UNDERSTANDING UNINTENDED RESPONSES TO PERFORMANCE-BASED MAINTENANCE CONTRACTS

A qualitative research into managing highway maintenance in the Netherlands.

Arshad A. Kasiem 4013808

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Understanding unintended responses to performance-based maintenance contracts

A qualitative research into managing highway maintenance in the Netherlands.

By
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Colophon

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Preface & Acknowledgement

This thesis is written to conclude my Master education of Construction Management & Engineering at the Delft University of Technology. The Master has introduced me to a wide variety of topics on management in the construction industry. My search on finding a topic that intrigued me to write my thesis on started with an interest in Asset management. Appealing to me was the overarching concept of AM, how it touches upon all departments in an organisation with the goal of maximizing value from all assets. However, this characteristic made the topic in its entirety too broad to be thoroughly researched in a master thesis. Hence a smaller scope was formed, which was ‘maintenance for highways’.

What triggered me to dive deeper into the topic of maintenance is the expected increased importance of it. The Netherlands, among many other western countries will be facing new demographic challenges such as an aging workforce, stagnating population growth, together with a changing climate. The world is changing rapidly, and the demand of the existing highway infrastructure is changing with it. How organizations deal with this on a day to day basis is therefore incredibly relevant.

The process of creating this thesis was difficult with lots of ups and downs from the beginning. Formulating a workable scope that was useful enough for a company to support and relevant enough for an academic research was challenging. The subsequent process of conducting a literature and empirical study was relatively easier but challenging to put it all together in the end.

This product would not have been created if it weren’t for the support of my committee and all the other people around me. In the first place a thank you to Huub de Lange at Rijkswaterstaat for accepting me as a graduation student. Rijkswaterstaat has given me the room to create my own case studies, and freely contact anyone within the organization as true colleagues. It was an incredible educational experience and a motivating environment to work in. And to my closest colleague of them all, my mentor during this period, Peter Thomas, thank you. Your involvement and guidance have been invaluable. You’ve helped me to find my way in the organization and been there to brainstorm with me whenever I was going through a difficult time.

I would further like to thank the chairman of my committee, Marcel Hertogh. You accepted my proposal and managed to make time for me despite your busy schedule. Your feedback has always been constructive, fair, and realistic. And last but not least, a big thanks to my two supervisors; Rob Schoenmaker and Mark de Bruijne. Rob, you’ve helped me from the very beginning. This thesis wouldn’t have been possible if it weren’t for you and your contacts at RWS. Your feedback has always been motivating and practical. Mark, your sharp feedback has helped me structure the report and to not lose sight of the bigger picture. It has helped me to create a comprehensive story.

On a personal note, I would like to thank my friends and family for supporting me throughout my career. My friends, many that I’ve known since the first year of the bachelor, have always managed to cheer me up during difficult periods. And finally, the deepest gratitude to my parents. They have supported me throughout my whole life with unconditional love. Mom and Dad, thank you.

Arshad A. Kasiem
Zoetermeer, March 2018.
List of abbreviations

AM  Assetmanagement/ Assetmanager
A-S  Agency-Stewardship
CON  Contractor, the employee
DBFM  Design Build Finance Maintain
LoS  Level of Service
OWN  Owner, the district’s asset manager
PBC  Performance-Based Contract
PBMC  Performance-Based Maintenance Contract
PC  Performance contract
PIN  Performance Indicator
PM  Project Manager
PMS  Performance Management System
PPO  Programmas Projecten & Onderhoud (Maintenance department RWS)
RWS  Rijkswaterstaat (Dutch highway agency)
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Executive summary

Introduction
Performance-based maintenance contracts (PBMCs) have been experimented with worldwide by government agencies, and have increasingly been adopted to outsource highway maintenance to the private market (NCHRP, 2009, p. 8; Porter, 2005, p. 3). This includes the Netherlands (Rijkswaterstaat, 2014). The use of performance contracts for maintenance is relatively new and agencies encounter numerous difficulties in working with these contracts. Many studies exist on the topic of performance contracts, but studies specifically aimed at understanding the problems in performance-based maintenance contracts are few (Sultana, Rahman, & Chowdhury, 2012, p. 288). This research contributes to filling that knowledge gap, by researching performance-based maintenance contracts used for highway maintenance.

The Dutch highway network grew significantly during the 60s and 70s. Many new kilometres of highway, bridges, and viaducts were constructed to accommodate the growing traffic needs (Rijkswaterstaat, 2007, p. 7). Most of those assets are nearing the end of their technical lifespan in the years after 2020 (Goldenbeld, Dijkstra, Aarts, & Schermers, 2016, p. 11; Rijkswaterstaat, 2017, p. 22). This wave of aging infrastructure that the Netherlands is facing in the coming years was the reason for this research to focus on the maintenance of the Dutch highway network.

Objective
The objective of this research is to contribute to the scientific literature on the practical application of performance-based maintenance contracts for highways. Research on the concept of PBMCs is plenty, but research on the practical application of PBMCs is limited. PBMCs are implemented in complex environments. These environments have multiple stakeholders, a complex client-contractor relationship, and unique assets that operate in a dynamic environment.

Agencies encounter numerous unintended responses when implementing PBMCs for roadways, and literature helping to understand these difficulties is limited and insufficient. The objective of this research is therefore to bridge this gap and contribute to the understanding of the problems highway agencies encounter when implementing PBMCs.

The main research question is formulated as following:

How does the client-contractor relation influence the unintended responses to PBMCs encountered by clients?

The unit of analysis in this research is the client-contractor relationship. The hypothesis was that the way the parties managed the contract affected the responses they received from their counterparts.

Three parties were involved in the day to day management of the contracts; PPO (contract manager), the districts (asset owners), and the contractor. The formal relations were set-up in such way that the parties only had contact with each other through PPO. Therefore, two relations needed to be researched per case study, see figure 1.

![Figure 1, Relationships.](image-url)
The scope was set as following:

- Routine maintenance. Other types of maintenance as small or large variable maintenance are out of scope. Only the daily routine maintenance works are included.
- Performance-based contracted. Maintenance can be contracted in various contract forms. This research however is limited to performance-based contracts.
- National roadways, excluding tunnels, bridges, and other big objects that are part of the roadway network. These objects are often contracted in individual separate contracts and are not part of the daily routine maintenance contracts.
- The client-contractor relationship. The national roadway network is managed by the national roadway agency, a government body. The contractual relationship is between the agency and the contractor. However, three roles are considered per contract in this research; the owner (agency), the contract manager (agency), and the contractor. The owner is not part of the contract but is such an important actor within the agency that they’re included in this research.
- Unintended responses encountered, primarily from the client’s perspective on how the contract was executed.
- The execution-phase. The contracts are observed as a given in this research. That is, after the tender and contract preparation phases.
- The Netherlands. This research is conducted in the Netherlands, at the Dutch national highway agency. The practical conclusions therefore apply primarily to the situation in the Netherlands. That is the agency itself, but also other organizations working with PBMCs for roadways. The theoretical conclusions apply to concept of PBMCs.

**Methodology**

Figure 2 shows the research process. Three cases have been studied through a theoretical framework. Each case was a single PBMC from RWS. The empirical data was gathered by means of interviews. The purpose of the theoretical framework was two folded; to help structure the possible encountered unintended responses, and to give insight in how the actors managed the PBMC. A set of 16 unintended responses to performance management systems was created, based on the work of Mannion and Braithwaite (2012), and an Agent-Stewardship matrix was set up based of the work of (Davis, Schoorman, & Donaldson, 1997). Figure 3 shows the hypothesis.
The hypothesis being that a mutual Agent or mutual Steward approach would result in an optimal performing relationship, and that a mismatch in approach would lead to frustrated actors.

The Agency and Stewardship theory are used to explain the client-contractor relationship. The theories are based on two fundamentally contrasting assumptions about the model of man. An overview is shown in table 4.

<table>
<thead>
<tr>
<th>Agency theory</th>
<th>Stewardship theory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main theme</strong></td>
<td>Goal alignment: Mutual goals and objectives achieved through initial trust disposition. Involvement-oriented management philosophy. Theoretical assumptions derived from organizational behaviour, psychology, and sociology.</td>
</tr>
<tr>
<td>Goal incongruence: Assumes goal divergence based on self-interested rational actors. Initial disposition is to distrust. Control-oriented management philosophy. Theoretical assumptions are from economics.</td>
<td></td>
</tr>
<tr>
<td><strong>Model of man</strong></td>
<td>Collectivistic</td>
</tr>
<tr>
<td>Individualistic</td>
<td>Humanistic</td>
</tr>
<tr>
<td>Economic</td>
<td>Self-actualizing</td>
</tr>
<tr>
<td>Self-serving</td>
<td>Pro-organizational</td>
</tr>
<tr>
<td>Short-term oriented</td>
<td>Long-term oriented</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>Enabling</td>
</tr>
<tr>
<td>Directive</td>
<td>Empowering</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Facilitating</td>
</tr>
<tr>
<td>Bounding</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>Financial incentives/ penalties</td>
<td>Trust</td>
</tr>
<tr>
<td>Assign risk to agent</td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Agency theory Stewardship theory comparison, adapted from (Davis et al., 1997, p. 37; Van Slyke, 2006, p. 167)
Findings

The following five unintended responses were encountered in the case studies; see table 5.

<table>
<thead>
<tr>
<th>ID</th>
<th>Unintended response</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR_01</td>
<td>Discussions about the initial condition of the assets</td>
</tr>
<tr>
<td>UR_02</td>
<td>District’s unease being kept at distance</td>
</tr>
<tr>
<td>UR_03</td>
<td>Different interpretations of the functional specification</td>
</tr>
<tr>
<td>UR_04</td>
<td>Exploiting power positions</td>
</tr>
<tr>
<td>UR_05</td>
<td>Contract more intensive to manage than expected</td>
</tr>
</tbody>
</table>

Table 5. Observed unintended responses.

When comparing these observed responses to the theoretical framework, two things became apparent. First, the theoretical framework was based on the idea that a performance contract, and a performance measurement system (PMS) were intrinsically connected. That is, setting up a series of PINs and subsequently managing the contract by it. This was not the case at RWS. The RWS’ PBMCs were functionally specified and primarily managed on processes. The comparison revealed that not all the observed unintended responses were reflected in the theoretical framework.

A note must be made about UR_04, Exploiting power positions. The validation interviews contested this observation. Stating that contractors generally take pride in their work and understand the spirit of the contract. It also stated that PPO sometimes tend to have a negative image of the contractors, but that this is unjustified. UR_04 is therefore observed but cannot be generalized without side note.

Figure 6 shows the simplified observed Agency-Stewardship positions. The hypothesis from the framework was that a mismatch in approach between the two parties will lead to a difficult and frustrating relationship. Therefore, relations in quadrant 1 and 4 should be experienced as pleasant and collaborative.

This hypothesis is partially confirmed. Positions in quadrant 4 were perceived as pleasant, and quadrant 2 as difficult. However, the relationship in quadrant 1 was also difficult. Both parties were working in the beginning towards the letter of the contract. This escalated into reproaches until the collaboration came to a complete standstill. Difficult collaborations were improved after managers were changed.
Eight causes have been identified to explain the observed unintended responses, see table 7.

<table>
<thead>
<tr>
<th>ID</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_01</td>
<td>Incomplete areal information</td>
</tr>
<tr>
<td>C_02</td>
<td>Black box hindering communication</td>
</tr>
<tr>
<td>C_03</td>
<td>Poor expectation management</td>
</tr>
<tr>
<td>C_04</td>
<td>Change management</td>
</tr>
<tr>
<td>C_05</td>
<td>Price tendered</td>
</tr>
<tr>
<td>C_06</td>
<td>Information asymmetry</td>
</tr>
<tr>
<td>C_07</td>
<td>Additional paperwork</td>
</tr>
<tr>
<td>C_08</td>
<td>Mismatching collaboration approach (Agency-Steward)</td>
</tr>
</tbody>
</table>

Table 7. Identified causes.

The analysis of the relation between these causes and the unintended responses has revealed that it is a complex relation. Some causes together have led to the occurrence of multiple unintended responses, see table 8.

<table>
<thead>
<tr>
<th>ID</th>
<th>Cause</th>
<th>UR_01</th>
<th>UR_02</th>
<th>UR_03</th>
<th>UR_04</th>
<th>UR_05</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_01</td>
<td>Incomplete areal information</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_02</td>
<td>Black box hindering communication</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_03</td>
<td>Poor expectation management</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_04</td>
<td>Change management</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_05</td>
<td>Price tendered</td>
<td>x</td>
<td>x</td>
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<td>C_07</td>
<td>Additional paperwork</td>
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<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>C_08</td>
<td>Mismatching collaboration approach (Agency-Steward)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Table 8. Relation causes and identified unintended responses.

Interesting is, that the hypothesis stated that a lot of difficulties in the client-contractor relation can be traced back to a mismatching approach of contract management. This is confirmed, as the analysis had shown that four of the five unintended responses could be linked to cause_08. The Agency-Stewardship behaviour is thus a deeper underlying cause that affects the others.

It can further be seen that the other seven causes are not directly related to the concept of the PBMC. Many are related to the process of adopting PBMC, organizational structure, or expectation management.

**Conclusion**

The client-contractor relationship is complex and can lead to multiple unintended responses. Not all unintended responses can be solely explained by how the actors managed the relationship. The hypothesis that a mismatching Agency-Stewardship approach would lead to a difficult collaboration is partly confirmed, as it was observed that a mutual agency approach can also lead to a problematic relation. The mutual Stewardship approaches were found to be most effective in managing PBMCs.
**Recommendations**

Based on the observed unintended responses and subsequently identified causes, four recommendations are proposed to mitigate these difficulties actors face engaging in PBMCs:

1. **A stewardship approach.** A mutual stewardship approach is desirable in a functional specified contract over an agency approach. It was found that due to the *contract incompleteness* characteristics of the functional specification, it is incredibly difficult to manage the contract from the letter.

2. **Chain collaboration.** It was found that contractors and the districts had poor sight on each other which had led to misunderstandings. What had helped in the case studies was when an informal but direct communication line was established between the contractor and the districts. This way of collaborating is therefore recommended here with the note of keeping it informal and keep the formal relations through PPO. Keeping this contact also benefits the expectation management. It was found that as a result of the poor communication actors interpreted the functional specification in a different way than they were intended.

3. **Improve quality of areal information.** Numerous discussions were held in all case studies regarding the condition of the assets. This was often ground for arguments about additional works and payments. The incomplete areal information the district currently provides was identified as a major contributor to this. It is therefore recommended that this information is improved.

4. **Avoid price driven tenders.** It was found in one case that a contractor had won the tender on primarily price criteria and had put in a low bid. The contractor’s ‘business model’ was to win the tender on a lowest price possible and subsequently try to minimize expenditures during the execution phase by pleading for additional works. This lead to lots of frustration with RWS because every dialogue they had with the contractor escalated into discussions about additional payments. This severely impeded the day to day workings of the contract. It is therefore recommended to tender on diverse criteria that includes quality.
Part I - Introduction
Chapter 1  Problem introduction

1.1 Problem introduction

Performance contracts (PCs) for maintenance works have been used worldwide in various sectors such as highway, railway, real estate, military, and plant management. They are presented as a potential improvement over traditional contracting. Often argued benefits for implementing performance contracts compared to traditional contracting are (Pakkala, 2002, p. 51);

- Reduced maintenance costs
- Higher Level of Service (LoS)
- Encouragement of innovation
- Less contract administration

Research has been conducted over the years to find empirical proof to see if these benefits are realised in practice. Most research have found mixed results when looking at road maintenance (NCHRP, 2009, p. 11; Stankevich, Qureshi, & Queiroz, 2009, p. 6; Tamin, Tamin, & Marzuki, 2011, p. 858; Zietlow, 2005, p. 15). Overall there are indications that support the cost-savings argument. However, other alleged benefits such as a higher LoS or more innovation have been found contestable. Instances exist where PCs have worked adversely resulting in a lower LoS.

One explanation is that the effects of PCs are difficult to isolate and identify when applied in practice, due to the complex and dynamic environment in which they operate. Agencies tend to have difficulties to distinguish between indirect and direct costs, and private contractors are reluctant to share their cost structure. Therefore most data on which the PCs are assessed by research is based on expert judgements (NCHRP, 2009, p. 12).

From these researches it is apparent that not all agencies get to reap the benefits they expected to enjoy over the traditional contracting style. The norm that PCs are going in against is that set by traditional contracting. That is, the urge to compose a ‘complete’ contract that is fully covering and can be managed from the letter of the contract. These types of traditional contracts tend to result in laborious detailed contracts in which clients attempt to cover all possible scenarios.

The adoption of Performance-based maintenance contracts (PBMCs) is therefore a change that highway agencies go through from traditional contracting to performance contracting.

PBMCs have been experimented with worldwide by government agencies, and have increasingly been adopted to outsource highway maintenance to the private market (Dollery, 2014, p. 5; NCHRP, 2009, p. 8; Porter, 2005, p. 3). The use of performance contracts for maintenance is relatively new and agencies report mixed results. Numerous studies exist on the topic of performance contracts, but studies specifically aimed at understanding the problems in performance-based maintenance contracts are few (Sultana et al., 2012, p. 288). This research contributes to filling that knowledge gap, by researching performance-based maintenance contracts used for highway maintenance. The case of the Dutch highway agency is used in this research to obtain empirical data from.

The Dutch highway network grew significantly during the 1960s and 70s. Many new kilometres of highway, bridges, and viaducts were constructed to accommodate the growing traffic needs (Rijkswaterstaat, 2007, p. 7). Most of those assets are nearing the end of their technical lifespan in the years after 2020 (Goldenbeld et al., 2016, p. 11; Rijkswaterstaat, 2017, p. 22). This wave of aging infrastructure that the Netherlands is facing in the coming years was the reason for this research to pick up the case of maintenance of the Dutch highway network.
The Netherlands are facing increasingly more complex challenges in the coming years resulting from not only an aging infrastructure, but also a growing economy, increasing demand for quality mobility, and climate change (P. Groot, Saitua, & Visser, 2016, p. 7). The investment-focus will therefore shift from expending the infrastructure network to renovation and replacement (P. Groot et al., 2016, p. 32).

The observed trend in the Netherlands is in line with the world-wide trend of highway agencies outsourcing more maintenance works to the private market (Rijkswaterstaat, 2014, p. 1). 70% of the yearly total turnover of roadway projects in the Netherlands is issued by the Dutch government. This makes the government (of which the roadway agency is part of) the biggest employer in the country. These expenditures are expected to grow over the coming years (P. J. M. Groot, Afrian, Hardeman, & Vrolijk, 2012, p. 24).

1.2 Research objective

The objective of this research is to contribute to the scientific literature on the practical application of performance-based maintenance contracts for highways. Research on the concept of PBMCs is plenty, but research on the practical application of PBMCs is limited. PBMCs are implemented in complex environments. These environments have multiple stakeholders, a complex client-contractor relationship, and unique assets that operate in a dynamic environment.

Agencies encounter numerous unintended responses when implementing PBMCs for roadways, and literature helping to understand these difficulties is limited and insufficient. The objective of this research is therefore to bridge this gap and contribute to the understanding of the problems highway agencies encounter when implementing PBMCs.

This research does so by analysing the client-contractor relationship in three case studies. Founded on a theoretical basis, the hypothesis is made that many of the unintended responses are influenced by how the client-contractor relationship is managed. The data obtained from the case studies is used to research that suspected correlation in an attempt to explain the origin of the encountered unintended responses.

The conclusions and recommendations of this research directly apply to roadway agencies worldwide. However, an attempt is done to generalize the results beyond this and to apply to organizations in general working with performance contracts for maintenance works.

1.3 Research scope

This research is aimed at increasing the understanding of using performance-based maintenance contracts in practice. The topic of infrastructure maintenance is broad. To make the topic workable and to come to meaningful conclusions, a clear defined scope was necessary.

