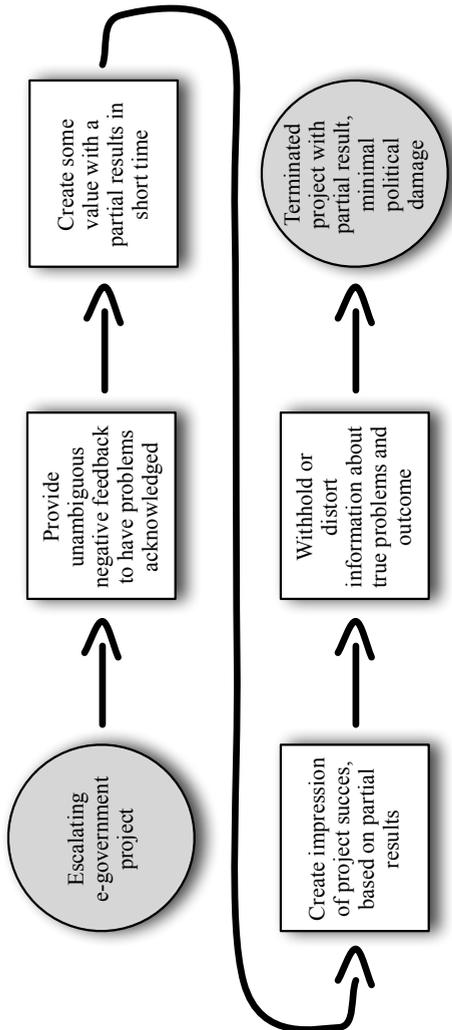


Figure 12 - De-escalation process project T

From the findings with regard to the de-escalation process in the highly politicised environment of project T, a number of theoretical propositions can be generated. First, for any other de-escalation tactics to be applied, unambiguous negative feedback has to ensure that the ineffectiveness of the course of action and the need to act is recognised by the key decision maker.

**TP4.1** Unambiguous negative feedback with regard to the effectiveness of the course of action is an essential tactic to be able to initiate any other de-escalation tactics in a highly politicised environment.

Second, the case evidence seemed to point at the protection of the professional reputation and career prospects of the project executive as the primary political value, once the problem of e-government project escalation was identified. De-escalation tactics have to consider this value in order to be effective.

**TP4.2** De-escalation tactics in highly politicised environments should reflect the most important political values of key decision makers in order to be effective.

**TP4.3** Protecting the professional reputation and career prospects of decision makers responsible for the project, is the primary political value in the situation of an escalating e-government project.

Project T showed that the professional reputation and career prospects of the project executive could be protected by finding a way that the project executive could be associated with success rather than failure. Two tactics were applied effectively to this end. First, a partial result

was obtained in short time, ensuring some value from the project and thereby creating an impression that the project was successful. Second, any information that could suggest otherwise and thus associate the project executive with failure rather than success was withheld or distorted. This leads to the following two theoretical propositions.

**TP4.4** Finding a way to create some value from a project in a short time, and subsequently creating the impression that the project is a success based on this partial result, is an effective de-escalation tactic in highly politicised environments.

**TP4.5** Creating an impression that a project is a success while it only delivered partial results is only an effective de-escalation tactic in a highly politicised environment if the information on the true problems and outcomes of the project is withheld or distorted.

The propositions based on the case study at hand show remarkable consistency with a case study of the Denver airport baggage handling system project (Montealegre & Keil, 2000). In this study, the researchers also proposed that in the de-escalation process it is first necessary that problems are recognised and subsequently that a new course of action needs to be identified and legitimised. Development of a new course of action explicitly involved the *managing of impression*, as a way to avoid embarrassment for political actors before an exit strategy could be implemented.

This study feeds into existing understanding of the project de-escalation process, as was the objective of this dissertation. It did so by validating existing notions of this process, but also by providing

more profound insights into political manoeuvring and the political values involved in the e-government context.

The aim of the next chapter is to conclude on the research question by aggregating the findings of this chapter with those of chapters 2 and 3. Furthermore, limitations of the entire study and recommendations for future research will be discussed.

## **Chapter 5      Towards Better Theory on the Governance of E-government Projects**

“When riding a dead horse, the best strategy is to dismount”

Dakota Indian proverb

The consolidation of the findings and theoretical propositions put forward by this research provides a process model as depicted in Figure 13. As such, this process model forms a plausible answer to the research question.

Taking a process perspective, this study suggests that an e-government project is unlikely to be effective over the entire course of the project. It is whether the level of commitment to the chosen course of action is high that determines if the process of e-government project escalation will unfold, when the course of action becomes ineffective in any way. Both contingencies in e-government projects that can drive ineffectiveness and commitment to the course of action have been identified as part of this conclusion.

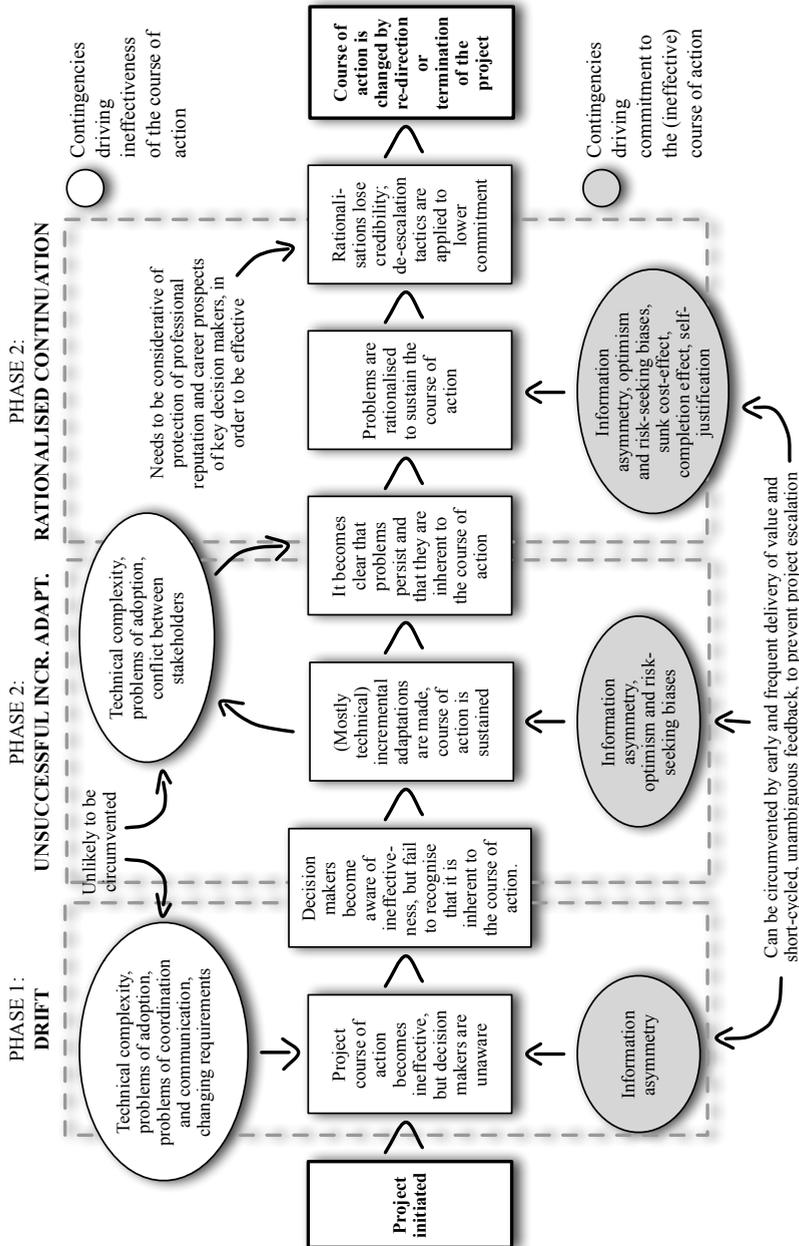


Figure 13 – Process model for e-gov. project escalation

Technical complexity, problems of adoption, problems of coordination and communication, changing requirements and conflict between stakeholders are likely to be relevant contingencies for ineffectiveness of the course of action in e-government projects, consistent with previous work in the project risk literature (Bekkers & Homburg, 2007; Cats-Baril & Thompson, 1995; Cerpa & Verner, 2009; Gil-Garcia & Pardo, 2005; Lee & Kim, 2007; Tsai, Choi, & Perry, 2009). The model proposed here further finds that these contingencies tend to be differentially salient in different stages of the e-government project escalation process. Technical complexity, problems of adoption, problems of coordination and communication and changing requirements tend to trigger trouble early in the process. Later in the process, attempted remedies only result in more ineffectiveness as stakeholders get into a state of conflict and the remedies only result in more technical problems and adoption issues.

The escalation phases of Mähring and Keil (2008) constitute an empirically plausible structure for understanding how the e-government project escalation process unfolds. This study brought forward an extension of this theoretical model, by suggesting that different contingencies can add to ineffectiveness or commitment to ineffective courses of action and that different contingencies can become salient in different phases of the escalation process. That is, the findings suggest that commitment in the drift phase of the escalation process is mostly an unconscious phenomenon driven by information asymmetry and it is subsequent lack of awareness of the presence of problems that results in a course of action remaining unaltered. This part of the model builds on existing notions of the role of information asymmetry in the project escalation process (Keil, Rai, Mann, & Cheney Zhang, 2003; Ross & Staw, 1993). As the escalation process moves into subsequent phases, commitment becomes more