The scope is set as following:

- Routine maintenance. Other types of maintenance as small or large variable maintenance are out of scope. Only the daily routine maintenance works are included.
- Performance-based contracted. Maintenance can be contracted in various contract forms. This research however is limited to performance-based contracts.
Part I - Introduction

Chapter 1 Problem introduction

- National roadways, excluding tunnels, bridges, and other big objects that are part of the roadway network. These objects are often contracted in individual separate contracts and are not part of the daily routine maintenance contracts.

- The client-contractor relationship. The national roadway network is managed by the national roadway agency, a government body. The contractual relationship is between the agency and the contractor. However, three roles are considered per contract in this research; the owner (agency), the contract manager (agency), and the contractor. The owner is not part of the contract but is such an important actor within the agency that they’re included in this research.

- Unintended responses encountered, primarily from the client’s perspective on how the contract was executed.

- The execution-phase. The contracts are observed as a given in this research. That is, after the tender and contract preparation phases.

- The Netherlands. This research is conducted in the Netherlands, at the Dutch national highway agency. The practical conclusions therefore apply primarily to the situation in the Netherlands. That is the agency itself, but also other organizations working with PBMCs for roadways. The theoretical conclusions apply to concept of PBMCs.

The case selection from which the empirical data is obtained is explained in the paragraph 2.3.2.

1.4 Defining concepts

1.4.1 Performance-Based Maintenance Contracts

Performance-based Maintenance Contracts (PBMCs) are the specific application of performance contracts (PCs) for maintenance works. Three definitions are discussed here to conclude with a definition that is further used in this research.

The first definition is from Van Rhee, Kaelen, and Van de Voort (2009, p. 7). They describe the general performance contract as; ‘A contract in which parties agree on the performances that they’ll deliver rather than on the effort or activities.’ In this definition PBMCs are defined as a shift of specification level, from input, to output. They further explain that performances are formulated as quantifiable measurable goals for the contractor, derived from the client’s needs. And that the contractor is stimulated to reach these goals via a construction of incentives and penalties.

The second definition is from the National Cooperative Highway Research Program (NCHRP, 2009, p. 4); ‘A contracting method that provides incentives and/or disincentives to the contractor to achieve desired outcomes or results. In its purest form, PBMC does not detail how, when, or where to do the work.’ This definition describes performance requirements as a specified output or outcome.

The third definition is from Behn and Kant (1999, p. 471). They compare performance contracts to traditional contracts; ‘The traditional, regulatory contract specifies precisely how the vendor should do things. In contrast, a performance contract only specifies what results the vendor should produce, giving the vendor the flexibility to determine how best to produce them, and then pays the vendor only when it has been successful.’ This description describes performance requirements as a specified result rather than a how-specification.

A performance contract can therefore be summarized in three characteristics (Straight, 2006):
• A specification that describes results rather than methods describing how.
• Steering to fulfil measurable performance goals.
• Including positive and/or negative performance incentives when appropriate.

The ‘level’ of the specification refers to the abstraction level. Defined in a terminology of input, output, and outcome specifications. Figure 1.1 shows this distinction.

The formulation of performance goals and steering towards the fulfilment of it is a way of contract management. Figure 1.2 shows how performance contracts differ from traditional contracts in the way they are managed. Where traditional contracts are managed on their input, performance contracts are managed on the results that they produce. Having a performance measurement system is therefore part of a performance contract (Segal, Moore, & S., 2003, p. 7).

### 1.4.2 Maintenance

Maintenance is one of the four life phases an asset typically goes through in its lifecycle; Construction, Operate, Maintenance, and Disposal (The Institute of Asset Management, 2015, p. 12), see figure 1.3. The operate and maintain phases are typically the longest phases in an asset’s lifecycle (Muller, 2015, p. 12; R. M. Williamson, 2012, p. 2). These two phases generally overlap as maintenance is performed during the operating phase of the asset and are therefore also referred to as a single ‘operate and maintain’ phase. This makes maintenance fundamental to the performance of an asset (Ochieng, Price, & Moore, 2017, p. 320).
The definition of maintenance is given in the NEN-13306:2010 (2010) as; “The combination of all technical, administrative and managerial actions during the life cycle of an item intended to retain it in, or restore it to, a state in which it can perform the required function.” The definition describes maintenance as all necessary actions to ensure the fulfilment of a certain function. Maintenance is therefore bigger than just the physical act of performing an outdoor maintenance activity like mowing grass. It encompasses all the activities necessary to ensure the performances of the required function of an asset, including all the supporting activities.

‘Maintenance’ as a definition is therefore an incredibly broad concept and is often referred to in terms of strategy or scope to distinguish between maintenance types.

Many strategies exist, and they can generally be categorized under two main strategies: reactive and pro-active (Haider, 2007, p. 45). Reactive maintenance, also referred to as corrective maintenance, is a failure driven approach. It is a strategy of repair and replacement whenever the point of failure is reached. It is therefore an unscheduled approach (Adolfsson & Dahlström, 2011, p. 1). Pro-active maintenance also referred to as preventive or predictive, is a scheduled approach. It is aimed at preventing failure from happening. This can be done performing maintenance at a set time interval (time-based), or by performing inspections and determining how close the asset’s condition is to failure, and planning maintenance accordingly (condition-based).

Figure 1.4 shows these strategies. The dotted ‘intervention threshold’ line is the point of failure of the asset. Pro-active maintenance is performed before the asset reaches this point, and reactive maintenance is performed after it reached that point. Note that this figure is a simplified
representation of an asset’s degradation through the years, and is only used to show the differences between maintenance strategies. The degradation curve is not an accurate representation of how an asset degrades in practice.

The maintenance scope refers to the extent and size of the maintenance works. This subdivision is often made in terms of *routine/regular* maintenance, *small variable* maintenance, and *large variable* maintenance, and this terminology is well used in the Netherlands (Rijkswaterstaat, 2008). Large maintenance activities such as reconstructions that include a (re)design are considered large variable-maintenance. Smaller but incidental maintenance works such as repairs or upgrades are categorized as small variable-maintenance. Daily routine maintenance is considered regular maintenance. Routine maintenance also differs from the other maintenance types in its repetitive character whereas variable maintenance is often project-based.

Routine maintenance is further explained by the ‘six-stage model’ by Schoenmaker and Verlaan (2013), see figure 1.5. They identify the individual activities that comprise routine maintenance, and the mutual cyclic relations they have. The six-stage model also illustrates how PBMCs differ from traditional maintenance in the combination of activities they request from the market.

![Figure 1.5. Six-stage model, routine maintenance (Schoenmaker & Verlaan, 2013, p. 5).](Image)

The six-stage mode can be vertically subdivided into three levels; respectively A, B, and C. These are levels of outsourcing activities. In other words, the interface between the activities that client and is responsible for, and the activities the contractor is responsible for. At a level A the contractor is authorized to take all decisions needed in the maintenance process to ensure the asset’s performances. This is the maximum level of outsourcing, as in an ‘output-contract’. Level B is an intermediate form between output-contract, and the traditional contract. Level C shows the work distribution in the traditional contract. Here the contractor is only responsible for providing resources and executing the work, and the client is in control over everything else. This is the most minimal form of outsourcing (Schoenmaker & Verlaan, 2013, p. 4).
Chapter 2  
Research setup

2.1 Research questions

The research objective is to contribute to the scientific literature on the practical application of performance-based maintenance contracts for highways. The aim is to increase the understanding of the unintended responses clients face when working with PBMCs. The unit of analysis that will be focused on is the client-contractor relationship.

The following main question is derived from this objective:

MQ - How does the client-contractor relationship influence the unintended responses to PBMCs encountered by clients?

The following four sub-questions are derived from this:

Part II

SQ1 - Which theories can help understand the client-contractor relationship?

Part III

SQ2 - What unintended responses are encountered by clients?

SQ3 - How did the parties engage in the contract, and how was that perceived by their counterparts?

Part IV

SQ4 - What are the main causes of the unintended responses?

The research is structured along these sub-questions. Answering these sub-questions leads up to answering the main question. The approach starts off top-down and is subsequently build-up bottom-up to answer the main question. This approach is shown below in figure 2.1. More on the methodology in paragraph 2.2.1

![Figure 2.1. Research questions build-up (own illustration).](image-url)
2.2 Research process and methodology

The research is structured in five parts. The three biggest parts are; the creation of the theoretical framework (part II), the execution of the empirical study (part III), and the synthesis of the obtained data and results (part IV). The introduction (part I) and references & appendices (part V) are relatively smaller.

Figure 2.2 shows an overview of the research process. The process is designed with two formal feedback moments. This gives the research an iterative character that allows to critically reflect upon previous made decisions. This helps ensure a coherent report and gives room for creative thinking (Srivastava & Hopwood, 2009, p. 82; Verschuren & Doorewaard, 2010, p. 26). In the practical execution however, the process of reflecting was done continuously.

2.2.1 Research Methodology

The research consists of a mix of two strategies. Part II is conducted as a theoretical study, and Part III is conducted as an empirical study. These parts come together in Part IV, the synthesis. Part II and III are respectively top-down and bottom-up conducted. Part II is a theoretical study where information is obtained from a wide selection of literature with the objective to create a theoretical framework suited to research specific cases. Part III uses that theoretical framework to place real-life observations from the cases into a wider context and therefore reasons bottom-up.

Verschuren and Doorewaard (2010, p. 157) distinguishes five major research strategies; Survey, experiment, case study, grounded theory approach, and desk research. These strategies can be considered either theory or practice oriented, depending on what techniques are used.

Part II: Theoretical framework

The theoretical study is carried out with a grounded theory approach. This approach was chosen so that the ‘top-down’ approach could start with a wide view of what theories exist on explaining the dynamics in PBMCs. From this wide approach a selection was made of a few theories from which the theoretical framework was created, a deductive reasoning.

The grounded theory approach is also used for further developing theories. Hence why the process description in figure 2.2 shows a feedback loop from ‘observations’ to ‘theoretical framework’. This approach is sometimes described as ‘an explorative journey of the researcher’, as the researcher doesn’t start out with a detailed theory, but tries to understand and reflect upon the theories (Verschuren & Doorewaard, 2010, p. 187).

Part III: Empirical study

The empirical study is conducted by three case studies. Case studies are chosen in this research as a method of gathering empirical data because of the qualitative and in-depth characteristics.
Specific cases are selected and analysed through the theoretical framework in order to generalize the empirical findings. This is a typical approach of a case study (Gorman & Clayton, 2005, p. 47). This way of inductive reasoning is often associated with the essence of empirical research (Christiaans, Fraaij, de Graaf, & Hendriks, 2014, p. 226).

Yin (2009, pp. 7-9) differentiates four types of case study designs along two axes, see figure 2.3. These are: single-case or multiple-case, and holistic or embedded. The case study in this research is designed as a holistic multiple-case study. Therefore, three PBMCs are chosen and used as three individual cases.

This is done because all three cases are from the same agency, Rijkswaterstaat. RWS itself is considered a case, because PBMCs are used worldwide by many organizations. The researched contracts are therefore considered a case within a case, a so-called holistic case in case-study. More on the case selection in paragraph 2.3.2.

The three cases are set up as a multiple-case study and researched using the *hierarchical method*. This is a method used for comparative case studies, where the cases are first independently studied from each other. And afterwards compared in an analysis. This requires a uniform approach of the cases in order to produce comparable data (Verschuren & Doorewaard, 2010, pp. 181-182).

![Figure 2.3, Types of case study designs (Yin, 2009, p. 8).](image)

The term case study encompasses a broad range of case study types, of which most distinctive are (Gorman & Clayton, 2005, p. 48); Observational case studies, Interview case studies, Organizational case studies, Historical case studies, Multi-site and Comparative case studies.

The case studies in this research are interview-based because information on experiences of the client-contractor relationship is with the actors themselves. Meaning that most of the information is obtained from a series of interviews. The interviews were held individually and semi-structured. A list of interview questions was formulated as a result of the theoretical study and was used for all the interviews as a way of ensuring a structure. The semi-structured interviews allowed for additional questions to be asked when new insights were presented.

The interviews are fully transcribed and (anonymously) coded. Coding happened in two stages, first *open coding*, followed by *selective coding*. Open coding is creating labels for chunks of text...
based on the content and meaning of the text itself. Selective coding is labelling text based on prepared theories, in this case the theoretical framework (Verschuren & Doorewaard, 2010, p. 191). Coding the transcriptions helped comparing the empirical data for the comparative case studies.

**Part IV: Synthesis**

In this part all the results and findings from the theoretical study and empirical study are synthesized into conclusions and recommendations. They are reflected upon by two individually conducted validation interviews as a measure to increase this research’ validity. These validation interviews were conducted with the same methodology as the case study interviews.

### 2.3 Research subjects

The unit of analysis in this research is the client-contractor relationship in PBMCs. The empirical data is obtained from three case studies. This chapter will explain the roles and relation of the three key actors that are interviewed in the case studies, and subsequently the selection criteria for the case.

Multiple departments of Rijkswaterstaat are involved in the contracts, but it was found that only two departments were significantly important for this research; PPO (Programma’s, Projecten, en Onderhoud), and the regional divisions (the districts). Together with the contractor, these three actors make up the client-contractor relationship that is researched.

The role distribution of these three actors is similar but not identical to that used in the theories of Asset management; Asset owner (i.e. the districts), Asset manager (i.e. PPO), and Service provider (i.e. the contractor), see figure 2.4. These roles are further discussed here.

![Figure 2.4. Asset management role distribution (De Croon, 2011).](image)

#### 2.3.1 Key actor roles

Rijkswaterstaat (RWS) is the executive agency of the Ministry of Infrastructure and Water management in the Netherlands. The ministry is tasked with creating policies and allocating budgets to safeguard the quality, accessibility and safety of the Netherlands (Rijksoverheid.nl, 2018). Rijkswaterstaat is tasked with executing the ministry’s policies and is in charge of the management and development of the national roadway network, waterway network, and coastal...
defences (Rijkswaterstaat.nl, 2018). Given the scope of this research, RWS is further referred to as a ‘national roadway agency’.

The RWS organisation is divided into two main branches, National divisions, and Regional divisions, see figure 2.5. PPO is one of the six national divisions, and ownership of the roadway network is divided over the seven regional divisions. Each region manages their roadway assets with around two to three PBMCs with a value of approximately 7 to 10 million euros. The researched contracts had a duration of 5 years. The PBMCs are therefore of comparable size and value.

PPO is mainly concerned with tenders and management of maintenance contracts, that is the creation of maintenance contracts and execution of them. PPO managers are organized from the national division into so called ‘IPM-teams’. Each PBMCs is managed by an IPM-team. The PPO contract manager, is part of the IPM-team, together with other managers and advisors. For this research, the PPO contract managers were interviewed because of their frequent contact with the contractors.

Within RWS, the districts are considered the internal client of PPO. The districts communicate their needs to PPO, and PPO further sets up the tender, the contract, and manages the PBMC with the contractor. The districts are the asset owners. They have a long-term vision for their assets and plan the expenditures of their funds accordingly.

The contractual relationship in the PBMC is between PPO and the contractor. However, the practical client-contractor relationship is as shown in figure 2.6.
PPO is a relative new department within the RWS organization. It was formed together with GPO during the 2013 reorganisation. PPO and GPO used to be a single department that was mainly tasked with construction works. Maintenance works were directly managed by the districts themselves in those years.

### 2.3.2 Case selection

The empirical data is obtained from case studies. Each case study is focused on a single PBMC. Per case, three parties are interviewed; PPO, the contractor, and the district. By opting for an in-depth qualitative case study method, the sample size is small. Meaning that a selection of cases is necessary given the time limitations this research had. The selection criteria are shown in table 2.7.

The cases were strategically selected with the so called ‘diverse-case’ method. Three cases were selected to represent the larger number of PBMCs used at RWS. The diverse-case method instructs to choose at least two cases of maximum variance along the relevant dimensions (Gerring, 2008, p. 5). As the unit of analysis in this research is the client-contractor relationship, the relevant dimension is the satisfaction of those actors.

The data on which this assessment was done came from an existing internal auditing mechanism at RWS, the ‘performance measurements’ (Dutch: prestatie metingen). These ‘performance measurements’ are solely used within RWS to assess the collaboration between PPO and the contractor. It is a quarterly assessment of the client-contractor relation from both parties’ perspectives (Rijkswaterstaat, 2015). In this assessment the parties assess their own attitude and behaviour, and that of their counterpart. This is firstly done independent and on paper. Secondly, the scores are discussed by the parties. Goal of these ‘performance measurements’ is to give the parties an opportunity to reflect upon their collaboration and therewith contribute to improving the client-contractor relationship (Rijkswaterstaat, 2015, p. 7). An important note must be made here to not confuse this term ‘performance measurements’ with the asset performances in PBMCs.

Based on that data one ‘bad’ case was picked where the collaboration was assessed as poorly, and one ‘good’ case where the collaboration was assessed as excellent.

Other selection criteria were that the contract was nearing completion or was completed. This would ensure that the parties have had the opportunity to work long enough with each other and that their opinions aren’t directly affected by single incidents.

<table>
<thead>
<tr>
<th>Case-study variables</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>RWS</td>
</tr>
<tr>
<td>No. of cases</td>
<td>3</td>
</tr>
<tr>
<td>Experiences</td>
<td>1x bad, 1x good, 1x pilot</td>
</tr>
<tr>
<td>Work type</td>
<td>Maintenance</td>
</tr>
<tr>
<td>Asset type</td>
<td>Highway</td>
</tr>
<tr>
<td>Contract-type</td>
<td>Output-based</td>
</tr>
<tr>
<td>Stage</td>
<td>Nearing completion or completed</td>
</tr>
<tr>
<td>Contract duration</td>
<td>3 to 5 years</td>
</tr>
<tr>
<td>Contract value</td>
<td>~ €10 mil.</td>
</tr>
</tbody>
</table>

*Table 2.7, Case-study selection criteria.*
2.3.3 Case description

The three cases are named respectively case A, B, and C. Case A and B were fully completed and had a duration of 5 years each. Case C is still in the execution phase and has been running for 3 years. Case A and B are contracts from the same district, managed by the same IPM teams. Case C is from a different district. All three cases were tendered to three different contractors. Table 2.8 shows this overview.

<table>
<thead>
<tr>
<th>Case</th>
<th>Duration</th>
<th>Status</th>
<th>‘Performance measurement’</th>
<th>District</th>
<th>Contract value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5 years</td>
<td>Completed</td>
<td>Excellent</td>
<td>1</td>
<td>€10 mil</td>
</tr>
<tr>
<td>B</td>
<td>5 years</td>
<td>Completed</td>
<td>Poor</td>
<td>1</td>
<td>€7.5 mil</td>
</tr>
<tr>
<td>C</td>
<td>3 years</td>
<td>In execution</td>
<td>Good</td>
<td>2</td>
<td>€9 mil</td>
</tr>
</tbody>
</table>

Table 2.8, Case selection.

Three parties were interviewed per case; PPO, the contractor, and the district. Within the parties, the roles that have had the most contact with the other parties were interviewed. For PPO that was the contract manager, for the contractor the project manager, and for the district the leader of the asset management department. During the contract term, some parties’ composition changed. People left, and others took over their roles. Therefore, when possible, more people were interviewed for the same role in the same contract.

Table 2.9 shows an overview of the interviews, a total of 11 case-interviews and 2 validation-interviews.

<table>
<thead>
<tr>
<th>Case</th>
<th>Party</th>
<th>Function</th>
<th>Interviewee code</th>
<th>Interview code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PPO</td>
<td>Contract manager</td>
<td>PPO_01</td>
<td>CA_PPO_01</td>
</tr>
<tr>
<td></td>
<td>Contractor</td>
<td>Project manager</td>
<td>CON_02</td>
<td>CA_CON_02</td>
</tr>
<tr>
<td></td>
<td>District</td>
<td>Leader asset management department</td>
<td>OWN_03</td>
<td>CA_OWN_03</td>
</tr>
<tr>
<td>B</td>
<td>PPO</td>
<td>Contract manager</td>
<td>PPO_01</td>
<td>CB_PPO_01</td>
</tr>
<tr>
<td></td>
<td>Contractor</td>
<td>Project manager</td>
<td>PPO_04</td>
<td>CB_PPO_04</td>
</tr>
<tr>
<td></td>
<td>District</td>
<td>Leader asset management department</td>
<td>CON_05</td>
<td>CB_CON_05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OWN_06</td>
<td>CB_OWN_06</td>
</tr>
<tr>
<td>C</td>
<td>PPO</td>
<td>Contract manager</td>
<td>PPO_07</td>
<td>CC_PPO_07</td>
</tr>
<tr>
<td></td>
<td>PPO</td>
<td>Contract manager</td>
<td>PPO_08</td>
<td>CC_PPO_08</td>
</tr>
<tr>
<td></td>
<td>Contractor</td>
<td>Project manager</td>
<td>CON_09</td>
<td>CC_CON_09</td>
</tr>
<tr>
<td></td>
<td>District</td>
<td>Leader asset management department</td>
<td>OWN_10</td>
<td>CC_OWN_10</td>
</tr>
<tr>
<td>Validation</td>
<td>PPO</td>
<td>PBMC trainer</td>
<td>PPO_11</td>
<td>VAL_PPO_11</td>
</tr>
<tr>
<td></td>
<td>Contractor</td>
<td>Company owner</td>
<td>CON_12</td>
<td>VAL_CON_12</td>
</tr>
</tbody>
</table>

Table 2.9, Interviews.

The interview codes are composed as following: The case for which the interview was conducted, the party the interviewee represented, a personal number. As shown, CA_PPO_01 and CB_PPO_01 was the same manager, interviewed twice for two different contracts.
2.4 Reliability and validity

Foundation for a solid scientific research is the quality of the data and the logic reasoning based on that data to come to a set of conclusions. The data in this research is primarily gathered from case study interviews. This introduces certain additional challenges as there is an additional human factor to be reckoned with from the respondent and the researcher. These pitfalls will be identified here, and a strategy is subsequently introduced to mitigate them.

Reliability and validity origin from quantitative research, but can also apply to qualitative research (Gorman & Clayton, 2005, p. 55). Reliability refers to the quality of the data gathered in the research. Often expressed in terms of repeatability; if a measurement is repeated, regardless of however, whenever, by whomever, and it yields the same results, then the data is considered reliable. The elements of time and method are therefore irrelevant if data is properly reliable. Reliable ‘quality’ data is data that well represents the ‘truth’ it was designed to measure.

Validity refers to how well the gathered data can be used to fulfil its initial purpose, answering the research question by defining a causality between an independent and a dependent variable. Validity is therefore more concerned with how the data is used for the reasoning in the research rather than the reliability of the data. A further distinction is made between internal and external validity (Christiaans et al., 2014, p. 120).

Internal validity is the degree to which the argued causality between independent and dependant variables can be justified by the research. A research is considered internally valid when it can be convincingly reasoned that an isolated independent variable is responsible for the measured dependent variable, and not another unmeasured disturbance. The causal reasoning in the research is therefore highly dependent on the internal validity of the data (Christiaans et al., 2014, p. 120). One cannot make a scientific valid reasoning based on false data.

External validity is the degree to which the generated results can be generalized beyond the researched population (i.e. beyond the sample in the study). To what degree do the results, measured in the specific apply to the general. In terms of this research, to what degree do the results obtained from researching a few PBMCs in the Randstad of the Netherlands, apply to the PBMCs managed for roadways in the rural areas, or even PBMCs managed abroad for airports?

Reliability is a necessity for validity, because it is impossible to reason a valid conclusion on the bases on unreliable data. However, validity is not a necessity for reliability (Gorman & Clayton, 2005, p. 54). For example, the travel distance between a client and contractor can be accurately measured (reliable data) but may be a poor indicator for what makes a successful PBMC (internally invalid). An analogy with target practice is often used to explain these two concepts; precision (reliable results after repetition) and accuracy (validity in fulfilling the purpose of the action, hitting the target), see figure 2.10.

![Figure 2.10. Reliability and Validity.](image-url)
Triangulation
A measure often used to ensure the reliability of data is *triangulation*. The word originated from sailors who use two fixed points on the horizon together with their own point of view to navigate the seas (Creswell & Miller, 2000, p. 126). The reasoning is that it would be virtually impossible to determine your own position by using a single point of reference. The concept of triangulation is therefore a matter of using multiple data sources to determine the ‘truth’. It’s a way of increasing the reliability of data. Yin (2009) recommends using 3 or more independent sources, but also acknowledges how difficult this may be when being dependent on interviews as your primary source of data. He argues that respondents may echo the same ‘mantra’ they developed over time when speaking to outsiders (Yin, 2004, p. 10).

2.4.1 Strategy
The reliability of data and the way it is used for reasoning is essential for the quality of the research. Therefore, a strategy is explained here to safeguard these two qualities throughout the research.

Reliability
The researched subject is the collaboration between client and contractor. The client, RWS, has two departments that make up the interface with the contractor; the regional IPM-teams, and the district’s AM. This means that there is more than one interface per contract, but also that there are at least three sources per contract that can provide data on the client-contractor relationship.

All the respondents will be individually interviewed and furthermore, not informed about what their counterpart has said in their interview. This will contribute to different sources providing their own independent views and prevent a reactive response to their counterpart’s answers.

Another pitfall is that the respondents will see the researcher as an outsider, and only give general and politically correct answers. As time is a constraint for this research it is impossible to spend considerable time with each project team on each contract to gain their trust and become an ‘insider’. Instead, all respondents are ensured that all their provided information is anonymized and untraceable back to them, their party, or their contract. The research is therefore communicated as an opportunity to anonymously speak to their counterpart. This can be a compelling framing for those involved in a difficult collaboration in which they have felt their frustrations unheard by their counterpart. This may be an opportunity for them to have their voices heard and feedback for future revisions of PBMCs.

The risk of further compromising the data’s reliability because of the human factor of the researcher is further contained by audio recording the interviews. This allows the interviews to be transcribed word-by-word and avoid a human misinterpretation based of solely interview-notes. The anonymity of the interviewees, and with that the openness of answers, is not compromised because the interviewee is promised that the audio file will only be accessed by the researcher and destroyed after transcribing the interview (see interview protocol).

Reliability of the data is further safeguarded by offering interviewees the possibility, if desired, to comment and double check on a transcription of their interview. This reduces a possible introduced error in the interpretation of the data.
Validity

Only when the data can be considered reliable, it can be used to construct a logic reasoning and be synthesized into conclusions. The internal validity refers to the validity of the information about the researched sample, formulated based on the data obtained from the researched sample. A few interviewees will be randomly picked (one from every major respondent group) and contacted after their interview has been processed. They will have the opportunity to comment on how their interview was transcribed and processed. These comments will be indicating for the internal validity of the overall researched sample. If little commentary is given, then the internal validity of the results is assumed to be sufficient.

External validity refers to the scalability, the degree to which the results apply to those beyond the researched sample. In other words, the degree to which the logic reasoning justifiably applies to the initial research scope.

Therefore, a series of so called external validation-interviews will be conducted to validate the found results. These interviews will be conducted with experts that have considerable experience with PBMCs in the Netherlands. An important condition is that these individuals have not been involved in this research up to the point of their validation interview. They will be presented with the blank results and conclusions on the research questions without further information on how the research was conducted, which parties were interviewed, or what reasoning was used. What needs to be determined in the validation interviews is whether they consider the findings of the research valid, and the reasoning towards the conclusions. They will do so by reflecting upon their own experiences and perspectives.

Hence why it is important to have interviewees from different backgrounds. Since the research subject is the client-contractor relationship, the validation interviews will be held with representatives of the client, and contractor. RWS being the only client in the Netherlands for national roadway maintenance, the client will be someone from RWS. The contractor will be a company involved with considerable experience with PBMCs.

The interviewees will not only be asked to reflect upon the presented findings (unintended responses and causes), but also asked to look at the complete story. They will have the opportunity to add other perspectives that may not have been included in the research, and therewith identify the research’s limitations.
Part II – Theoretical Framework
Chapter 3  Literature study

In this chapter, theories are introduced and compared with the goal to understand the client-contractor relationship in PBMCs.

The first sub-question will be answered here:

**SQ1 - Which theories can help understand the client-contractor relationship?**

This literature study therefore explores theories that can help understand the client-contractor relationship. And furthermore, explores literature on the management of PBMCs.

The literature study covers the topics of contract management, TCE, Agency theory, Stewardship theory, and governance of change. The theoretical framework that is deducted from these theories is presented in chapter 4.

### 3.1 Contract management

#### 3.1.1 Contract management

Contract management is a broad concept that covers all the activities needed to successfully manage the execution of contractual arrangement by the parties involved. It is about enabling the parties to deliver their objectives with the required quality, within the timeframe, and to achieve value for money (Australian National Audit Office, 2012, p. 84).

The Office of Government Commerce (2002, p. 14) describes contract management as the interface between customer and provider, see figure 3.1. This requires in-depth knowledge of the client’s organisation and needs, and knowledge on the provider’s capabilities. It is understood as ‘intelligent customer capability’ in figure 3.1.

![Figure 3.1, Contract management functions (Office of Government Commerce, 2002, p. 15).](image)

The Office of Government Commerce (2002, p. 14) further groups the activities that make up contract management into three broad areas:

- Service management; Managing the delivery of the service. Ensuring it meets the expectations in terms of time, quality and costs.
- Relationship management; Ensuring an open and constructive relationship between the parties, aiming to identify potential conflicts in an early stage and prevent escalations.
- Contract administration; The formal governance of the contract and documentation.
The client-contractor relationship is a complex relation that encompasses many activities of which the above explained ‘relationship management’ is just one. In this research, the client-contractor relationship is researched by looking how the contract was managed in terms of service and relationship management.

3.1.2 Performance management

Performance management is a method of service delivery. Meaning that performance management is a way to manage the delivery of the requested service or product by steering on the fulfilment of performance requirements.

The measurement of performances in a PC is often done by monitoring so called performance indicators (PINs) (Anwar et al., 2016, p. 286; Chartered Institute of Purchasing & Supply, 2012, p. 1; Van Rhee et al., 2009, p. 51). A system that monitors the PINs is referred to as a performance measurement system. Performance measurement and performance management are closely related.

The effectiveness of performance management is subject of debate as many urge cautions when using it (Anwar et al., 2016; Metawie & Gilman, 2005; Popa, 2015). De Bruijn (2006, p. 43) explains the negative effects of performance measurement with two statements; ‘Performance measurement is “poor” and unfair’, and ‘Performance measurement isn’t dynamic’. What he means by this is that PINs do not accurately capture the full extent of the quality that is produced. It is not ‘rich’ in the information it provides. It is an oversimplification of complex processes, and a lot of information is lost by capturing it in simple indicators. An organizations effort, learning curve, or professionalism are unvalued when only the result is measured. The second statement about lacking dynamics refers to a conflict between a professional and managerial perspective. From a managerial perspective, the PMS needs to be stable and static to a certain degree in order to benchmark performance data. Without a benchmark, the data would be meaningless. From a professional perspective, a static PMS does not accurately capture the value being created in a dynamic environment.

These characteristics of performance measurement systems can manifest themselves in various unintended responses in the client-contractor relationship.

Unintended responses to Performance management

Substantial research has been conducted over the years that attempted to identify various forms of unintended responses to performance management systems. Other terminology often used to refer to the collection of unintended responses are; unintended results, unintended (behavioural) consequences, perverse effects, and adverse consequences. These terms are found to be practically used as synonyms throughout literature. A framework is introduced here that lists the most commonly mentioned unintended responses to performance management.

The framework is based off the work by Mannion and Braithwaite (2012), and has been tailored here with other literature. Mannion and Braithwaite (2012) originally identified 20 forms of unintended responses and grouped them under four categories; Poor measurement, Misplaced incentives and sanctions, breach of trust, and politicisation of performance systems. Additional sources have been added to those responses confirmed by other literature whereas others have been merged, reallocated, or excluded. The result of this is summarized in table 3.2, that lists 16 possible unintended responses under three categories; Measurement, Incentives and sanctions, and Interaction.
In the original framework *politicizing* was placed under a separate fourth category of *Politicisation of performance systems*. It is argued here that politicization on itself is not a critical mechanism that is necessary for a well-functioning performance contract. The consequences of politicizing however, can have a negative effect on the *interaction* between the parties, more than it will have on measurement or incentives/sanctions. Politicisation is therefore placed under *interaction* as an unintended response.

The responses listed here are not limited to either one side of the contracting parties. Both sides may show any of the listed forms of unintended responses to various degrees.

<table>
<thead>
<tr>
<th>Problem area</th>
<th>ID</th>
<th>Unintended response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>R1</td>
<td>Tunnel vision</td>
</tr>
<tr>
<td></td>
<td>R2</td>
<td>Measurement fixation</td>
</tr>
<tr>
<td></td>
<td>R3</td>
<td>Myopia</td>
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<td></td>
<td>R4</td>
<td>Ossification</td>
</tr>
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<td></td>
<td>R5</td>
<td>Anachronism</td>
</tr>
<tr>
<td></td>
<td>R6</td>
<td>Misinterpretation</td>
</tr>
<tr>
<td>Incentives and sanctions</td>
<td>R7</td>
<td>Overcompensation</td>
</tr>
<tr>
<td></td>
<td>R8</td>
<td>Under-compensation</td>
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<td></td>
<td>R9</td>
<td>Insensitivity</td>
</tr>
<tr>
<td></td>
<td>R10</td>
<td>Increased inequality</td>
</tr>
<tr>
<td></td>
<td>R11</td>
<td>Inhibiting innovation</td>
</tr>
<tr>
<td>Interaction</td>
<td>R12</td>
<td>Misrepresentation</td>
</tr>
<tr>
<td></td>
<td>R13</td>
<td>Gaming</td>
</tr>
<tr>
<td></td>
<td>R14</td>
<td>Power game</td>
</tr>
<tr>
<td></td>
<td>R15</td>
<td>Reduced staff morale</td>
</tr>
<tr>
<td></td>
<td>R16</td>
<td>Politicizing</td>
</tr>
</tbody>
</table>

Table 3.2. Framework unintended responses.

**Measurement:**

1. *Tunnel vision* is an emphasis by management on a few selected performances measures instead of a balanced focus on all measures. Various causes can be at the root of this. An often-mentioned example of tunnel vision is the over emphasis on performances that are quantified in the performance measurement system, at the expense of unquantified aspects of the performance. That is, a focus on the hard performance aspects over the soft ones. This may be in particular a challenge for government agencies since the distinguishing factor between the private and public sector is arguably the serving of respectively shareholders versus tax paying public. The satisfaction of the latter is harder to capture in quantitative indicators, whereas shareholders’ satisfaction is easier expressed in monetary units. (Emiliani, Stec, & Grasso, 2005; Johnsen, 2005; Mannion & Braithwaite, 2012; Schoenmaker, 2011; Smith, 1995).

2. *Measurement fixation* is an overemphasis on meeting a target rather than supporting the spirit of the measure. A minimal effort is put in to get the boxes checked and comply with the PMS. Instead of putting in the effort in the spirit of the contract and succeed in the underlying objective (Johnsen, 2005; Mannion & Braithwaite, 2012; Schoenmaker, 2011; Smith, 1995).
3. **Myopia** occurs when there is an overemphasis on short-term results and gains, neglecting the importance of long-term considerations. Performance indicators offer a snapshot of performances. However, some performances can only be observed over a longer period of time, making the use of performance indicators ineffective (Johnsen, 2005; Mannion & Braithwaite, 2012; Schoenmaker, 2011; Smith, 1995).

4. **Ossification** is the inflexibility of the PMS resulting in an organizational paralysis. A PMS is a bureaucratic performance system, and once set in place difficult to change. The performance evaluation can be a rigid and extensive. Furthermore, performance measures are set in advance for the future, meaning that opportunities may arise in a later stage that are ignored by the PMS. This can result in the obstruction of innovation. (Korsten, 2007; Mannion & Braithwaite, 2012; Smith, 1995).

5. **Anachronism** is the obsolesce of data. Gathering, processing, and using data will inevitably lag behind the real situation. When a PMS becomes excessively large this process will take longer, therewith increasing the obsolesce. This may compromise the quality of the PMS if not adequately adjusted to its environment (Mannion & Braithwaite, 2012).

6. **Misinterpretation**, resulting from interpreting oversimplified PMS data without proper context. Not all performance aspects allow to be captured in simple single dimensional measures. Qualitative and softer performance aspects can be easily overseen when this risk is not fully acknowledged. It is practically impossible, due to bounded rationality, to measure all facets of a performance. Another risk is that the client’s managers trust the PMS more than the experts’ assessment, and therewith ignore valuable context. Proper contextual information is therefore a necessity to prevent a systematically misinterpretation of performance data (De Bruijn, 2006; Mannion & Braithwaite, 2012; Schoenmaker, 2011; Smith, 1995).

**Incentives and sanctions;**

7. **Overcompensation**, compensating a contractor over and above for what they require meeting a performance target. Therewith opening the path towards gaining excessive profits by disproportionally focussing on certain performances (Mannion & Braithwaite, 2012).

8. **Under-compensation**, compensating less than what is required to meet a performance target. Meaning a contractor would lose money by pursuing this target. It is the opposite of overcompensating and can lead to a disproportionally neglect of a certain performance target (Mannion & Braithwaite, 2012).

9. **Insensitivity** of the PMS when the incentives and penalties are affecting the wrong people in the organisation. For example, when an entire department is rewarded for good performances, but in reality, a small group within the department is responsible for that success. This can also happen with penalties. This is especially problematic for complex products produced in co-production. All making the incentive and penalty system a blunt instrument (De Bruijn, 2006; Emiliiani et al., 2005; Mannion & Braithwaite, 2012).

10. **Increased inequality**, resulting from financially rewarding only those contractors who perform best. Leading to them strengthen their market position with bigger investments,
increasing the quality difference between competitors. These differences can further grow when performance data is published. Poor performing contractors may find it difficult then to recruit new staff to the extent that they become isolated from the market. Another scenario is that clients may lose trust in the capabilities of a contractor following a sequence of poor performance assessments from the PMS. This dynamic may lead in extreme situations to the creation of a monopolist in the market. (Mannion & Braithwaite, 2012).

11. **Inhibiting innovation.** Contractors may become risk averse when a work-method is found that requires relatively little effort. They’ll become a ‘middle in the pack’ contractor and feel comfortable with that. It is argued by some that a PMS stimulates the optimization of existing work-methods rather than experimenting with new ones. (De Bruijn, 2006; Emiliani et al., 2005; Korsten, 2007; Mannion & Braithwaite, 2012).

**Interaction:**

12. **Misrepresentation,** is the deliberate manipulation of the PMS by staff by feeding it distorted data. The PMS will therefore misrepresent the actual performances. This may be done to increase the performances and reap the incentives linked to it, or to cover up bad performances and evade penalties. Either way, it is the manipulation reported behaviour, not the manipulation of actual behaviour (Mannion & Braithwaite, 2012; Smith, 1995).

13. **Gaming,** is the other end of misrepresentation. Rather than manipulating the reported behaviour, the actual behaviour is manipulated. Gaming is described as ‘playing’ the system. Adjusting the behaviour to maximize the PMS outcome. PMS’s that respond to past behaviour, or PMS’s that are built on a few single-sided measures, are in particular prone to gaming. By adjusting their current behaviour, a contractor can influence the performance targets for next year. (De Bruijn, 2006; Emiliani et al., 2005; Johnsen, 2005; Kerpershoek, Groenleer, & De Bruijn, 2016; Korsten, 2007; Mannion & Braithwaite, 2012; Schoenmaker, 2011; Smith, 1995).