consciously driven, first through biased decision making and later through conditions that are used to rationalise continuation. Here, the model incorporates insights from previous studies on project escalation with regard to the roles of optimism, risk-seeking biases, sunk-cost effect, completion effect and self-justification (Brockner, 1992; Guah, 2008; Keil, 1995a; Keil 1995b).

It was also suggested in this study that certain practices are effective in preventing e-government project escalation. The identified practices are incremental development and short-cycled unambiguous feedback. These are suggested to provide earlier and better feedback to decision makers, reducing the likelihood of information asymmetry and decision-making biases. As such, these practices would also be effective in reducing the likelihood of contingencies used to rationalise continuation, as the escalation process will be exited a priori, before these contingencies can become salient.

Finally, the research presented a revelatory case study, which uncovered the politicised environment of escalating e-government projects, and how the political values in this environment form impediments to de-escalation. This study brought the proposition that de-escalation tactics in e-government projects should reflect the political values of interest to key decision makers in order to be effective. Based on the notion that the protection of professional reputation and career prospects is a particularly important political value in escalating e-government projects, a process model was provided with a plausibly effective de-escalation strategy in the highly politicised environment of such projects.

### **Implications for practice**

The propositions and models put forward in this study provide practitioners with potentially highly valuable insights on how to recognise, understand, prevent or exit e-government project escalation. Mähring and Keil (2008) suggested that the seeds of escalation are sown early. Indeed, the empirical evidence suggests that it is the lack of accurate information about ineffectiveness in the drift phase, and the subsequent failure to recognise that the course of action needs to be adapted, that sets the stage for escalation.

There was a call in the literature for more research on the e-government project escalation process, in order to prevent perpetuating previous mistakes and maximize gains while minimizing resources spent (Yildiz, 2007). This research has made an effort in answering that call. It provides practitioners with insights that are empirically supported, on how to forestall and proactively address project escalation. This includes not only asking ‘what will determine the effectiveness of my project?’ when initiating an e-government project, but also asking ‘how will we identify any ineffectiveness quickly and ensure that we will be able and willing to redirect or terminate the project when that happens?’