14. **Power-game,** refers a situation where two parties are mutually but not equally dependent on each other. And a party uses its position to pressure the other. This can happen within an organization or between organizations. An effect of a PMS is that performances are made explicit and easier to monitor. An example is staff being intimidated to achieve star rating performances, or a contractor pressuring it’s client knowing that they are the only ones with the specialized staff the client needs (Mannion & Braithwaite, 2012).

15. **Reduced staff morale,** when workers lose trust in the PMS because they feel they’re treated unjust. They may feel the PMS is setup unfairly the way it captures performances in measures and therewith feel the organization’s spirit is undermined. (Mannion & Braithwaite, 2012).

16. **Politicking,** using data the PMS for purposes it was never intended to do. This is an omnipresent risk with all data, but with PMSs in particular as it seemingly reduces complex performances to simple measures. It is akin to misinterpretation, but whereas misinterpretation refers to within-organization, politicizing refers to between organizations. Examples are media or higher government layers (Mannion & Braithwaite, 2012).
Although an attempt is made here to differentiate the unintended responses in clear cut categories, an important note must be made. In practice, not all responses allow to be as clearly divided as this framework may suggest at glance. Responses are intertwined, may be driven from the same motivation, and may affect multiple stakeholders. The strongest interrelations are explained below. This complexity is acknowledged and taken into consideration in the qualitative analysis of the empirical data.

*Tunnel vision* and *Measurement fixation* are similar responses. Both have a narrow interpretation the PMS. Tunnel vision is the focus from the client’s side on only measurable objectives, whereas measurement fixation is the focus from the contractor’s side on only the things that are being measured.

The by far most mentioned undesired response in the literature was *gaming*. It is a form of strategic behaviour where the contractor deliberately manipulates its actual behaviour to exploit the PMS to maximize its own gains, often at the cost of a client. Another form of strategic behaviour is *misrepresentation*. Misrepresentation is the manipulation of reported behaviour to ‘play’ the PMS, again to maximize its own gains. Strategic behaviour can be hard to identify, as covering up strategic intentions is arguably part of strategic behaviour. Furthermore, unintended responses cannot be adequately understood by narrowly focusing on opportunistic and self-serving desires (Kerpershoek et al., 2016, p. 432). Therefore, a wider approach is chosen in this research that argues that gaming and misrepresentation can be driven from other motivations than solely strategic. Regardless of the motivation, these responses will affect the degree of trust between client and contractor.

*Inhibiting innovation* is identified as an undesired response resulting from risk averse behaviour. However, the *ossification* of the PMS, *overcompensation*, and *myopia* can also inhibit innovation as a side effect. In case of ossification, a contractor may be willing to innovate, but the PMS simply does not allow for a change of work-methods. In case of overcompensation, a contractor is encouraged to avoid innovation as his current (possibly low risk) way of working is overcompensated. Myopia, the over-emphasis on short-term results, can encourage contractors to postpone big investments that innovative solutions require.

An often mentioned identified unintended response that has been left out from this framework is *cherry picking*. It is a reluctance in choosing what jobs to accept as a contractor, based on the effect it may have on the performance score of the whole organization (De Bruijn, 2006, p. 32). For example; a contractor may decline a job in fear of it negatively affecting its performance score. This is a form of adverse selection – see agency theory. This response would be observed in the ex-ante tender phase, and therefore falls outside the scope of this research. In sectors where contractors’ past performances are not monitored and used as a metric for future work, this form of unintended response would not occur. However, within the scope of a job, a contractor may be picky on which method to use, fearing a negative effect on the performance score. This form of cherry picking is covered under *inhibiting innovation*. 


3.2 Transaction-Cost Economics

Transaction Cost Economy (TCE) originates from the theory of the firm. It has been widely used to explain the underlying structures of economic exchanges and regards the transaction as a basic unit of analysis. The literature by O. E. Williamson (1985) is considered to be one of the first that formulated this concept. He explain transaction costs as the ‘economic equivalent of friction in physical systems’ (O. E. Williamson, 1985, p. 19). And uses it to explain the ‘imperfections’ of the economic (capitalist) world.

The theory is based on two behavioural assumptions; bounded rationality and opportunism, and a third non behaviour (Riordan & Williamson, 1985; O. E. Williamson, 1985, p. 43). This theory is introduced here as a basis to understand the imperfections in a client-contractor relationship. Later, two theories of Agency and Stewardship are introduced that build further on the TCE theory.

**Bounded rationality** is explained as the impossibility to create a contract that covers all unanticipated eventualities (Pang, Cheung, Choi, & Chu, 2015). As contracts become more complex it becomes increasingly more difficult to gather and process all necessary information to make fully rational decisions. The rationality is therefore bounded. Bounded rationality does not have to be a problem in simple low risk bearing contracts. However, in complex high-risk environments the incompleteness of contracts is prone to difficulties. O. E. Williamson (1985, p. 45) further mentions a common mistake to interpret bounded rationality as irrationality.

A complementary perspective to bounded rationality is that of incomplete contracts by Hart (1987, 2017). Hart argues that it is virtually impossible to write a complete contract that covers all contingencies due to bounded rationality. It is reasoned that contracts are written for the future, and that one cannot simply know all possible future scenario’s. Taking into consideration the presence of transaction costs, clients have two options; either adding details to contracts with the risk of costly revisions later, or a less detailed contract with more room for interpretation with the risk of losing grip on the product. Choices must be made, making any contract incomplete per definition.

Stout (2014, p. 550) explains that contracts fall alongside a spectrum of ‘completeness’. At one end, there are discrete contracts. These are simple clear-cut contracts for small exchanges between parties with a short duration. An example is the purchase of a bicycle. At the other end lie relational contracts. These involve complex, long-term, uncertain exchanges. For example, the employment of a CEO. It is practically impossible for such a contract to contain all required products a CEO is expected to deliver.

**Opportunism** is the other behaviour assumption. It is mentioned as the strongest form of self-interest seeking (O. E. Williamson, 1985, p. 47). It refers to a lack of honesty and is characterized by unethical behaviour, misleading, and deception. The possible occurrence of opportunism impedes fair contracting.

Together the conditions of bounded rationality and opportunism make up four possible environments in which contracts can be made, see table 3.3.
An absence of both conditions is considered a bliss, a utopian scenario with no difficulties. Considering that it's argued that real world bounded rationality is an unavoidable constraint (Stelten, 1999, p. 4), this scenario is an unlikely one.

In case either one of the two conditions are admitted, the problems can be mitigated by either adding a general clause to the contract or adding on till the contract is fully comprehensive. A general clause would be an agreement to openly and collaboratively share all information, and basically fully ‘trust’ each other as opportunism is absent.

When bounded rationality is absent, a fully comprehensive contract could be written that entails every detail needed to deal with every possible scenario. The contract wouldn’t be ‘incomplete’ anymore.

Serious problems however can be expected when both conditions are admitted. Meaning that the contract is not fully comprehensive, and that actors are willing to exploit that for self-interest.

Two contrasting theories, Agency and Stewardship theory, are further introduced here. The theories are founded two different human assumptions. Both theories are used here to explain the client-contractor relationship.

### 3.2.1 Agency theory

The earliest foundations of the Agency theory were created by; Wilson (1968), Arrow (1971), and Spence and Zeckhauser (1971) whom explored risk-sharing relationships among individuals. These foundations were later refined into the Agency theory by Jensen and Meckling (1976) from the field of institutional economics. The Agency theory separates ownership and management, and attempts to explain this relationship. The theory is also known as principal-agent theory, or agency dilemma.

They define it as following (Jensen & Meckling, 1976, p. 5): “A contract under which one or more persons (the principal) engages another person (the agent) to perform some services on their behalf which involves delegating some decision-making authority to the agent.”

This is the separation between ownership and management. The definition describes the relationship between owners (principal) and management (agent), in which the principal outsources work to the agent, and the agent performs work on behalf of the principal. This theory can apply to many hierarchical relationships like; teacher and student, prime-minister and ministers, or considering this research, client and contractor.

Agency theory is based on the human assumption that an actor is a rational being (rationally bounded), seeking to maximize its utility (self-interested) with the least possible expenditure (opportunistic) (Eisenhardt, 1989). Under these conditions there is good reason to believe that the agent will not always act in the best interest of the principal (Jensen & Meckling, 1976, p. 5).
Bounded rationality is a key concept of the Transaction Cost Economics (TCE) theory and refers to unavoidable constraints decision makers face. A clear distinction must be made with irrationality. Behaviour that fails to conform full rationality (a utopian concept) due to the constraints of bounded rationality cannot be simply dismissed as irrational (Stelten, 1999, p. 4).

The bounded rationale constraints are (Güne-Yanoff, 2007, p. 543); 1) the limited and often unreliable available information. 2) the human cognitive capacity to process information. 3) the limited amount of time available. These are all environmental conditions in which contracts operate. The presence of bounded rationality for PBMCs is therefore not inconceivable.

Risk aversion is problematic when the principal and the agent have a different attitude towards handling risks. Principals tend to generally have a lower risk tolerance than agents. These different risk profiles may lead to conflicts as the parties prefer different actions based on their risk profiles. Table 3.4 shows an overview of the assumptions made by the agency theory.

<table>
<thead>
<tr>
<th>Human assumption</th>
<th>Self-interest</th>
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<tbody>
<tr>
<td></td>
<td>Opportunistic</td>
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<td></td>
<td>Bounded rationale</td>
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<td></td>
<td>Risk aversion</td>
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<tr>
<td>Economic model of man</td>
<td>Individualistic</td>
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<td></td>
<td>Self-serving</td>
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<td>Governance</td>
<td>Monitoring</td>
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<td></td>
<td>Bounding</td>
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<td></td>
<td>Financial incentives and/or penalties</td>
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Table 3.4, Agency theory assumptions (Eisenhardt, 1989, p. 59).

The theory further suggests that the separation of ownership and management leads to the creation of agency problems, and the incurrence of agency costs to alleviate these problems (Madison, 2004).

Agency problems arise when (Eisenhardt, 1989, p. 58); (a) the desires or goals of the principal and agent are conflicting and, (b) it is difficult or expensive for the principal to verify what the agent is doing. Lambert (2001, p. 3) mentions four typical reasons for a conflict of interest between a principal and agent;

- Effort aversion by the agent.
- Diversion of resources by the agent for private use.
- Different time horizons, a short-term oriented agent vs a long-term oriented principal.
- Different risk-aversion by the parties.

Verifying an agent’s actions are difficult as a result from an information asymmetry problem. Information that is readily available to the agent is unavailable to the principal. This creates an asymmetry in information availability. Figure 3.5 shows the principal-agent relationship.
Two agency problems resulting from information asymmetry are identified (Eisenhardt, 1989, p. 61):

Adverse selection, can arise during the tender phase. Due to information asymmetry, the principal is unable to fully assess the agent’s competences to see if he fulfils the requirements for the job. This gives the agent a power position in the tender phase in the information that he provides. The selection of a contractor is therefore suboptimal.

Moral hazard, is the situation an agent can face in the execution phase. It refers to the lack of effort to fully act in the best interest of the principal. The principal is unable to see if the agent truly maximized its efforts to perform. This is again a consequence of information asymmetry.

The costs that arise from the information asymmetry are called agency costs. These are a form of transaction costs. Agency costs are defined as the sum of (Jensen & Meckling, 1976, p. 6):

Monitoring expenditures by the principal to verify the agent’s actions.

Bonding costs by the agent to report its actions to the principal to proof that he’s acting to the best of his abilities in the interest of the principal.

Residual loss resulting from imperfections in the quality of information provided from the monitoring and reporting efforts by respectively the principal and agent.

Thereewith, the agency theory essentially comes down to the trade-off between (a) the cost of measuring behaviour and (b) the cost of measuring outcomes and transferring risk to the agent (Eisenhardt, 1989, p. 61). The analogy can be drawn to the choice between an input-based or output-based contract.

Agency theory does propose mechanisms to reduce agency costs. It essentially comes down to financial incentive structures to align principal’s and agent’s interest (Jensen & Meckling, 1976), and combined with a monitoring and bounding regime to ensure the quality of work. More on the governance mechanisms in the following paragraphs where it is contrasted to Stewardship theory.
3.2.2 Stewardship theory

Akin to the Agency theory, Stewardship theory attempts to understand the relationship between owners and managers. The difference however, are the human assumptions that are made and consequently a different governance structure that logically follows from it. This theory was developed by Donaldson and Davis (1991) and finds its roots in psychology and sociology whereas Agency theory originates from economic theories. Stewardship theory is here introduced as a counterweight to Agency theory.

Davis et al. (1997, p. 24) describe the model of man that this theory is based on as; pro organizational and collectivistic. Meaning, that stewards are not purely self-interested and identify themselves with the principal’s organization. Their own interests are aligned with the principal’s resulting in pro-organizational behaviour (Cossin, Ong, & Coughlan, 2015, p. 4), see table 3.6.

This is in stark contrast with the human assumptions the Agency theory makes, which are; individualistic and self-serving.

The term stewardship originates from the old term domestic steward, who was someone who served households as a guardian or servant (Colins, 2004). The job encompassed a wide variety of tasks, all aimed at keeping the household running. It was a trusted position and vital for running the ‘operation’ of the owner. The essence of the modern interpretation of stewardship in business terms is still close to this definition as the Dutch translation ‘Huisvaderschap’ is.

Stewardship theory explains that professionals are driven from an intrinsic motivation rather than extrinsic motivations such as artificial financial incentive structures with bonuses and penalties. The intrinsic motivation comes from intrinsic rewards such as trust, reputational enhancement, reciprocity, job satisfaction, and responsibility (Van Slyke, 2006, p. 165). In situations where owner’s and manager’s interest would not fully align, the steward would value cooperation higher than defection. This would be beneficial when dealing with contract incompleteness.

Stewardship theory places greater value on goal convergence between parties than on the pursuit of self-interest (Van Slyke, 2006). The interest alignment between owner and manager is better in a principal-stewardship relation than in a principal-agent relation. This follows from the assumption that the success of the organization and the principal’s satisfaction are strongly related. The better the organization performs, the happier the principal will be. A steward is pro-organizationally oriented and gets its intrinsic motivation from maximizing the organization’s performance from a professional point of view. This leads to the essential assumption of Stewardship theory that behaviour of the steward is aligned with the interests of the principal (Davis et al., 1997, p. 25).

Apart from the behavioural attitude of a manager, an adequate governance structure is necessary to fully enable the benefits of this relationship. Where an Agency relation is governed by monitoring and controlling, a Stewardship relation benefits from a facilitating and empowering governance. This is further explained in the next section.

<table>
<thead>
<tr>
<th>Human assumption</th>
<th>Pro-organizational</th>
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<td>Collectivistic</td>
<td>Collective</td>
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<td>Other serving</td>
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<tr>
<td>Humanistic model of man</td>
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<tr>
<td>Governance</td>
<td>Facilitate</td>
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<td></td>
<td>Empower</td>
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</tbody>
</table>

Table 3.6, Stewardship theory assumptions (Davis et al., 1997, p. 24; Van Slyke, 2006, p. 167).
3.3 Agency theory and Stewardship theory compared

Both theories attempt to explain the owner-manager relationship, but from two contrasting perspectives. A side by side comparison is made in this paragraph as a build-up to a research framework. The comparison is made on two topics, the

<table>
<thead>
<tr>
<th></th>
<th>Agency theory</th>
<th>Stewardship theory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main theme</strong></td>
<td>Goal incongruence: Assumes goal divergence based on self-interested rational actors. Initial disposition is to distrust. Control-oriented management philosophy. Theoretical assumptions are from economics.</td>
<td>Goal alignment: Mutual goals and objectives achieved through initial trust disposition. Involvement-oriented management philosophy. Theoretical assumptions derived from organizational behaviour, psychology, and sociology.</td>
</tr>
<tr>
<td><strong>Model of man</strong></td>
<td>Individualistic, Economic, Self-serving, Short-term oriented</td>
<td>Collectivistic, Humanistic, Self-actualizing, Pro-organizational, Long-term oriented</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>Directive, Monitoring, Bounding, Financial incentives/ penalties, Assign risk to agent</td>
<td>Enabling, Empowering, Facilitating, Responsibilities, Trust</td>
</tr>
</tbody>
</table>

Table 3.7. Agency theory Stewardship theory comparison, adapted from (Davis et al., 1997, p. 37; Van Slyke, 2006, p. 167)

O. E. Williamson (1998, p. 26) distinguishes four levels of social analysis, see figure 3.8. The figure shows a hierarchy of four levels, level 1 being the highest, level 4 being the lowest. The hierarchy is shown in the figure with arrows. Full arrows represent the constraints that the higher levels impose on the lower levels. Dashed arrows represent a feedback from the lower levels.

The top level is the level of social embeddedness. It is the level of norms, traditions, customs and religion. Level 2 is the level of institutional environment and refers to the rules by which the economic activity is organized. Government, legislation, judiciary is located here. It is the level of formal rules and regulation based on the constraints from the informal level 1. As this whole research is conducted in the same country and society, these two levels are considered a given in this research.

Level 3 is where Transaction cost economics operates on. Considering levels 1 and 2 as the formulation of ‘the rules’, level 3 is how ‘the game’ is played. It is the level of firms, markets and bureaus. Level 4 is the level on which Agency and Stewardship theory operate on. Contracts are made on this level, where parties agree on price and resource allocations. This research observes the client-contractor relationship on a level 3 and 4. However, the differences between the concepts of Agency and Steward are here discussed on a level 1 (model of man) and level 3 (governance).
Table 3.8, Levels of social analysis (O. E. Williamson, 1998, p. 26)

### 3.3.1 Model of man

The *model of man* or the *human assumptions* that both theories are based on are fundamentally contrasting and can be explained by the cultural ‘individualism’ dimensions of (Hofstede, Hofstede, & Minkov, 2010).

The IDV dimension (individualism vs collectivism) is defined as following (Hofstede et al., 2010, p. 92); *Individualism pertains to societies in which the ties between individuals are loose. Everyone is expected to look after him- or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty.*

From a world perspective, highly individualistic scoring cultures are the Anglo world and North-West European countries. Predominantly collectivistic cultures can be found in Asia and South-America. In the collectivistic society people are raised to think as ‘we’ instead of ‘I’. The individual’s needs are of minor importance to the group’s. In terms of client-contractor relationships, a steward is described as someone who would place more value on goal convergence than on pursuing its own interest. This is in contrast with Agency theory that assumes a divergence in the parties’ interest.

Another category that contrasts the two theories; the *economic vs humanist* model. Agency theory reasons from an economic model of man. Meaning, that the agent will seek to maximize its own individual utility (Jensen & Meckling, 1976, p. 10). Stewardship is based on a humanist model, meaning that the steward is intrinsically motivated, self-actualizing, and pro-organizational. And furthermore, is willing to invest in the relationship with their principal, making them long-term oriented (Corbetta & Salvato, 2004, p. 356; Davis et al., 1997, p. 34).
3.3.2 Governance

Both Agency and Stewardship theory recommend two contrasting governance mechanisms in accordance with their assumptions about the model of man. Agency theory argues that given conditions of low trust, information asymmetry, and self-serving desires, an intense monitor regime with sanctions should be enforced to limit opportunistic behaviour and improve goal alignment (Pastoriza & Ariño, 2008, p. 3).

Stewardship theory argues that given the absence of opportunism and the presence of goal alignment, the relationship would benefit from a governance mechanism that is less focused on monitoring and more on non-financial rewards in the form of enhanced reputation and involvement.

The two contrasting governance mechanisms are described by Franco-Santos and Otley (2015, p. 5) as Directive, and Enabling.