In cases of escalated projects, an ineffective course of action was allowed to endure until so much was invested that re-direction or termination had become an unviable option for decision makers. The findings suggested that this was possible because of information asymmetry in an early phase of the escalation process, resulting in a situation where different motivations for continuation became salient in a later phase. Practitioners can learn from this that project escalation can be prevented by early and continuous feedback with

regard to the effectiveness of the course of action, and facilitating swift and decisive adaptation of the course of action when it becomes ineffective. Short feedback loops and the ability to adapt can be supported by certain development methods, like Agile Scrum, and by securing independent project review since suppliers often have incentives to withhold certain information.

Also, this research has exposed some of the political values involved in escalated e-government projects, which may form context-specific impediments to de-escalation. As the revelatory case project T showed, practitioners may need to engage in de-escalation tactics that are effective to overcome such impediments, but are questionable from an ethical point of view. That is, de-escalation may require a trade-off between being fully transparent and honest, and doing what is most effective to protect the public interest when spending large amounts of public resources. This research has shown that practitioners can leverage small successes to obscure big mistakes in decision-making, and that this may be necessary to protect the professional reputations and career prospects of those responsible for the e-government project escalation episode. This makes a point to reflect on how to evaluate decision makers that acknowledge previous mistakes by redirecting or terminating ineffective e-government projects, both by their political superiors and in the public eye. Should they be punished for previous mistakes, or respected for having the courage to admit them and not letting them grow into bigger problems? In the light of this question, the famous English poet and moralist Samuel Johnson once rightfully stated that those who can be blamed for the fewest faults are usually those who are willing to admit them the quickest.

### **Limitations and recommendations for future research**

Some limitations of this study also need to be addressed. The first and foremost is related to the use of case study research aimed primarily at theory development and proportionally theory validation. Applying this method, the study relies on *analytic* generalizability. Unlike *statistical* generalizability, which means generalising the findings of a statistically analysed sample to be representative for each other case in the whole population or universe, analytic generalizability means that the research findings are generalised to expand or develop theory (Yin, 2009). This implies that the findings cannot be generalised to the entire population of e-government projects or the larger population of IT projects without recognizing the particularities of each case in the population. That is, the theoretical propositions may not be equally valid in all situations. For example, incremental development may not always be able to deliver on its merits with regard to early value delivery or adaptability. Anyone applying the theoretical framework of this study in practice should therefore acknowledge and accommodate the specificities of the project to which it is applied.

Based on the aforementioned limitation, an opportunity for further research is to subject the theoretical propositions of this study to more intensive empirical validation to strengthen their generalizability. Especially statistical research can contribute to assess the generalizability of the theory to different populations, like the entire population of e-government projects, the entire population of IT projects, or even the entire population of complex projects. Statistical validation can also be valuable to specify rather than to generalize. For example, does it matter whether an e-government project is G2G or G2C for the validity of the theoretical propositions?

Another limitation that needs to be noted was that the research findings are bound to a specific context. The research focussed specifically on IT projects in the Dutch government context. However, the particularly high incidence of project escalation and the level of public interest within this specific context justified the research in terms of relevance. This was supported by the fact that in 2013 the Dutch government formed a parliamentary commission to investigate the problem of failing e-government projects in the Netherlands. This commission presented their findings in 2014 and these included an observation that even within this specific context escalation is a sizable problem. Estimates of the amount of resources lost on failing e-government projects in the Netherlands range from two to five billion Euros pro annum.

The limitation of context specificity nonetheless provides the opportunity to investigate the applicability of the theory presented in this research to other contexts. For example, do the theoretical propositions hold in non-IT government projects, or in non-government IT-projects? Moreover, it would be interesting to investigate whether the theoretical framework can be used to construct a predictive model. This would involve the investigation of a larger sample, stratified on the parameters in the theoretical propositions of this study and observe whether this leads to consistency in the predicted escalation outcomes.

One specific area that this study explored might also be an interesting vein for future research. Practices of Agile Scrum were proposed as effective in diminishing the likelihood of escalating commitment. Hence, it would be of interest to see if this can be further validated to test, for example, whether there are situations where these practices will not be effective in the proposed way and if these practices can be

applied in projects without using the Agile Scrum methodology. Moreover, it would be of some value to try to better understand if there are other practices that have similar potential?

The aforementioned limitations and recommendations are not considered to be exhaustive. German writer and statesman Johann Wolfgang von Goethe once said that admitting ones limitations is what brings one closest to perfection. I therefore hope that this study contributes to our understanding of the governance of complex projects not only by the theory it put forth, but also (and perhaps even more so) by its limitations, including those that I did not yet identify here.

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## Appendix

### Appendix 1 – Interview guide

Project ID / name:

Interviewee name(s) and role(s):

Interviewer:

Date:

Start time:

End time:

**Introduction**

My name is Niels Groen, I am 28 / 29 years of age and I am a PhD fellow in Governance and Policy Analysis at the Maastricht Graduate School of Governance.

I am here today for an interview with you to collect data for my PhD research. My research is aimed at understanding the process of e-government project escalation. Through this interview, my intention is to learn about this process from the practical experiences of your project. I intend to do this by reconstructing the project's process and features herein that have led to issues in the realisation and / or obstacles in resolving these issues.

Today, I am the interviewer and you are the interviewee. The interview is semi-structured, which means that I have prepared some questions, but the purpose is to converse freely. For the purpose of solid retrieval of all of the information, this interview will be audio recorded. We will take about two hours for the interview.

**Question 1**

Could you please introduce yourself?

- What are your name, personal and professional background, and (former) role in the project?

**Question 2**

Could you please describe the project from beginning to end? Please be specific about dates.

- What was the context, the initial objective(s), rationale, stakeholders, approach, planning and results? Please be specific about dates.

**Question 3**

What issues were there in the realisation of the project?

- Could you please describe the process of how these issues arose (what were their causes)? Please be specific about dates of these events and the points where additional resources were committed (as reflected on Rijks ICT Dashboard).
- What happened consequently? Was the issue (quickly) resolved or did it endure? How come and why?

**Question 4**

Are any important aspects affecting the process of the project that we not yet discussed?

**Question 5**

Can you share any documents about the aforementioned?

**Close**

Thank you for your time and sharing your experiences.

For the purpose of validity, I would like to talk to any other knowledgeable informants of the project. Can you suggest any with which you can bring me into contact?

This interview will be transcribed. The transcript will be shared with you for your approval, before any information you have given me is used in the research. The records and transcripts from the interviews will be treated confidentially and any information from it will be made anonymous for use in the research and its reports.

Would you like to receive a copy of the dissertation after its completion?  
Do you have any remaining questions?

Appendix 2 – Interview guide extension for chapter 3

**Question 3 ad.**

- How was feedback regarding the effectiveness of the project organised?
- How was ensured that the course of action could be adapted to remain effective?
- What was the effect of this approach on the visibility of progress and adaptability?

## **Valorisation**

On the day that I write this paragraph, news has come out that the Dutch Minister of Defence has terminated an e-government project with little result, after it had run for 11 years and consumed almost 1 billion Euros (estimates by the Dutch General Chamber of Auditors).

Escalation of projects aimed at implementing IT in the public sector has been a headache to the policy practice for almost three decades, not only in the Netherlands, but also in many other countries, including the United States of America, the United Kingdom and South Korea. In fact, over the course of this study, a parliamentary committee in the Netherlands conducted a research on the on-going problems with the effectiveness of e-government projects and wastage of public resources involved. I was asked to inform this committee based on my research and many of the findings of this study were included in the committee's final report.

Sometimes governments have to undertake risky initiatives with taxpayer's money, such as e-government projects. This study articulates that the specific context of e-government projects make them unlikely to go from A to B in a straight line. Many things can and will go wrong. There are however practices available regarding the governance and management of such initiatives that significantly reduce the likelihood that things going wrong will also result in massive wastage of public resources. Such practices have been proposed by this study.