Directive governance mechanisms follow the assumptions of the Agency theory and are aimed at ensuring accountability and transparency. This is done by strict directive governance of the principal to minimize the information asymmetry gap and provide extrinsic (financial) rewards. The information asymmetry gap can be minimized by information systems that monitor performances or employees’ behaviour, or report regimes where the employee continuously proves and justify its actions. Extrinsic rewards can be bonus schemes to incentivise certain behaviour. Such incentives can encourage a fixation on short-term goals. This type of governance is known in the Agency theory as, Agency costs.

Enabling governance mechanisms follows from the assumptions of the Stewardship theory. It is aimed at creating an environment of learning, trust, and flexibility. The employee is empowered, rather than directed. Strict monitoring and control mechanisms are not needed as goal convergence of the steward and principal are assumed (Madison, 2004, p. 16). This type of governance is in line with the model of man assumptions in the Stewardship theory of self-actualizing.

Figure 3.9 shows how the Agency theory and Stewardship theory view the effect of enabling and directive governance mechanisms on the performances of the Agent/Steward.

Given that these theories originate from the field of economics aimed at the shareholder (owner) and company executives (management) relationship, performance is often expressed in terms of ‘firm performance’, or ‘organization performance’. A more adequate term for this research to refer to the desired outcome is Asset performance.

As shown in figure 3.9, Agency theory suggests that performances will increase as more directive governance is implemented, whereas Stewardship theory suggests that more directive governance will only decrease performances.
Figure 3.9, Governance regimes, enabling vs directive Madison (2004, p. 17).
Chapter 4  Research framework
The framework introduced here is deducted from the literature findings in the previous chapter. It will be used to gather data in the following phase of the research, the empirical study. Two frameworks are formulated here. First, a framework that lists the most common unintended responses to performance management systems. And secondly, a framework that formulates a set of variables that can help determine an actor’s position on a scale of agent to steward in a plot. Lastly, a piece of literature on governance of change is introduced that is used to structure the interview questions.

4.1 Unintended responses to PMS
In paragraph 3.1.2 a list of 16 unintended responses was formulated and explained. That list, repeated below table 4.1, is used in the qualitative analysis to reflect upon the encountered unintended responses. Primary goal is to understand what unintended responses the respondents in the case studies encountered. The list below is used to categorize those unintended responses encountered in practice and reflect them upon the literature on PMS. This will be done in the qualitative analysis.

<table>
<thead>
<tr>
<th>Problem area</th>
<th>ID</th>
<th>Unintended response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>R1</td>
<td>Tunnel vision</td>
</tr>
<tr>
<td></td>
<td>R2</td>
<td>Measurement fixation</td>
</tr>
<tr>
<td></td>
<td>R3</td>
<td>Myopia</td>
</tr>
<tr>
<td></td>
<td>R4</td>
<td>Ossification</td>
</tr>
<tr>
<td></td>
<td>R5</td>
<td>Anachronism</td>
</tr>
<tr>
<td></td>
<td>R6</td>
<td>Misinterpretation</td>
</tr>
<tr>
<td>Incentives and sanctions</td>
<td>R7</td>
<td>Overcompensation</td>
</tr>
<tr>
<td></td>
<td>R8</td>
<td>Under-compensation</td>
</tr>
<tr>
<td></td>
<td>R9</td>
<td>Insensitivity</td>
</tr>
<tr>
<td></td>
<td>R10</td>
<td>Increased inequality</td>
</tr>
<tr>
<td></td>
<td>R11</td>
<td>Inhibiting innovation</td>
</tr>
<tr>
<td>Interaction</td>
<td>R12</td>
<td>Misrepresentation</td>
</tr>
<tr>
<td></td>
<td>R13</td>
<td>Gaming</td>
</tr>
<tr>
<td></td>
<td>R14</td>
<td>Power game</td>
</tr>
<tr>
<td></td>
<td>R15</td>
<td>Reduced staff morale</td>
</tr>
<tr>
<td></td>
<td>R16</td>
<td>Politicizing</td>
</tr>
</tbody>
</table>

Table 4.1, Unintended responses to Performance Measurement Systems.
4.2 Agency-Stewardship matrix
Two contrasting theoretical perspectives have been introduced in the previous chapter to describe the client-contractor relationship, respectively a principle-agent and principle-steward relation. The empirical research is set up to uncover how the parties managed their contract in terms of those two perspectives.

4.2.1 Agency-Stewardship matrix
The matrix that is used to plot the client-contractor relationship in terms of Agency and Stewardship (A-S) positions was proposed by Davis et al. (1997, p. 39), see figure 4.2. It allows to plot a relation between two parties and makes a set of predictions of how the parties will experience their relation. In this research, two relations are considered per case; PPO – Contractor, and PPO- District. This forms two matrices per case.

![Figure 4.2, A-S matrix (Davis et al., 1997, p. 39).](image)

The matrix reads as following: Agency and Stewardship are considered two extremes of a position an actor can take. If for example, a principal opts for a stewardship approach and the manager for an agency approach, their relationship will be positioned in quadrant 2.

The positions an actor can take in practice is logically complex and does not allow to be captured in a binary assessment. Therefore, a seven-step scale is used to position actors to add more nuance to the observations. This is further explained in the next paragraph.

The four quadrants are expected to be perceived as following (Davis et al., 1997, p. 38):

- Q1: A mutual agent relationship that is true to the principal-agent relation from the Agency theory. The manager has opportunistic tendencies but is kept in check by a controlling principal. The presence of the control mechanisms ensure that the agency costs are kept to a minimum.
- Q2: The principal manages the relationship as a steward and the manager chooses an agent relationship. This leads to a frustrated principal that feels betrayed. The manager can pursue it’s own interest at the expense of the principal. The management system was set up for the manager to be self-empowering which is being used to self-serve the manager’s needs.
• Q3: A mutual stewardship relation that is true to the principal-stewardship relation from the Stewardship theory. The potential from both actors is maximized. The manager positions himself as a steward and is self-actualizing, and the principal facilitates this. Both actors benefit from the goal-convergence.

• Q4: The principal manages the relationship as an agent whereas the manager chooses a stewardship relation. This leads to a frustrated manager who feels betrayed by the principal. The self-actualizing manager feels restrained by heavy control mechanisms he faces and might distance himself from the principal’s goals in a reaction.

These four situations show similarities with what is described in the Game theory as a prisoners’ dilemma (Davis et al., 1997, p. 38). Game theory studies strategic interactions between rational individuals or groups. Strategic interaction is defined as actors being aware that their choices affect the outcome for others (Kockesen & Ok, 2007, p. 6).

The prisoner’s dilemma is an example of a strategic game. It’s about two players that both have two strategies ‘cooperate’ and ‘defect’ (Turocy & Von Stengel, 2001, p. 8). This matrix is shown in figure 4.3. The numbers in the matrix represent the outcomes for the players, a higher number is a better outcome. According to this theory, the optimal result for an individual can be obtained by choosing to defect when the other chooses to cooperate, leaving the losing party with 0. This is similar to the above described Q2 and Q3 situations where either one of the two actors are frustrated.

However, there are some differences. The A-S matrix suggests that both Q1 and Q4 are harmonious relations with arguably the best individual results for both parties. This is not the case in the prisoner’s dilemma where both actors are left with an outcome of less than 3.

\[\begin{array}{cc}
\text{D} & \text{C} \\
\hline
\text{C} & 0 & 1 \\
\text{D} & 2 & 0 \\
\end{array}\]

*Figure 4.3, Prisoner’s dilemma matrix (Turocy & Von Stengel, 2001, p. 8).*

4.2.2 A-S variables

Determining whether an actor managed the contract as an agent or steward is a complex assessment. To help this qualitative assessment in the empirical phase, a set of variables is deducted from the literature study. Note that these variables are merely used as indications when processing the interviews. The variables are seen as part of a greater whole and together can help make an accurate assessment.

Three perspectives will be considered; the nationally coordinating department PPO, the regional IPM teams tasked with the daily management of the contract, and the contractor in charge of the actual maintenance works. All parties will be asked to reflect upon themselves and how they experienced their partner’s collaboration.
Agency and Stewardship are regarded as two opposing extreme positions. It can be expected that parties may hold a position somewhere in between the two extremes. A seven-step scale is proposed to plot the actors on, see figure 4.4. It is calibrated on the variables as further discussed in this paragraph.

Three main themes will be addressed in the interviews; Contract set-up, Governance, and Model of man. These three themes are further subdivided in workable topics. The overview of all variables is shown in table 4.5.

<table>
<thead>
<tr>
<th>ID</th>
<th>Independent Variable</th>
<th>Dependent variable agency</th>
<th>Dependent variable stewardship</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Contract incompleteness</td>
<td>Avoided</td>
<td>Embraced</td>
</tr>
<tr>
<td>A2</td>
<td>Level of detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specification level</td>
<td>- Part</td>
<td></td>
<td>- Subsystem</td>
</tr>
<tr>
<td>Specification type</td>
<td>Technical</td>
<td></td>
<td>Functional</td>
</tr>
<tr>
<td>B1</td>
<td>Monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Quantitative</td>
<td></td>
<td>Qualitative</td>
</tr>
<tr>
<td>Purpose</td>
<td>- Assessment</td>
<td></td>
<td>- Transparency</td>
</tr>
<tr>
<td></td>
<td>- Payment</td>
<td></td>
<td>- Learning</td>
</tr>
<tr>
<td>B2</td>
<td>Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>Low</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Importance</td>
<td>Low</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>High</td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Conflict resolution</td>
<td>Difficult</td>
<td></td>
<td>Easy</td>
</tr>
<tr>
<td>B3</td>
<td>Autonomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of autonomy</td>
<td>Low</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>High</td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>B4</td>
<td>Incentive structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence</td>
<td>Present</td>
<td></td>
<td>Absent</td>
</tr>
<tr>
<td>Financial</td>
<td>- Financial</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Horizon</td>
<td>Short-term</td>
<td></td>
<td>Long-term</td>
</tr>
<tr>
<td>C1</td>
<td>IDV-index</td>
<td>Individualistic</td>
<td>Collectivistic</td>
</tr>
<tr>
<td>Goal alignment</td>
<td>Low</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Horizon</td>
<td>Short-term</td>
<td></td>
<td>Long-term</td>
</tr>
<tr>
<td>C2</td>
<td>Motivation</td>
<td>Extrinsic</td>
<td>Intrinsic</td>
</tr>
<tr>
<td>Motivation</td>
<td>Economic</td>
<td></td>
<td>Psychologic, sociologic</td>
</tr>
</tbody>
</table>

*Figure 4.4. 7 step scale.*

*Table 4.5. Overview A-S variables.*
Contract Set-up

All PBMCs used at RWS are based on a single model-contract as designed by the national PPO department. The model-contract is updated and periodically revised but remains a backbone structure for all PBMCs. The reasons for how the contracts are set-up a certain way can be indicative for a party’s contract management approach, and in addition, how that was experienced. Table 4.6 shows the questions regarding contract set up.

<table>
<thead>
<tr>
<th>ID</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>How is contract incompleteness dealt with?</td>
</tr>
<tr>
<td>A2</td>
<td>On what level of detail was the contract written?</td>
</tr>
<tr>
<td></td>
<td>- Level</td>
</tr>
<tr>
<td></td>
<td>- Specification</td>
</tr>
</tbody>
</table>

Table 4.6, Questions regarding contract set-up.

Contract incompleteness is arguably an inevitable phenomena (Hart, 1987) resulting from bounded rationality. It is the limitation on accounting for every possible future scenario. Agency- and Stewardship theory advocate different approaches to cope with this difficulty. From an Agency perspective, contract incompleteness is undesired and needs to be minimized. It gives room to information asymmetry and subsequently less control over the contractor. The recommended governance mechanisms consist of increasing monitoring systems and bounding the contractor’s freedom. On the other end of the spectrum there is the Stewardship perspective that does not aim to solve contract incompleteness, but instead embraces it by empowering the contractor and managing the relationship.

The level of detail in the contract can be an indicator to see how much of a certain idea is reflected in the contract. Stewardship advocates for a controlling management approach, this could be in line with a more detailed contract with technical specifications. Whereas the other end of the spectrum would be a low detailed contract, written on a higher abstraction level. Table 4.7 shows a specification breakdown structure commonly used in the field of systems engineering (Wasson, 2006, p. 80).

<table>
<thead>
<tr>
<th>Level</th>
<th>Specification type</th>
<th>Level of detail</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Functional</td>
<td>Low</td>
<td>Stewardship</td>
</tr>
<tr>
<td>Subsystem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit</td>
<td>Technical</td>
<td>High</td>
<td>Agency</td>
</tr>
<tr>
<td>Part</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.7, Topics on level of detail.

Governance

Following the questions regarding the setup of the contracts, the actual governance mechanisms will be analysed. Contract governance shapes the relationship between two parties. Agency-theory and Stewardship-theory advocate for two opposing governance regimes.

Agency-theory recommends a directive governance regime in which a contractor is directed in his work. This is a regime that goes with strict monitoring and financial incentives. Stewardship-theory recommends an enabling governance regime. This is a more authorizing approach where the contractor is empowered to make his own decisions.

Several topics are selected on which the governance regime will be analysed. Table 4.8 shows these topics are formulated in questions.
The contractor’s work can be monitored in several ways and for several purposes. It could be arranged by a real-time set of quantitative performance indicators, or by a periodically qualitative inspection. The monitoring regime can fulfil one of four purposes; Transparency, Learning, Assessing, or Payment (De Bruijn, 2006, p. 17), see table 4.9.

<table>
<thead>
<tr>
<th>ID</th>
<th>Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>How was the contractor monitored?</td>
</tr>
<tr>
<td></td>
<td>- Form</td>
</tr>
<tr>
<td></td>
<td>- Purpose</td>
</tr>
<tr>
<td>B2</td>
<td>How was the interaction shaped?</td>
</tr>
<tr>
<td></td>
<td>- Frequency</td>
</tr>
<tr>
<td></td>
<td>- Importance</td>
</tr>
<tr>
<td></td>
<td>- Hierarchy</td>
</tr>
<tr>
<td></td>
<td>- Conflict resolution</td>
</tr>
<tr>
<td>B3</td>
<td>How much autonomy was the contractor granted in executing his work?</td>
</tr>
<tr>
<td></td>
<td>- Level</td>
</tr>
<tr>
<td></td>
<td>- Hierarchy</td>
</tr>
<tr>
<td>B4</td>
<td>How was the incentive or penalty structure setup?</td>
</tr>
<tr>
<td></td>
<td>- Presence</td>
</tr>
<tr>
<td></td>
<td>- Financial</td>
</tr>
<tr>
<td></td>
<td>- Horizon</td>
</tr>
</tbody>
</table>

Table 4.8, Questions regarding contract governance.

Interaction between parties is crucial for the relationship. The way the interaction was shaped and experienced can reveal what approach the parties had. Stewardship theory emphasises the importance of the client-contractor relationship. It even argues that sometimes performances of the work are of secondary importance to the quality of the relationship. Such a relationship-oriented approach requires proper communication moments and low levels of hierarchy to work. Meaning that the parties enter conversations as equals without using a power position and can communicate without reluctance. Reasoning from this, conflict resolution should be relatively easier when hierarchy levels are low and the relationship itself is valued. Table 4.10 shows these topics.

<table>
<thead>
<tr>
<th>Interaction Frequency</th>
<th>Importance</th>
<th>Hierarchy</th>
<th>Conflict resolution</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Easy</td>
<td>Stewardship</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Difficult</td>
<td>Agency</td>
</tr>
</tbody>
</table>

Table 4.10, Topics on interaction.

The degree of autonomy the contractor is granted is another topic on which the governance is analysed. Stewardship theory advocates a governance in which the contractor is empowered to autonomously carry out the work as he seems fit. The contractor has the freedom to design and plan the work, without going through a hierarchical system to get permission. Agency theory recommends a low level of autonomy. It reasons that when given the space, an individual will pursue its own interest at all costs.

<table>
<thead>
<tr>
<th>Level of Autonomy</th>
<th>Hierarchy</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Low</td>
<td>Stewardship</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Agency</td>
</tr>
</tbody>
</table>

Table 4.11, Topics on autonomy.
Stewardship theory emphasizes the relationship and communication as mechanisms to steer towards desired responses. At the other end of the spectrum, Agency theory emphasizes that a contractor needs external (financial) incentives to ensure goal alignment. These are two extreme positions that subsequently lead to a wide spectrum in between where parties can position themselves. Incentives can be rewarding or punishing, financial or non-financial, and focussed on short-term or long-term gains. Short-term gains can be redeemed almost instantly. It’s the opposite of long-term gains that may even exceed the contract term before fully benefited from. Table 4.12 shows these topics.

<table>
<thead>
<tr>
<th>Incentives/ Penalties</th>
<th>Financial</th>
<th>Horizon</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absent</td>
<td>N/A</td>
<td>N/A</td>
<td>Stewardship</td>
</tr>
<tr>
<td>Present</td>
<td>Financial</td>
<td>Short-term</td>
<td>Agency</td>
</tr>
<tr>
<td></td>
<td>Non-financial</td>
<td>Long-term</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.12, Topics on incentives.

Model of man

On a higher level of social analysis, as discussed in paragraph 3.3, the two theories make different assumptions about the model of man. Because of the higher abstraction level, it is difficult to categorize a party based on a few single interviews and variables. Therefore, these variables are not directly translated into any interview questions but will be used to look for any trends in the provided interview answers.

<table>
<thead>
<tr>
<th>ID</th>
<th>Model of Man - motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Was an individualistic of collectivistic position adopted?</td>
</tr>
<tr>
<td></td>
<td>- Goal alignment</td>
</tr>
<tr>
<td></td>
<td>- Horizon</td>
</tr>
<tr>
<td>C2</td>
<td>Motivation</td>
</tr>
<tr>
<td></td>
<td>- Intrinsic or extrinsic</td>
</tr>
<tr>
<td></td>
<td>- Economic or pro-organizational - psychologic and sociologic motives</td>
</tr>
</tbody>
</table>

Table 4.13, Questions regarding the model of man.

A main theme on which the two theories differ is that of individualism versus collectivism. It refers to the degree to which parties see themselves as part of a group, and to which degree they value their own interests over that of their partner’s. A Stewardship approach can be characterized as collectivistic, and an Agency approach as individualistic.

Goal alignment is a topic both theories make strong human assumptions about. Agency theory reasons that goal incongruence is the point of departure in a client contractor relationship. This is reasoned from the self-interest both parties have and consequently leads to a position of distrust. Stewardship theory reasons the opposite, that goal alignment is the point of departure following from a pro-organizational behaviour of both parties. Goals can be negotiated and aligned for the sake of preserving a good relationship.

The long-term or short-term orientation has been covered in the governance theme. That was mainly aimed towards analysing the incentive mechanisms embedded in the contract. Here, under the theme of model of man, it is aimed towards the personal motivation of the parties. A long-term orientation that exceeds the contract term and anticipates on the future prospect of work is a Stewardship position. An Agency position has the tendency to isolate contracts from one another and not look further then the contract term. This is a short-term orientation. Table 4.14 shows these topics.
Agency theory further strongly recommends a system of financial incentives to motivate a contractor. It is reasoned that a contractor will pursue its own interest if given the freedom and can only be motivated to change direction if incentives are offered. A contractor is therefore extrinsically motivated. Stewardship theory reasons from an assumption that contractors are pro-organizationally oriented. Their motivation to deliver work comes from an intrinsic desire to deliver proper work and fulfill their profession. Table 4.15 shows an overview of these topics.

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Driver</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic</td>
<td>Psychologic, sociologic</td>
<td>Stewardship</td>
</tr>
<tr>
<td>Extrinsic</td>
<td>Economic</td>
<td>Agency</td>
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</tbody>
</table>

Table 4.15, Topics on motivation.