Besides implementing proposed practices for the governance and management of e-government projects, this study calls for a cultural change. As articulated in chapter 4, the current political values in the Netherlands favour commitment over re-direction or termination in

case of failing e-government projects. It seems that the Dutch government has developed a mantra of infallibility. Since no organisation is of course in absence of error, this mantra only results in hiding or denying failures. This effect is strengthened by an eagerness of the public to find scapegoats when failure in government is exposed. Unless a culture is grown in which we value those who acknowledge failure, taxpayer's money will continue to be used irresponsibly in the development of e-government and in many other contexts.

## **Summary in Dutch / Samenvatting**

De toepassingen van Informatie Technologie (IT) zijn niet meer weg te denken uit de hedendaagse samenleving. Ook in de publieke sector is het belang van IT inmiddels onomstreden; voor het verhogen van de effectiviteit van de interne bedrijfsvoering, maar ook van communicatie en transacties met burgers, bedrijven en andere overheden.

Ondanks de intuïtieve aantrekkingskracht van e-overheid is de implementatie ervan beladen met problemen. IT-projecten, zowel in de private als in de publieke sector, worden in het algemeen gekenmerkt door een hoge mate van problematische realisatie. Deze problematiek komt tot uiting in forse overschrijdingen van budgetten, en vaak met slechts gedeeltelijk of zelfs geheel niet het gewenste resultaat als uitkomst.

Ondanks dat gebrek aan beheersbaarheid van IT-projecten niet exclusief toebehoort aan de publieke sector, zijn het wel de gevallen van onbeheersbaar geworden projecten in dit domein die de meeste controverse veroorzaken. Een belangrijkere reden is dat publieke IT-projecten gemiddeld veel omvangrijker zijn in termen van benodigde investeringen, en dat de verspilling die geassocieerd is met mislukkingen navenant groter is dan in de private sector.

Er is al veel onderzoek gedaan naar het succes of falen van IT-projecten, zowel in de publieke als in de private sector. Deze onderzoeken zijn voornamelijk gericht geweest op het verklaren van variantie in de uitkomst van IT-projecten aan de hand van succes- of faalfactoren. Het onderzoek naar succes- en faalfactoren in IT-projecten heeft echter nog niet geleid tot significante verbeteringen in de praktijk. Een verklaring hiervoor is dat het denken in succes- en

faalfactoren leidt tot een (te) vereenvoudigd denken over de complexe processen van IT-projecten.

Deze studie is er op gericht een rijker begrip te creëren over hoe publieke IT-projecten falen. Hiervoor is een procesbenadering gekozen in tegenstelling tot een factorbenadering. Hierbij werd een bredere definitie gehanteerd van wanneer het proces van een project als succesvol wordt beschouwd. Behalve de zeldzame oplevering volgens plan, wordt tijdelijke aanpassing op onvoorziene problemen als succes gezien. Dergelijke aanpassing kan betekenen dat het project wordt bijgestuurd met het alsnog behalen van de resultaten tegen redelijke kosten tot gevolg, of het stopzetten van een project met minimale financiële schade. In dit geval is falen dus een proces waarbij men onveranderd de originele koers volgt, terwijl het project niet de gewenste resultaten levert en het project meer en meer middelen consumeert. Dit specifieke proces is bekend als project escalatie en wordt gedefinieerd als *een situatie waarin beslissers volhouden meer middelen te investeren in het project, ondanks negatieve feedback over het vermogen van het project om de gewenste resultaten te leveren* (Brockner J. , 1992; Staw & Ross, 1987). De bijbehorende onderzoeksvraag voor deze studie is:

- Hoe verloopt het proces van project escalatie van publieke IT-projecten?

In hoofdstuk 2 worden vijf case studies gepresenteerd, drie van geëscaleerde projecten en twee van getroebleerde maar tijdig bijgestuurde projecten. Deze cases zijn geanalyseerd op gebeurtenissen en omstandigheden in het proces die leidden tot een ineffectieve projectkoers en gebeurtenissen en omstandigheden die leidden tot de neiging om vol te blijven houden in een ineffectieve koers. Deze gebeurtenissen en omstandigheden, waarvan vooraf niet

met zekerheid kan worden vastgesteld of ze zullen optreden in het project, noemen we contingenties. Voorafgaand aan de analyse is een synthese gemaakt van elementen uit bestaande studies ten aanzien van deze twee type contingenties. Vervolgens is onderzocht of er in de cases sprake was van projectescalatie, in de zin dat er een ineffectieve koers was waarin men geneigd was vol te houden, en welke contingenties hieraan ten grondslag lagen, en in welke fase van het proces. Dit leidde tot een aantal proposities.

De eerste propositie is dat ineffectiviteit in publieke IT-projecten wordt veroorzaakt door technische complexiteit, adoptieproblemen, conflict tussen belanghebbenden, coördinatie- en communicatieproblemen en/of veranderende eisen. Het lijkt onwaarschijnlijk dat de omvangrijke en vaak complexe IT-projecten van de overheid niet met één of meerdere van deze contingenties te maken gaat krijgen tijdens de uitvoering. Wat echter maakt dat sommige projecten escaleren en anderen niet, is verwerkt in de tweede propositie; publieke IT-projecten escaleren wanneer er sprake is van een neiging tot volhouden in een ineffectieve koers door een sunk-costeffect, voltooiingseffect, zelfrechtvaardiging, informatie-asymmetrie en/of optimisme en risicozoekend gedrag.

De analyse liet ook zien dat de genoemde contingenties relevant zijn in verschillende fases van het escalatieproces. In de derde, vierde en vijfde propositie wordt dan ook gesteld dat contingenties die leiden tot ineffectiviteit vooral relevant zijn in de eerste twee fases van het escalatie-proces. In de eerste fase van projectescalatie wordt er desondanks volgehouden omdat er sprake is van informatie-asymmetrie; beslissers zijn simpelweg niet op de hoogte dat het project ineffectief is en laten het dus door gaan. In daarop volgende fasen worden andere contingenties relevant die bijdragen aan de neiging tot volhouden. Eerst is er optimisme dat het wel goed komt en

men is bereid risico te nemen om geen verlies te hoeven accepteren. Later volgt dat beslissers diverse omstandigheden gebruiken om vol te houden en dit te rationaliseren. Dit betreft het rechtvaardigen van nieuwe investeringen op basis van reeds gemaakte kosten (sunk-costeffect), het idee dat het project bijna is voltooid (voltooingseffect) en het beschermen van reputatie door niet terug te komen op eerder gemaakte beslissingen (zelfrechtvaardiging).

In hoofdstuk 3 is een case study gepresenteerd van een project waarbij een specifieke aanpak was gehanteerd voor snelle feedback en frequente mogelijkheid om bij te sturen. Omdat dit project effectief bleek in het voorkomen van projectescalatie, is het als een kritieke case study gebruikt om theorie te genereren over hoe projectescalatie bij publieke IT-projecten te voorkomen. Uit de gestructureerde beschrijving van de case komen twee proposities naar voren. De eerste propositie is dat een aanpak waarbij het eindresultaat van het project incrementeel in korte iteraties wordt opgeleverd, waarbij ieder increment al waardevol is, de kans reduceert op volhouden in een ineffectieve koers, omdat contingenties die te maken hebben grote belangen (sunk-costeffect, zelfrechtvaardiging en risicozoekend gedrag) minder waarschijnlijk zijn. Dit komt doordat door de beslissingen over continueren frequenter worden genomen en de belangen per beslissing nog relatief klein zijn. Bovendien is er na iedere succesvolle increment reeds sprake van opgeleverde waarde uit het project, waardoor er minder verlies hoeft te worden genomen bij bijsturen of stoppen. De tweede propositie is dat in dezelfde aanpak sprake is van kortcyclische en betrouwbare feedback over de effectiviteit van het project, omdat het gebaseerd is op waarneembare, werkende resultaten. Dit verlaagt de waarschijnlijkheid van contingenties die leiden tot volhouden in een ineffectieve koers als gevolg van onnauwkeurige of ontbrekende informatie

(informatieasymmetrie, voltooiingseffect, optimisme) en daarmee de kans op projectescalatie.