### 4.3 Governance of change

This theory is introduced here as a way to structure the interview questions. It is acknowledged that the PBMCs as used by RWS are the product of a change that the organization went through. Borrás and Edler (2014) propose a three-pillar framework to understand how change in socio-technical governance regimes develops. This framework will be used to understand how PBMCs were adopted, and if it can help explain where some of the encountered unintended responses come from.

The three-pillar framework consist of:

1. **Opportunity structures and capable agents**, who and what drives change? What opportunities are created for change, and which agents take those opportunities?
2. **Instrumentation** of the governance of change, how do agents induce change and with what tools?
3. **Legitimacy** of the governance of change, why is it accepted or rejected?

The opportunity structures and capable agents drive the governance of change. The interaction between these two is crucial to understanding the process of change. Change would not happen if only one of the two is present. Emerged opportunities are utilized by agents, this interplay is crucial for governance change. Opportunities are not per definition ‘good’ in normative terms (Borrás & Edler, 2014, p. 27), as for example the financial crisis in 2008 that created opportunities
for new technologies to emerge. Also, opportunities are also not limited to new technology or knowledge, but can include a specific social institution like regulation, worldviews, routines, etc. Agents are driven from their own individual aspiration like recognition of their work or monetary gains.

Instruments in the governance of change are the mechanisms used by agents to induce and influence change in the socio-technical systems. A distinction is made between policy instruments of the state and social agent’s instruments from society. State instrumentation is often identified as policy instruments. Whereas social instrumentation is more difficult to define, as it encompasses social interactions that manifest in many forms. Both are types however are forms of governance instrumentation. Different views exist in the literature on which of the two types is more important, but Borrás and Edler (2014, p. 33) stress that a holistic view on governance instrumentation is necessary. State-led and social agent’s instrumentations co-exist and interact.

The legitimacy of governance change pertains to the acceptance or rejection of the change. Legitimacy is here subdivided into input-legitimacy and output-legitimacy. Input-legitimacy is enjoyed when the process of how the change came about is accepted. Generally, input-legitimacy is achieved when the community which is affected by the change participated in the process, for example citizens in a democratic election. Output-legitimacy is the acceptance of the result of the change process. This is often based on its capacity to solve the problem it was intended to solve. Both input and output-legitimacy are needed to grant legitimacy to the whole process of governing change. Therefore, they cannot be seen as disconnected. Whether a process is legit or not is an intrinsically normative question because the definition of a legit process is based on normative theories of democracy and social order (Borrás & Edler, 2014, p. 38).

4.4 Interviews set-up
The interviews are conducted as half-structured. Meaning that a set of interview questions are prepared and allowing room for follow-up questions to be asked when the researcher suspects an interesting lead.

The interview questions follow the three-pillar framework of the Governance of change theory. That is three overarching categories:

- Opportunity structures; What motivated the adoption of PBMCs?
- Instrumentation; How was the PBMC experienced?
- Legitimization; How do you view PBMCs (input/output legitimacy)?

The full transcriptions of the interviews can be found in the appendix D, an analysis of the interview data in appendix C, the interview protocol in appendix A, and the interview questions in appendix B.
Part III - Empirical study
Chapter 5  Within case findings

This chapter shows the findings of the three cases, per case. The findings are based on the data obtained from the interviews. As a measure to make the enormous amount of data workable, the transcribed interviews were sorted in an overview per case, per topic. This scheme can be found in appendix C.

5.1 Case A

Respondents for this case:

<table>
<thead>
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<th>Case</th>
<th>Party</th>
<th>Function</th>
<th>Interviewee code</th>
<th>Interview code</th>
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<td>CA_PPO_01</td>
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<td></td>
<td>District</td>
<td>Leader asset management department</td>
<td>OWN_03</td>
<td>CA_OWN_03</td>
</tr>
</tbody>
</table>

Table 5.1. Respondents case A.

All three respondents were involved in this contract from beginning till end. None of them left or were replaced during the contract execution phase.

5.1.1 Essence and expectations

There was consensus among the three parties to what the essence of the PBMCs was, and what RWS was trying to accomplish with them. A few years ago, RWS made the decision to put more responsibilities and work at the private market and shrink their own organization. It was an efficiency decision, aiming to do more with less civil servants. It was reasoned that the market is better capable of combining and coordinating the different works. Autonomy of the market was the keyword. From the ‘market unless’ thinking, the choice for PBMCs was a logical one. The essence of the PBMCs used was two-fold; firstly, a predominantly functional specification granting the contractor more freedom in formulating its maintenance activities. And secondly, increasing the scope of the contract. The scope increase now included multiple types of objects that used to be tendered under separate contracts, making the contracts ‘integral’. All this had the goal for RWS to take a step back as client and let the contractor manage its own work. RWS wanted to become an enabling client instead of a directive one.

‘Nu staat er in het contract “er mag geen water op de weg blijven staan.” En het is aan de opdrachtnemer hoe hij ervoor gaat zorgen dat er dan geen water op de weg blijft staan. Of hij dan één keer per jaar, of tien keer per jaar die kolk wil schoonmaken, daar liggen wij niet meer wakker van.’ CA_PPO_01, A_10

The expectation of PPO was that this contract would be relatively easier to manage than the previous RAW contracts because they intended to abstain from directive control mechanisms. However, the asset manager at the district was more sceptical and had a lot of questions as to why PBMCs had to be introduced. He foresaw difficulties that the transition of responsibilities from the district to the market would bring and an increase of transaction costs.

1 ‘Now the contract states “there may not be any still standing water on the road.” And it is up to the contractor to meet that requirement. Whether he decides to clean the gutter once a year, or ten times a year, we are not concerned with that anymore.’ CA_PPO_01, A_10
5.1.2 Received (unintended) responses

There was a big difference in the experiences the parties had with the contract. Although PPO and the district’s AM were generally positive about the contractor’s work, results, and collaboration with him. It became apparent that the majority of the negative unintended responses were encountered within the RWS organization. That is, between PPO and the district’s AM.

‘In de praktijk kan de markt het prima aan… De moeite zat niet daarin, maar veel meer met de interne organisatie.’ CA_PPO_01, A_352

The contractor was generally content with how its direct counterpart, the PPO manager, dealt with the PBMC. PPO tried to give the contractor the appropriate space to design and plan their own work, and was primarily managing the contractor’s quality assurance systems rather than steering on the product itself. When the contract itself was not sufficiently guiding and needed clarification or interpretation, PPO was found easy to talk to and willing to help out where they could by the contractor.

PPO confirms this positive relationship and continues by saying that they experienced the contractor as a party that prioritized getting the work done over discussing financial reimbursements. This happened on subjects where the contract was incomplete.

However, negative unintended responses were received from the district’s AM by PPO, and vice versa. The PPO contract manager was unpleasantly surprised by how much energy and work he had to put in to satisfy his internal client. He felt that the district’s AM had trouble with letting go of some of his responsibilities and transferring them to the contractor. Responsibilities such as doing inspections, creating risk analysis, and planning. In other words, the district’s AM had difficulties managing the contract as an enabling actor. This was confirmed by the fact that the district’s AM complained about PPO not having the contractor under control and needed to be more directive.

The district’s AM confirms this. In his opinion, three major problems were encountered with the PBMCs:

Firstly, the PBMCs were too big for PPO to manage, resulting from the integral character of the PBMC where multiple objects were put under a single contract. Leading to PPO being unable to keep a close eye on the contractor, which lead to the contractor slacking.

Secondly, because of the functional specification, the district’s AM found that PPO couldn’t refer back to the contract to force the contractor to perform certain activities. PPO defended that by pointing at the ambiguous interpretation of the functional specification, and that they therefore couldn’t force the contractor.
And thirdly, the district’s AM found that this contract showed why the state of the assets make them unfit to be put in a PBMC. The PBMCs are based on the agreement that RWS hands over the assets in a certain state, and that the contractor should be able manage the natural degradation of these assets with daily routine maintenance till the next planned moment of large maintenance. It turns out however, that more than often parts of the asset did not meet these standards at the start of the contract. In other words, the assets were in too bad shape to meet the functional specifications by merely performing daily routine maintenance. In a reaction to this, the contractor made an enormous list of points on which the assets were not up to standards, and simply refused to include this in the scope of the contract unless additional financial means were added. This undermined the whole essence of the PBMC in his opinion. Striking was that the AM understood why the contractor did what he did, and didn’t blame him. Instead, the AM’s frustration was aimed towards the PBMC and how it was lacking a directive governance from RWS.

The district’s AM was further outraged by the way PPO dealt with these shortcomings. PPO was incredibly reluctant to get into the details of how and what the contractor was doing, and instead kept managing the quality assurance systems at an abstract level. Even when the AM would bring clear evidence that for example roadsides were poorly maintained, PPO kept saying that there is no reason to intervene because the ‘SCB-toetsen’ were positive. This distant management approach was extremely frustrating for the AM to see.

Although the contractor had very little contact with RWS beyond PPO, he suspected that there were strong voices within RWS that had a lot of criticism in how he executed his work and that the district was encouraging PPO to be more controlling.

5.1.3 Reaction and results

PPO was generally content with how the contractor worked, but there had been instances where PPO chose to temporarily put a partial hold on the payments because the contractor was insufficiently able to prove that they had fulfilled the requirements regarding the maintenance of pumps and plumbing stations.

This is one of the examples where PPO lifted the hold shortly after because the contractor was responsive in improving his quality assurance system.

The District’s AM said that the problems he faced with PPO were never solved. That it was a lengthy argument throughout the whole contract period, and RWS was never able to get a firm grip on the contractor. Despite having set up dialogues within RWS to define what ‘quality’ is to PPO.

5.1.4 Suspected causes of experienced difficulties, and recommendations

PPO valued the short communication lines the contractor had with his superior, making them decisive and well responsive to feedback. The collaboration with the contractor was further pleasant because of the personal ‘click’ the managers had. This can best be described as a similar approach of the contract. This is partially dependent on the character of the people themselves.

3 ‘PPO nam niet aan wat wij hen aanreikten als informatie over het areaal… En als zij dan eindelijk overgingen tot toetsen, dan bleven zij weer toetsen op dat hoge niveau. Woedend werd ik daar af en toe van!’ CA_OWN_03, A_35
Furthermore, PPO understood the AM’s desire to dictate more and to a certain extent agreed with it. This is due to the nature of some objects that have a lifespan that exceeds the contract’s term. PPO recommends a maintenance plan to be provided for those objects, and let the contractor design its own plan and prove how he is going to support that.

The contractor only had contact with PPO, and sometimes had trouble understanding the motivation of PPO’s feedback. He had no contact with the internal RWS client, and because everything went via the PPO contract manager, the decision making felt very slow and tedious. He therefore recommends taking a better look at formal and informal collaboration between all the RWS stakeholders and the contractor.

The district’s AM was strongly dissatisfied with the use of PBMCs for his assets. He found that the contract put too much risk at the contractor, and that the contractor could not and did not want to carry those risks, which he fully understands. The assets were in too bad of a state to be put under a functional specified contract. Also, all the knowledge the district had about the shortcomings of the assets couldn’t be shared with the contractor. The contract missed grip and pressure on the contractor (not directive enough) because it was ambiguously formulated (contract incompleteness) and the area (total amount of assets) was too large to keep a close eye on him.

The district’s AM was also dissatisfied that the contract was tendered on predominantly price criteria, and that the contractor subsequently interpreted the functional specification in the most minimalistic way possible to be able to put in a low bid and get the job. Another cause of the problems was the way PPO handled the quality assurance management, where PPO refused to get into the details of the product and stay at a system level.

He would have preferred if after handing over the functional specification, he as AM would have had a moment to assess the contractor’s plans, instead of blindly trusting on the contractor as had happened now. The contract should cover either fewer assets, or be further specified, said the district’s AM.

### 5.1.5 Legitimacy input/output

The contractor was very satisfied with the PBMC. He is convinced that he as maintenance expert knows what is best for the asset’s maintenance, and sees it as an opportunity to stand out from his competitors. He acknowledges that they had to grow into it, but at the end it makes his work that much more enjoyable and fulfilling. Both contractor and PPO agree that PBMCs are definitely the way forward, and going back to the situation before would be unwanted.

‘Bij mijn eerste projecten bij RWS kreeg ik alleen verzoeken van RWS “mag ik vrijdag 2 mannen en een veegauto?”, en ik leverde aan. Ik moet er niet aan denken om nog zo een uitzendbureau te zijn.’ CA_CON_02, A_544

The district’s AM was less impressed with the PBMC. He was dissatisfied with how PBMCs came about. It was perceived as a decision made by the national RWS branch, and without much consideration implemented. It lacked input legitimacy for him.

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4 ‘At my first projects with RWS, I’d only get requests like “can I have next Friday two men and a road sweeper?”’, and I just delivered. I cannot imagine still being an employment agency like that.’ CA_CON_02, A_54
He felt that the work was taken from the district, and placed under a newly created PPO branch. He also disagreed with the choice for PBMCs. In his opinion, they may have solved a few problems but created so many new ones that they are not worth the effort.

5.1.6 Interpreting positions

PPO - Contractor. Both PPO and contractor had a similar and positive experience working with each other. The contractor was generally happy with the freedom PPO gave him after having to prove that he could carry the work responsibly. However, they also felt that in some instances PPO had the tendency to dictate their work. Presumably based on advice from their district’s AM. Vice versa, PPO found that contractor could have been more long-term oriented when planning their work and proposing ‘life-extending’ maintenance works. Also, they were sometimes seeking PPO’s approval like in the days before PBMC’s. In that view, the contractor could’ve been more independently working.

PPO - District. The district found PPO steering at a too abstract level. Even when the district provided photo evidence, PPO stuck to their reasoning that because everything looked okay at an abstract level there was no need to question the product. In their view, PPO was only interested in the relationship and processes, and could not be bothered with the actual product itself. PPO and the district both agreed that the district would have liked to be more involved in the way the contractor carried out the work. The district’s AM was not at all impressed by the change PBMCs had brought to his district and the quality of the assets.

5.1.7 Summary

The contractor and PPO had a positive experience with this contract. Both enjoyed working with each other and the product it delivered. Difficulties were experienced between PPO and the district. The district was not content with how PPO was managing the contract, and PPO found the district’s opinion of poorly maintained assets ungrounded. The district’s AM blamed the ‘integral’ and functional characteristics of the contract for this.
5.2 Case B

Respondents for this case:

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<td>CB_OWN_06</td>
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The district’s AM was involved in this contract from beginning till end. Changes were made at both PPO and contractor’s side. Two PPO managers were involved, PPO_01 was replaced by PPO_04 after a year into the contract. At the contractor’s side, three project managers had been involved in total. The first two were unavailable for interviews, but the last manager was, CON_05.

5.2.1 Essence and expectations

For the district’s AM and the contractor’s project manager, this contract was one of their first PBMC’s. Their expectations were similar in that they both mentioned ‘proper housekeeping’ (Dutch: goed huisvaderschap) immediately when asked about their expectations. Meaning handing over control of the assets, and RWS taking a step back as in; no more steering on product details but instead keeping an eye on the general processes. In other words, an enabling governance.

PPO mentioned the emphasis on a functional specification that should give the contractor more freedom in planning, formulating, and combining his own work. The expectation was that this would lead to a more optimized and efficient maintenance process, and less hinder for road traffic.

The PPO_04 manager was the only one who had doubts about these expectations. In his view, daily routine maintenance has little room for innovative solutions, due to the simplicity and relatively small scope of the works. A crash barrier will always be a crash barrier, and other aspects like asphalt are incredibly detailed regulated that there is little room for innovation.

PPO and the district both mentioned that reason for the adaptation of PBMCs by RWS was to shrink the organization, and to do more with less civil servants. Obtaining this by making the contracts more ‘integral’ and scaling them up.

The district further had the expectation that by introducing the performance measurement system (Dutch: prestatiemeetsysteem), they could better differentiate between the good and bad performing contractors. This would be helpful in future tenders where bad performing contractors can be excluded from bidding.

5.2.2 Received (unintended) responses

There was a consensus between PPO and the district’s AM that the contractor did not live up to their expectations of being a proper housekeeper. From the start of the contract there was a lot of discussion with the contractor about the condition of the assets, and what parts of it were not up to standards.

The contractor defended by arguing that the contract was based on the agreement to uphold the current state of the asset by performing daily routine maintenance, not to improve it. PPO agreed that the assets were in poorer condition than promised in the contract, and also acknowledges that agreement of the contract. PPO therefore partially blamed the district for having unrealistic
high expectations of the assets functionality and that they didn’t fully understood the essence of the contract.

What was disappointing for PPO was how the contractor acted in these discussions. Their view was very black and white, and limited to the letter of the contract. In their opinion any asset that was in poorer condition than mentioned in the contract, could be left out in its entirety. Refusing to maintain it, or to further look for a solution together with RWS without the assurance of additional payments. The contractor defended that by claiming that for example the public lighting was so old that it was unsafe to work on. Or that based on random sampling that the entire areal assets were in poor condition. Again, to some extent PPO had an understanding for this reasoning but was generally unhappy with how uncooperative and unconstructive the contractor was in his approach. PPO compared him with other contractors working in the same district and had similar discussions with them. However, none of those contractors ever discontinued maintaining the entire object.

‘Toen ik bij dit contract kwam lag bij de eerste bouwvergadering (met de aannemer) het contract al op tafel. “Wat is dat?!” vroeg ik. Dat was ik niet gewend!’ CB_PPO_04, A_18

A second discussion PPO had with the contractor were claims about additional works. Many of the works the contractor did were in PPO’s view part of the contract but weren’t in the contractor’s view. And was therefore reason to argue for additional payments because the activities should be marked as ‘additional works’. These discussions were held continuously throughout the whole contract term, and even after that the contract has ended some remain unsolved.

A few times, the contractor used its power position to force PPO to ensure additional payments. Examples are during a calamity where an immediate response was necessary. The contractor then refused to answer that call unless PPO gave them carte blanche.

‘Een keer moest er een noodstroomvoorziening geplaatst worden, een calamiteit, toen weigerden ze de weg op te gaan tenzij wij hun carte blanche gaven. Misbruiken van de situatie is dat, als RWS werd je keihard met je rug tegen de muur gezet.’ CB_PPO_01, A_36

PPO felt like every dialogue they had with the contractor about the work escalated into a discussion about additional payments. The contractor was found only to be interested in doing a bare minimum of work. At some point the collaboration came to a dead end. This is when they agreed on calling for a mediation. But that too was of limited help as all the discussions started again as soon as the mediator left.

At some point the contractor admitted to PPO that this behaviour was financially driven because he won the tender on a too low bid, and that looking for additional works in the contract was part of their ‘business model’ to increase revenues. There was no goal-convergence between the two actors.

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5 ‘When I joined this contract, a hard copy of the contract was put on the table at the first meeting with the contractor. “What is that?!” I asked. I wasn’t used to that!’ CB_PPO_04, A_18
6 ‘One time an emergancy power supply was needed. The contractor refused to place that unless he got carte blanche. They abused the situation.’ CB_PPO_01, A_36
All considered, this cost PPO a lot of time and energy to manage. The expectation to do more with less people did not come out. Quite the opposite happened, they had to double their internal capacity. The same thing happened at the district’s. For them, the contract was also more intense to manage than they expected.

The contractor too had encountered some negative unintended responses. They admitted that the paperwork to verify and validate their work towards RWS was more than expected. Consequently, they too had to double their internal capacity to handle this. Furthermore, from their view RWS sometimes approached them with ‘wishes’ rather than requirements. Meaning that the requests RWS had were in their opinion outside the scope of the contract. And they were therefore not obliged to fulfil those. These could be requests like mowing a roadside one more time than planned because the district found the grass growing too high, but for the contractor it was still within their allowable limits. It was a difference in interpretation of the functional specification.

The contractor was also dissatisfied with how RWS viewed their own assets. In their opinion, RWS did not take the poor state of their assets sufficiently into account which lead to them keeping the contractor to a too high standard. Shortcomings of the assets were according to the contractor a result of the poor initial condition of the assets, and not of their maintenance regime.

The contractor was further frustrated that they could not have a direct communication line with the district themselves. All communication went through PPO. At the contractor this was internally known as ‘the RWS black box’. It made it difficult for them to comprehend feedback from the district because they only received it via PPO without proper context.

### 5.2.3 Reaction and results

There was a lot of escalation between PPO and the contractor when disagreements arose. Management and project managers became involved, but those were often short-lived victories. The problems were solved when escalated, but after the management was gone and the payment restrictions were lifted, the discussions started all over again, only now over a different part of the area. PPO gave penalties, but every penalty was another point of discussion. The contractor never agreed with them and tried blaming RWS for a lot of it.

PPO tried increasing the frequency of personal meetings, but that was more of the same result. The conversations quickly spiralled towards the contract details and weren’t fruitful.

A mediator was called in, but that didn’t help much. PPO found that the contractor reacted positively when discussing contract details was avoided, and instead the quality assurance system was focussed on.

Another reaction that helped was organizing sessions in which both parties clarified how they interpreted the specification. RWS could explain their expectations and why/how they wrote the contract. And the contractor could motivate their interpretation. These were experiences as positive, especially by the contractor. It helped them understand the meaning of their client behind the functional specifications.

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The quote is from CB_PPO_01, A_15.
5.2.4 Suspected causes of experienced difficulties, and recommendations

The contractor claimed that RWS did not communicate clearly enough their expectations of the contract. The district’s AM claimed that not all the district’s wishes were accurately captured in the contract. And that that RWS was a little naïve to think that by just specifying functionally, the market would pick it up in the way they imagined. The contractor emphasized that the specification was not SMART enough. The difference in interpretation between contractor and PPO mentioned by all parties.

‘Het helpt enorm als alles goed is afgekaderd, en dat je precies weet wat er van je verwacht wordt.’ CB_CON_05, A_21

Another point was the poorer condition of the assets then was considered in the contract. The contractor blamed RWS for not having provided accurate information about it during the tender. PPO agrees with this shortcoming from their side.

The district had shrunk their department significantly with the introduction of PBMCs. The PPO department was set up generally smaller that the district. This made it practically impossible for them manage the contract *directively*. Something that was necessary in the district’s opinion to get proper results from the contractor.

Another point was the level on which discussions were held. Discussions between PPO and contractor were fruitless when held on detailed product level, but when held on process level the two parties would more often reach consensus. And this is where disagreement between PPO and the district arose. The district preferably saw PPO managing *directively* instead but found PPO only steering on processes.

‘Hoe blijf je uit die inhoud, maar zorg je er toch voor dat dat wat we krijgen goed is in details. Dat is de vraag.’ CB_OWN_06, A_43

Further, multiple managers had been swapped at the contractor’s side. New people were put on the contract that were even more fixated at the contract letters instead of the spirit of the contract. The two PPO managers and the first contractor’s project managers couldn’t get along. On maintenance philosophy and on personal level. Things changed later when in the last year another project manager was appointed by the contractor. The relationship at management level significantly improved, because the new project manager was more willing to cooperate. However, little changed the way the work outside was carried out outside, according to PPO.

5.2.5 Legitimacy input/output

Although substantial difficulties were encountered in this contract by all parties, none of them would prefer to write off PBMCs in its entirely and go back to the situation before them. There is a consensus that the way forward is that RWS is retreating as a client, and that the market will have to become more independent and *self-actualizing*.

There is also agreement that the PBMCs are now far from perfect. Especially the district would like to see a better balance between steering on the abstract and the specific. They criticized they way the SCB system is used by PPO.

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8 ‘It is incredibly helpful if everything is well defined, and you know exactly what is expected from you.’ CB_CON_05, A_21
9 ‘How do you stay away from the content itself, but meanwhile ensure that the product you get is proper on detail level. That’s the question.’ CB_OWN_06, A_43
5.2.6 Interpreting positions

**PPO - Contractor.** Both parties’ view shows a similar shift that happened throughout the contract. PPO’s position stayed steady as they kept managing the contract in an enabling way. The contractor’s position changed. They started out in an agency position and moved towards a more balanced position between agency and stewardship, due to the change of managers at their side.

Interestingly, the contractor perceived PPO’s approach more steward than PPO viewed themselves. In the interviews the contractor clearly stated that he felt that PPO sometimes lacked guidance and instead stayed steering at an abstract level. The contractor would’ve preferred a more technical specification as it would also help them better understand what was expected from them. This can be interpreted as a call for more control mechanisms.

**PPO – District.** Similarly, the district also perceived PPO’s position more steward than PPO did themselves. For the district, PPO was more acting in the spirit of the contract, than acting what is in the best interest for the district. The district acknowledged that they found it difficult to let go of their control mechanisms they used to have before the PBMCs. They felt that they have learned to do this more and more during the contract period, hence shifted towards stewardship.

5.2.7 Summary

Many difficulties were encountered with the contractor in this contract. All RWS respondents strongly suggested this was due to the contractor writing in too cheaply in the tender. And that in order to make such a low bid, the contractor interpreted the contract’s functional specification in the most minimalistic way possible. This conflicted with PPO’s and the district’s expectations of proper housekeeping. In a reaction, the contractor defended its position by discussing the letter of the contract. This way of collaborating was perceived by PPO as uncooperative and unconstructive.

The district and the contractor were further prohibited having direct contact. For the district it was hard to see where the problem was. In their opinion, PPO sometimes slacked in their management, and sometimes the contractor was not interested in doing anything more than the bare minimum.

What helped were sessions between PPO and contractor in which they clarified their expectations and interpretation of the functional specification. All parties would want to start future contracts with sessions like those.
5.3 Case C
Respondents for this case:

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<td>District</td>
<td>Leader asset management department</td>
<td>OWN_10</td>
<td>CC OWN_10</td>
</tr>
</tbody>
</table>

Table 5.5, Respondents for case C.

The district’s AM was involved in this contract from beginning till end. Changes were made at both PPO and contractor’s side. Four PPO managers were involved of which the last two were available for interviews, PPO_07 and PPO_08. At the contractor’s side, two project managers had been involved in total. The last one was interviewed, CON_09.

5.3.1 Essence and expectations
All parties had a similar idea of what the essence of PBMCs was. The government intended to transfer more work to the private market and shrink its own organization. This was attempted in two ways; firstly, by making the contracts functionally specified and secondly, by making them integral. Integral in the sense that it covered multiple object types over a larger part of the area. ‘Proper housekeeping’ was an often-mentioned term, described as feeling oneself partially owner of the asset, and acting responsibly as one.

It was further expected that by making the contracts integral by merging smaller maintenance contracts into one it would transfer the responsibility for managing certain interfaces between contractors and project phases to the market. A shift from a directive to an enabling managing RWS. A relationship between two equal parties with no hierarchy.

This was expected to lead to a more manageable contract for the agency, as the contract would be written on an output level and could avoid becoming a large book full of details.

Furthermore, the contract had a pilot character. It envisioned that the contractor, in addition to the daily maintenance works, could also formulate the ‘life-extending works’. Meaning that based on the inspections the contractor did, he would propose certain life-extending activities, and therewith guaranteeing the performance of the whole road. In other words, more responsibilities to the contractor than in the other performance contracts.

5.3.2 Received (unintended) responses
The pilot didn’t work out as intended. The district was uninformed about this additional work for the contractor. And as a result, the district did not have enough budget reserved for the life-extending works. PPO and the contractor then agreed to dismiss that part of the contract, and not put it in practise. The contractor could still use its models to propose life-extending works, but there would be no guarantee that he’d be allowed to perform them, nor would he have to guarantee the performance of the whole road anymore. The district confirmed this and found PPO to be operating in a black box. The district puts out a request to PPO and has further no sight on what contract PPO makes around it. Only the impact the contract has on the asset’s performances, is what the district sees back from its request.

There were two ‘shortcomings’ on the contract, leading to a partial stop on the payments for several months. The stop was not on calamity works or additional works, but on the daily routine
maintenance. More specifically, on the maintenance management system (Dutch: OMS), and the verification and validation processes. These were substantial parts of the contract.

Several changes were made on both sides, contractor’s and PPO’s. The appointment of PPO_07, and CON_09 were part of these changes. When contract manager PPO_07 joined the contract, he was shocked to see these shortcomings, and that they had been in place for so long. PPO_07 and CON_09 eventually managed to solve the shortcomings and normalize the payments.

One of the difficulties the contractor faced, were the incomplete or inaccurate areal data the district provided. This made it more difficult for the contractor to create an up to date maintenance management system. The district acknowledged this shortcoming from their side. This also reflected on the discussion they had about the zero-situation (Dutch: nul-situatie). The district had a different assumption about the initial state of their assets than what the contractor saw in its inspections.

Another negative response PPO encountered, was that contractors are overly sensitive to the ‘performance measurements’ (Dutch: prestatiemetingen). These measurements were initially intended to objectively assess the collaboration from both sides and use it to improve attitude and behaviour. However, the consequences of these assessments are not equal for both sides. For PPO, a bad assessment has practically no consequences as RWS will always be the biggest client in the Netherlands. However, the contractor was afraid to gain a bad reputation at RWS’ with possible consequences for future works. The contractor does not want to have a bad annotation behind his name at the agency. Medium grades given by PPO, sometimes with the best of intents to be used as feedback, were perceived by the contractor as a punishment. This undermined the original intention of the performance measurements.

A difference in interpretation of the functional specification, or about what activities are needed to fulfil them did occasionally occur. In the contractor’s opinion PPO didn’t always accurately translate the district’s needs to the contract, whereas the district found that more specification could have prevented this.

5.3.3 Reaction and results

When PPO saw the shortcomings of the contractor they stopped the payments regarding those activities. This did not help the contractor solving the problem as the stop was in place for months. The stop was eventually removed when both sides replaced their managers. They started communicating and collaborating better since.

The new PPO manager was not reluctant to give his opinion and feedback, and in that way helped the contractor to improve his maintenance management system. An independent third party was also consulted to help both sides with their communication and collaboration skills.

Further, the contractor began having informal contact with the district’s owner. This contact was prohibited in the beginning of the contract. Both parties appreciated this quick line of communication for small consultations. However, both emphasize that the formal contractual relation stays between the contractor and PPO.

From this improved collaboration, the contractor and the agency jointly formulated and agreed upon certain intervention levels. Agreements on when the contractor is expected to intervene in the area, and when not. This clarified the practical meaning of the functional specification and was a pleasant way of working for the contractor. Both parties had an opportunity to discuss their interpretation of the specification and to reach consensus on it.
5.3.4 Suspected causes of experienced difficulties, and recommendations

The main suspected cause by all three parties was that in the beginning both PPO and the contractor, had people on the contract that had an incredibly black and white view. That people were inflexible in terms of contract interpretation, and on the division of roles. That there was a lot of blaming and that some people at PPO took an extreme stance in not interfering with the contractor’s work. They refused to give feedback, share opinions, or share concerns. Because of fear to be held accountable for that input later.

‘Er wordt voorzichtig gecommuniceerd omdat de aannemer nog vaak als boeven worden gezien. Ik vind dat niet terecht.’

That attitude changed when PPO changed contract managers. The new contract manager had a different approach where he was not shy of giving his feedback and tried to actively help the contractor to get the payment blockades lifted.

People at the district were having difficulties adjusting to the new role they had in the performance contract. Many thought that they lost sight of the assets because going outside and inspecting the assets isn’t their role anymore. This fuelled the tendency to dictate the contractor in his work, and therewith add control mechanisms.

The parties positively experienced the open communication and collaborative attitude. The informal contact the contractor eventually had with the district’s owner was also mentioned as key. It helped the district and contractor to get a better understanding of each other, and more importantly understanding the motivation behind their actions. The personal element was also mentioned. The characters of the managers on it have be able to get along.

Another recommendation was the jointly formulated intervention levels. This clarified a lot for both parties and was an opportunity to discuss the meaning of the specification rather than argue about the letter of it.

Another part of the pilot was the so called ‘extension-measurements’ (Dutch: verlengingsmeting). These measured the performances of the contractor, and therewith gave PPO the possibility to prematurely discontinue the contract if the scores were too low. The contractor was positive about this because it rewarded him for his efforts throughout the contract, rather than just in the beginning and the end.

5.3.5 Legitimacy input/output

All parties view the performance contract as an improvement over the situation before. In PPO’s view, the functional specification and steering at high level is the only way to put a large amount of assets under a single contract. The contractor was also pleased with the freedom he was given to fulfill the functional specification as he saw fit. If it was up to the contractor, he would’ve preferred even less details in the contract and a more enabling management from RWS.

However, there were also difficulties encountered in practice. It turned out to be very intensive to manage, and by PPO and the district even more intensive than the previous RAW contracts.

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10 ‘Communication is often done with reluctance, because the contractor is still seen as crooks. I don’t think that is deserved’ CC_PPO_08, A_13
At the district, there is a prevalent sense that their voices were unheard in the process towards the performance contracts. They feel as if it’s been a decision made by the national headquarters, and then offloaded on them without any further consideration, doubting the input-legitimacy.

5.3.6 Interpreting positions

PPO – Contractor. During the contract multiple managers at both PPO and the contractor’s side had been changed. New people were put on those positions, and the old ones removed from the contract entirely. It was observed and confirmed by the parties that the new managers had a different approach to the contract than their predecessors. This change lead to a shift in positions of the parties during the contract and is shown in figure 7.3 with the arrows.

In the beginning, the PPO- and contractor’s managers were very black and white thinking. They approached the contract with little room for interpretation and flexibility. When it became apparent that their counterpart had a different idea about the fulfilment of the requirements than they had, both stuck to their interpretation and refused to give way or meet the other party halfway. Both tried using the letter of the contract to defend their interpretation. Numerous reproaches were made from both sides, and it ended with a virtually halt of the collaboration and a partial stop of the payments.

The payment blockades were lifted after the managers were changed. They brought a different attitude which in essence came down to a willingness to collaborate, communicate, and trying to understand each other’s concerns. This gave the contractor the well needed feedback and help to improve its processes in a way PPO was content with it. And it gave PPO a better understanding of what was inhibiting the contractor to do so in the first place.

Although the contractor couldn’t confirm PPO’s change, it looks like both parties held a predominantly agency position in the beginning. Discussion and reproaches emerged, and these
weren’t solved until new managers took over with a different attitude. An attitude that was more collaborative and relation oriented.

**PPO – District.** The change of PPO managers also influenced the relationship with the district. No managers were changed at the district during the contract. The district’s AM could therefore make a good comparison between the PPO managers he had worked with.

Regularly the district had specific requests to what it needed from the contractor. In the beginning PPO was incredibly strict in what in their view and didn’t allow for additions in the contract. PPO worked to a literal interpretation of the contract with little room for flexibility. Much to the frustration of the district. This changed with the new PPO manager. When he found ambiguity in the contract, he approached it as an opportunity to collaboratively give meaning to that specification with all the parties. This approach was generally appreciated by the district.

The district was uncomfortable with letting go of control mechanisms and let PPO manage the contract. They weren’t allowed any direct contact with the contractor, nor could they technically specify their needs. Instances occurred where the contractor followed a less strict maintenance regime than the district usually dictated, which had led to a malfunctioning of the object. Much to the dismay of the district. In a reaction to this, many in the district’s AM department had the tendency look for ways of increasing their authority over the contractor, and essentially aggravate their control mechanisms.

‘De aannemer onderhoudt lampen onder niet-beweegbare bruggen over vaarwegen. Wij weten (uit ervaring) dat de scharnieren van die lampen elk jaar ingevet moeten worden omdat ze anders vastroesten. Voorheen konden we dat precies zo uitvragen, nu niet meer. In de PBMC stond alleen “zorg dat de lampen het blijven doen”. Recent hebben wij bericht gekregen van de aannemer dat die lampen niet meer vervangen kunnen worden omdat het scharnier vastgeroest is, met het verzoek voor meerwerk. Dat levert frustratie en ergerenis op hier.’ CC_OWN_10, A_19

**5.3.7 Summary**

PPO and the contractor had numerous disagreements in the beginning. Both sides had managers who tried to keep each other working to the letter of the contract which escalated into lengthy arguments. This made PPO put a partial stop on the payments which stayed there for months.

The payment stops were not lifted until managers on both sides were changed. They brought a different attitude with them compared to their predecessors. The new PPO manager was not reluctant in giving feedback and getting involved in helping the contractor overcome its shortcomings. Collaboration and communication was prioritized over working to the letter of the contract.

The new manager also allowed the contractor to have direct contact with the district. Much to the satisfaction of the district, they were now able to sort out minor things among themselves instead of going through a tedious process through PPO. This contact however was informal, the formal relation with both parties stayed with PPO.

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12 ‘The contractor maintains lamps under non-movable bridges. We know (from experience) that that those hinges need to be lubricated once a year to prevent them from corroding. We used to be able to request that in a contract, but not anymore with the PBMCs. Now it specifies, “ensure a working lighting”. We just got a request from the contractor for additional works, because those hinges corroded. That is perceived here with frustration and irritation.’ CC_OWN_10, A_19
Chapter 6 Analysis

In this chapter an analysis is made of the findings from the empirical research. All encountered unintended responses from all three case studies are compared here and analysed through the theoretical framework. This helps to give meaning to the findings and is a steppingstone towards the conclusions and recommendations in the following chapters.

This chapter will answer the following sub-questions:

SQ2 - What unintended responses are encountered by clients?

SQ3 - How did the parties engage in the contract, and how was that perceived by their counterparts?

The purpose of the theoretical framework in this research was two-folded. First, it was created to see what unintended responses can be expected in PBMC. So that based on the findings, a suggestion can be made about which responses are most likely to occur.

And secondly, the framework attempted to explain the unintended responses by looking how the client-contractor relationship was managed in terms of Agency and Stewardship theory.

6.1 Interpreting unintended responses through the theoretical framework

The following unintended responses were deducted from the findings in the previous chapter. They will be discussed per response, see table 6.1.

<table>
<thead>
<tr>
<th>ID</th>
<th>Unintended response</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
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</thead>
<tbody>
<tr>
<td>UR_01</td>
<td>Discussions about the initial condition of the assets</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>UR_02</td>
<td>District’s unease being kept at distance</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>UR_03</td>
<td>Different interpretations of the functional specification</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>UR_04</td>
<td>Exploiting power positions</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>UR_05</td>
<td>Contract more intensive to manage than expected</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Table 6.1. Case study encountered unintended responses.

6.1.1 Analysing encountered unintended responses

UR_01 Discussions about the initial condition of the assets. The overarching agreement in the contract was that the contractor will be tasked with performing regular routine maintenance, and by doing so will be able to ensure a controlled natural degradation of the assets.

This is done by performing regular routine maintenance so that the functional requirements are met till the next moment of heavy maintenance (Dutch: groot onderhoud). The monthly payments are based on the execution of the routine maintenance. In addition, the contract holds options for additional maintenance works (Dutch: meerwerk) beyond the scope of regular maintenance, and larger works such as small variable maintenance (Dutch: klein variabel onderhoud). These can be opted for if deemed necessary by RWS.

The discussion arose around the assets’ initial condition at the start of the contract. The contractor was convinced that the assets were handed to them in worse shape than that the provided information by RWS had suggested. And that consequently the price the contractor had based his tender on was now superseded. This happened in case B and C.

PPO and the district both acknowledge the shortcoming of their areal information and are aware that not all objects in it can easily fulfil the functional requirements by sole routine maintenance. However, in their opinion, with some modifications to the regular maintenance activities, it is possible to control the lifespan of those objects till the next point of renovation. For the contractor
it was a clear case; they gave PPO two options, either expand the scope of the contract and provide additional payments or exclude those objects from the scope.

This response is interesting because it strongly came up in case B, in more moderate form in case C, and was neglectable in case A. Case A and B pertained to two adjacent areas in the same district, with the same PPO manager. But for some reason, CB_CON had more trouble with this than CA_CON and had a different attitude towards overcoming this issue.