Hoofdstuk 4 omvat een onthullende case study die inzicht geeft in de politieke motieven die een rol spelen bij de mogelijkheid tot de-escaleren van een publiek IT-project. Aan de hand van de case is een procesmodel gepresenteerd hoe een publiek IT-project in deze politiek beladen omgeving effectief kan worden gede-escalerd. Propositionen die hieruit voortkomen zijn (1) dat het de-escalatieproces dient te beginnen met onomstotelijke feedback over de ineffectiviteit van de gekozen projectkoers, (2) dat de in het de-escalatieproces rekening gehouden dient te worden met het belangrijkste politieke motief in deze context, (3) bescherming van persoonlijke reputaties, en (4) dat dit mogelijk is door in korte tijd een gedeeltelijk succes te behalen met een alternatieve aanpak en hiermee te representeren dat het project geslaagd is en (5) informatie die de werkelijkheid over het succes van het project weergeeft achter te houden of te verdraaien.

In hoofdstuk 5 wordt een integraal procesmodel gepresenteerd, waarin de bevindingen uit de voorgaande hoofdstukken zijn opgenomen. Tevens worden enkele implicaties van de studie behandeld; de betekenis die de bevindingen hebben voor hoe publieke IT-projecten worden aangepakt en aangestuurd, en de ethische vragen die studie oproept. Tot slot worden de limitaties van de studie besproken en suggesties gedaan voor toekomstig onderzoek.

## Curriculum Vitae

Niels Groen

Niels Groen was born in Hoorn, the Netherlands, in 1984. After finishing his Master of Science in International Business at Maastricht University, he started working as a management consultant and project manager for IT projects in the public and private sector. In recent years he has been advising government agencies and corporates on how to increase control in complex and unpredictable organisational processes, like large-scale IT projects, using principles of Agile and Lean management. He is married to Monique en has a son (Jens, 2 years old).

### Professional record

Management consultant at BlinkLane Consulting (2012 – present)

*Amsterdam*

- Senior management advisor on project and process control based on Agile and Lean management principles. Clients include: Royal Philips, Achmea, Ministry of Education, UWV, and Nationale-Nederlanden.

Management consultant at DCE Consultants / Altran Technologies (2007 – 2012)

*Amsterdam*

- Project manager and project management advisor for IT projects in the public and private sector. Clients include: ING, Ministry of

the Interior and Kingdom Relations, City of Amsterdam, AEGON.

Board Member at Academic Advisory UniPartners (2005 – 2006)

*Maastricht*

- Responsible for commercial acquisition of research and consultancy assignments for SME's. Project manager of several projects.

### **Academic record**

Master of Science in International Business (2007)

*Maastricht University*

- Major in Strategy and Innovation: International Business Research, Innovation and Human Resources Management, Organisational Change and Consultancy, International Competitive Analysis and Strategy, Entrepreneurship and Innovation, and Alliances and M&AS.
- Thesis: *Links of a Strong Digital Chain – Determinants of Organizational Change in the Dutch Public Sector*

Bachelor of Science in International Business (2006)

*Maastricht University*

- Major in Marketing: Management Information Systems, Finance and Accounting, Management of Organisations, International Marketing Management, Consumer Behavior, Organization Design, Services Marketing, Brand Management, Personnel Economics, Strategic Marketing, Business Innovation and Forecasting for Economics and Business
- Foreign study period at Universidad de Zaragoza, Spain

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