The direct cause for these problems were the incomplete and not up to date areal information from the RWS database. This was confirmed by all three parties. RWS acknowledges this and therefore gave the contractors the opportunity to inspect the assets in practice during a 3-month transition period from the previous contractor to the new one. During this period so called ‘zero-inspections’ are made (Dutch: nul-inspecties) in which the contractor can determine what parts are not up to standards.

Even though this also happened in case B and C, the contractors were still finding additional deficiencies in the assets in the following years. CB_CON explained that the area was simply too big to be closely examined in the transition period.

Interestingly, the zero-inspections of CA_CON were much less thorough than those submitted by CB_CON. Note that these two areas were adjacent and in the same district. What was different was the way the contractors, especially in case A and B, dealt with these deficiencies. In case A the work continued, and discussions were held afterwards. Whereas in case B work was halted unless PPO allowed additional payments. It was therefore also a matter of attitude and behaviour.

**UR_02 District’s unease being kept at distance.** The district’s asset owner was uncomfortable handing over the direct management of the maintenance contracts to the PPO department. This was confirmed by all the interviewed district’s asset managers from case A, B, and C, and was also suggested by some of the other interviewees.

Many within the district’s department felt that they had no sight or say in what was happening to the assets and therefore were not in control over their own assets anymore. They missed the control mechanisms they had in the pre-PBMC period. They found that all the expertise they had accumulated over the years about the assets was now getting lost. Resulting from the fact their maintenance needs were now predominantly functionally specified rather than technically. And therefore, couldn’t dictate the contractor’s work anymore.

The PPO managers in that regard were much more comfortable with managing the contract in an enabling way. They understood the district’s unease as an effect of the change they went through. But contested their argument that the previous RAW contracts yielded better results. In PPO’s and the contractor’s view, PBMCs did not result in worse performances of the assets.

To understand this unease, it is important to acknowledge the process of change the districts went through. Before the PBMCs and before the creation of PPO, the districts used to be in full control over the contractor’s activities. Creating maintenance regimes, planning, monitoring, inspecting, and more was all under control of the district. The contractor was only responsible for carrying out the activity itself.

When the national RWS organization decided to switch over to PBMCs, it placed the management of it under a newly created department which was PPO. Meaning that the work was taken from the people who did it for years and placed it under a novice department. From the interviews it also became apparent that the district did not feel engaged in this process of change. Part of the dissatisfaction about PBMCs at the district comes from the dissatisfaction about the process (input-legitimacy) and the loss of work from their department.
Different interpretations of the functional specification. PPO, the contractor, and the district have had different views on how to fulfill the functional specification. The functional specification is an essential part of the PBMC, this was acknowledged by all parties in the interviews. Primarily because it describes the function that the object must fulfill rather than how it should be maintained. This gives contractors freedom and the responsibility to design and plan their own maintenance regimes.

Ironically, this property has been ground for numerous debates. Much to the displeasure of the district, the contractor interpreted the functional specification differently than they expected. In the district’s opinion, the contractor worked towards a minimal allowable standard of the specification. Leading to badly maintained assets, worse than before the introduction of the performance contracts.

The contractor blamed the ambiguous character of the specification for this and claimed that it wasn’t clear enough what the client expected from them. That they furthermore interpreted the specification to the best of their understanding and formed a tender bid based on that. In a similar reaction to the disagreement about the initial condition of the assets, the contractor interpreted comments of RWS as additional requests, or as ‘wishes’ as one of the contractors put it. Meaning that they didn’t feel obliged to fulfill those requests by reasoning from the letter of the contract.

PPO found it difficult having these kinds of discussions with contractors. PPO was organized in such way that it only had capacity to steer on processes, not to have a directive management regime. This contrasted with the contractor who had deep detailed knowledge about the assets. It was a situation of information asymmetry. And this was experienced as such by PPO. When discussions were held at process level, PPO found they could manage the contract well and come to consensus. But when the contractor steered the discussions towards the assets’ technical details, PPO found it difficult keeping up.

The district in turn held PPO accountable for seemingly not having the contract under control. The districts were used from the RAW situation that RWS could dictate everything, and they were now seeing that PPO was reluctant of getting themselves into the technical details of the assets.

To an extent disagreement with the contractor on the specification interpretation happened in all three cases. But only in case B and C it turned into a substantial argument.

What seemed to solve a lot of discussion in case C on this topic was when the parties collaborated and communicated about their interpretation of the functional specification and explained their reasoning behind it. Note that in the beginning of the contract, contractors were not allowed to have direct contact with the districts. Once this communication line was later established, the district could explain their expectations. In case C the two parties further setup agreements among each other, so called ‘intervention levels’. These stated when the contractor is expected to go outside and intervene in the asset. This was perceived as positive by both parties but was stressed to be an informal agreement.

In case B however, these discussions were held throughout the whole contract. Some of these disputes were still ongoing after the contract was finished. From the interviews it was strongly suggested that this contractor offered a too low bid for the tender. And was trying to minimize his expenditures by seizing any opportunity to escalating into discussions about additional works and payments.

Exploiting power positions. Instances of using the ‘power position’ by the contractor were observed in case B. This was one of the unintended responses mentioned in the theoretical framework. It refers to two parties that are mutually, but not equally, dependent on each other. One of the two parties therefore enjoy a ‘power position’ over the other. Here it is PPO that becomes dependent of the contractor. Especially in the PBMCs where the contractor took over more responsibilities than in previous RAW contracts from PPO. This too is a form of information asymmetry, because the contractor holds more knowledge about the assets than PPO.
In case B, the contractor used his position to force PPO to act his way. They put PPO with their backs against the wall and demanded disproportionate assurances regarding payments. This happened during so called ‘calamities’ where the contractor is supposed to be 24/7 available for emergency calls. The contractor refused to answer the call unless additional payments were guaranteed.

Discussions about additional payments with contractors are not unusual. In fact, it occurred to some degree in all three case studies. But only in case B the contractor exploited its power position. Given that case A and B were from the same district with the same PPO_01 manager only makes it more interesting to as why CB_CON deemed it necessary to drive such a hard bargain.

PPO said that the difference between case A and B was the attitude of the contractors towards overcoming debatable contract parts. It was appreciated that CA_CON ensured ‘getting the work done outside’ had the absolute priority at all times, and discussions for additional payments were held afterwards. Because of this prioritization, PPO_01 in turn also didn’t want to be too difficult when it was their turn to perform by allowing additional payments.

In the interviews strong suggestions were made that this and other unintended responses from CB_CON were a result of a too low bid. That the contractor was therefore looking to extract as much additional payments from the contract as possible to compensate for the low bid. Deeper causes are suspected for this.

**UR_05 Contract more intensive to manage than expected.** Interviewees in all three contracts declared that they found the PBMC more intensive to manage than they had expected. For many, these were their first PBMC. Their expectations were based on experiences they had with previous contracts, and on the benefits promoted by the national RWS department when introducing PBMCs. Looking at how they described their expectations in the interviews, none of them were unreasonable compared to what the literature mentions as benefits.

Not all interviewees found it more intensive, but in every case study at least one interviewee mentioned it as an unintended consequence of the PBMC adoption. And overall PPO, contractors, and the district all experienced this to a certain degree.

The contract became more intensive to manage when disputes occurred. On moments when both client and contractor were satisfied, the contract was relatively manageable. But because contract management in the performance contract was mostly process oriented, processes had to be verified and validated. This was experienced as an enormous administrative workload.

In case A, PPO and the district had disagreements about the condition of the assets. Subsequently, PPO subjected the contractor to additional process audits. In reaction the district did not legitimize these results as they found that the paperwork didn’t adequately reflect the ‘outside’ situation. PPO found it unnecessary to conduct audits on a lower level because in their opinion auditing at process level is sufficient enough, so why spend more resources on a more intensive audit. This turned into a reproach to PPO that they are only interested in the numbers and paperwork, and not in the actual state of the assets itself.

In the other cases, contractors and districts declared that the additional paperwork had a negative impact on their workload. They compared it to the situation before the PBMCs, where a verification and validation activity wasn’t much more than a phone call. They were disappointed in the amount of paperwork that is now needed for this and how it slowed down their decisiveness. Both contractors and PPO had to add additional people to their teams to handle this additional workload.

Despite all the comments on the verification and validation processes, every interviewee had an understanding to why these processes became more intensive. It is a necessity for RWS to be able to account for the spending of what essentially is taxpayers’ money. The legitimacy of the payments (Dutch: rechtmatigheid van betaling) now needed to be explicitly provable by the contractor or the internal organization and is an integral part of the product itself.
6.1.2 Interpretation through theoretical framework

From the literature study a framework was made that lists unintended responses to PBMCs. That list is repeated below in table 6.2. It lists 16 possible unintended responses that are based on the work by Mannion and Braithwaite (2012), further subdivided in three problem areas; Measurement, Incentives and Sanctions, and Interaction. The five encountered unintended responses are reflected upon here through the framework.

<table>
<thead>
<tr>
<th>Problem area</th>
<th>ID</th>
<th>Theoretical unintended response</th>
<th>UR_01</th>
<th>UR_02</th>
<th>UR_03</th>
<th>UR_04</th>
<th>UR_05</th>
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<tbody>
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<td>Measurement</td>
<td>R1</td>
<td>Tunnel vision</td>
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<td></td>
<td>R2</td>
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<td>R6</td>
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<td>Incentives and sanctions</td>
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<td>Overcompensation</td>
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<td>R11</td>
<td>Inhibiting innovation</td>
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<td>Interaction</td>
<td>R12</td>
<td>Misrepresentation</td>
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</table>

Table 6.2: Framework comparison with observed unintended responses

The second sub-question ‘What unintended responses are encountered by clients’ was intended to be answered with the help of this framework. Now that the findings have revealed which unintended responses were encountered in the case studies (table 6.1), an interpretation can be made.

In total, 4 out of the 16 responses were encountered to various extents. The relation between the responses from the framework and the encountered responses is complex. Not all encountered responses fit the framework one on one, and vice versa not all unintended responses from the framework were observed in the case studies. The relationship between the two is further explained here.

**UR_01 Discussions about the initial condition of the assets.** None of the of the unintended responses of the framework fits this response. This can be explained by the fact that the theoretical framework was specifically set up to interpret the responses to the mechanics of performance management systems. The discussion about the initial condition of the assets are not exclusive to PMSs. Any contract in which the contractor thinks his tender bid is superseded due to a different situation in he finds in practice than in the information he based his tender on, will be subjected
to discussion. In that regard, this response is more telling about the quality of the provided information and how contractors dealt with this shortcoming, rather than about the PMS itself.

**UR_02 District’s unease being kept at distance.** None of the unintended responses of the framework fits this response either. The district’s unease at being kept at distance is more related to the process of change they have experienced in the adoption of PBMCs, and their opinion on the output specification rather than working with the PBMC itself. They found it difficult to let go of their *directive control mechanisms*. Having to functionally specify their needs played a role in this but also seeing their work being taken from them and given to another department. It is therefore more related to process of adopting PBMCs rather than working with PBMCs.

**UR_03 Different interpretations of the functional specification.** The functional specification was an essential part of the PBMC. The unintended responses related to this are mentioned in the theoretical framework. The theoretical framework does not cover the full extent of this response, but comes close with what is called *Measurement fixation*, and *Misinterpretation*.

It was encountered that the contractor in all cases had a different interpretation of the functional specification than that the district had. The district found that the contractors interpreted the specification in the most minimal way possible. This comes close to *Measurement fixation* which is the focus on ticking the boxes, rather than working to the meaning of the measurement. It is not an identical response, but the underlying motivation is the same; putting in a minimal effort.

It isn’t likely that all contractors are motivated like this, but at least in one case, case B, there were strong indications that it was.

The other response from the framework is *Misinterpretation*. It refers to an oversimplification of capturing performances in data or capturing of the quality of the requested work into a single dimensional PIN. What was encountered with UR_03, was a different interpretation of the functional specification by contractors. Some contractors declared that the functional specification wasn’t SMART enough. That they would’ve liked more elaboration on some parts because it wasn’t clear enough for them what the client expected from them.

This is however a matter of perspective. The districts were dissatisfied about how the contractors fulfilled the requirements, but PPO was more nuanced. PPO found it a logic result from the functional specification and saw it as a feature of the PBMCs. Therefore, *Measurement fixation*, and *Misinterpretation* do not fully explain the reasons why contractors had different interpretations of the specification.

**UR_04 Exploiting power positions.** This unintended response was only encountered in case B. Although it is not exclusively linked to PBMCs, it can occur in it. In the theoretical framework it is identified as *Power-game*. It refers to a party in a relationship that has an unequal dependency on each other. The party with the lower dependency misuses its position to pressure the party with the higher dependency. PPO stated that they had encountered this several times in case B and can therefore not simply be explained as an incident.

**UR_05 Contract more intensive to manage than expected.** In all three case studies interviewees indicated that they found that managing the PBMC brought an additional workload with it. Some even claimed to find it an even more time-consuming contract than the RAW contracts were. More specifically, the administrative workload was seen as the cause of this. They disliked this effect because they felt it hindered the responsiveness of their department.

The theoretical framework mentions *Ossification* as an unintended response. It is explained as the inflexibility of the PMS to adapt to changes once set in place, due to the embeddedness of it in the
organizations, and the size of the administrative work. ‘Inflexibility’ and ‘increased workload’ were both mentioned to describe the change working with PBMCs had brought to both sides. Ossification is therefore close to UR\_05 as observed.

A fifth response from the theoretical framework was encountered but not included in table 6.2. This response was *Insensitivity*. Insensitivity from the contractor to the financial incentives and penalties was practically mentioned by all interviewees. The contracts held specific incentive in the form of financial bonuses and penalties regarding the contractor’s response times in case of calamity calls.

All contractors declared that they were not motivated by these in any way. They viewed the bonuses as something nice to have, but not as something that made them change their approach or shift their focus. Penalties were viewed in an identical way. In some cases, PPO and the contractors informally decided to not apply the incentives and penalties at all. In their philosophy, incentives and penalties are not the right motivation. Fulfilling the specification as it is and receiving the monthly payment should be sufficiently motivating, was one of the answers in the interviews.

*Insensitivity* of the penalties and sanctions is mentioned in the theoretical framework but is explained in a different way. There it refers to affecting the wrong people in an organization, and therewith becoming an inaccurate control mechanism. This is different from what was observed in the case studies. In the case studies the contractors found themselves not motivated by it because it was either a too small financial tool or did not stroke with their and PPO’s philosophy.

It’s clear that the theoretical framework for the unintended responses was setup from the perspective of parties reacting to a PMS. Based on literature the assumption was made that a performance contracts (PBMC) and a performance measurement systems (PMS) are intrinsically inseparable. But the situation at RWS showed something different. RWS controlled the contracts with a system of more process-oriented management mechanisms, rather than a PMS. This explains why the encountered unintended responses from the case studies do not easily translate one on one to the theoretical framework. Yet parallels can be drawn as explained above.
6.2 Interpreting causes through the theoretical framework

6.2.1 Analysing causes

In total five types of unintended responses were found in the case studies (table 8.1.1). The case studies also revealed several causes that have led to one or more unintended responses. Eight causes have been abstracted from the analysis and will be further explained here through the theoretical framework. Table 6.3 shows what causes are linked to which unintended responses as discussed before.

<table>
<thead>
<tr>
<th>ID</th>
<th>Cause</th>
<th>UR_01</th>
<th>UR_02</th>
<th>UR_03</th>
<th>UR_04</th>
<th>UR_05</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_01</td>
<td>Incomplete areal information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>C_02</td>
<td>Black box hindering communication</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_03</td>
<td>Poor expectation management</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_04</td>
<td>Change management</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_05</td>
<td>Price tendered</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_06</td>
<td>Information asymmetry</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>C_07</td>
<td>Additional paperwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>C_08</td>
<td>Mismatching management approach (Agency-Steward)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Table 6.3, Relation causes and identified unintended responses.

The theoretical framework had a two-folded purpose. It was firstly setup to find out what unintended responses clients encountered when engaging in PBMCs. And secondly to understand those unintended responses through an agency-stewardship perspective. The framework therefore states a hypothesis that the unintended responses can be explained to some degree with the agency-stewardship theories.

From the eight causes identified, the first seven pertain to causes outside the direct scope of the framework. The framework was limited to the relational approach of the parties, and their behaviour in this. The relation of these eight causes to the A-S framework is explained in 6.2.2.

Seven of the eight causes will be elaborated on here. The eighth identified cause is so closely related to the agency-stewardship framework that it is discussed in 6.2.2 together with the framework itself.

**C_01 Incomplete areal information.** The districts being the asset owners, have been managing the areal information (Dutch: areaal gegevens) themselves throughout the years. It’s an accumulation of information about the state of the assets and their history collected over the years with various contractors. It was found that this data was not up to date. More than often contractors found themselves limited by this information that RWS provided.

This became especially apparent when contractors were doing their ‘zero-situation inspections’. They found that the actual state of the assets was often worse than they had anticipated on in the tender, UR_01. Consequently, those deviations were then reason for discussions because the tender bidding was based on the information provided by RWS. In their opinion, everything more than that was outside the original scope and therefore up for new negotiations.

PPO and the districts acknowledges the shortcomings of areal information. But the districts used this example to illustrate why they think PBMCs are unfit for the maintenance works. In their
opinion, because they have been managing the data for so long, they know better than PPO how to deal with its incompleteness. And therefore, criticise the decision by RWS to implement PBMCs and hand over the management of them to PPO.

**C_02 Black box interfering communication.** In the beginning of the contracts the districts and contractors weren’t allowed to communicate directly. All the communication went through PPO. PPO essentially acting as a filter between the parties, deciding what requests and information to pass on, and what not. The districts and contractors experienced this as incredibly frustrating.

Partly because of this, the district didn’t feel in control anymore of their own assets. One district described the internal RWS organization as a black box. The district’s asset management department internally submits a request to the ‘SLU’ and isn’t further involved with the contract. They only perceive the impact the work of the contractor has on the performances of the assets. They further had no view of who the contractor was, and why he made the choices or trade-offs that he did. This made it difficult for them to understand what the situation was of their assets, hence UR_02.

Contractors too described it as the ‘RWS black-box’. They submitted requests or remarks to PPO and just waited for answer back. They said it could take them weeks to get an answer back, and sometimes not even a response at all. Resulting in the contractor not knowing exactly what the expectation were of his direct client’s (PPO), internal client (district). This contributed to a different interpretation of the functional specification than the district, UR_03.

Some of the black boxes were later lifted when the districts and contractors were allowed to have a direct informal communication line. Informal in the sense that small things could be discussed, but both parties realize that the juridical contract stayed with PPO.

**C_03 Poor expectation management.** In continuation of C_02, poorly communicated expectations at the beginning of the contract also contributed to differences in interpretations of the functional specification, UR_03. Contractors interpreted the specification in their own way and based their tender on those plans. Only to be later faced in the execution phase with an upset district about their work.

The discussion often revolved around so called ‘intervention levels’ (Dutch: interventie niveaus). A document that states what the asset’s condition must be for the contractor to intervene and act. The contractor often operated on lower standards than that the district expected. The contractor had a different interpretation of for example ‘clean’. In case C the contractor and district discussed these expectations together and documented it in an informal agreement. This was positively experienced by both parties.

**C_04 Change management.** This refers to the change the districts went through in adoption of the PBMCs. Resulting from the change, the districts were forced to hand over the contract management to a newly created PPO department. The districts didn’t feel included in the process towards PBMC adoption and regarded it as something the national RWS organization offloaded on them. Also seeing the responsibilities, they had for years being transferred to colleagues elsewhere in the organization because that was supposed to yield better results was difficult for them to see. This contributed in an unease of being kept at distance in the PBMCs, UR_02.

**C_05 Price tendered.** Three of the five unintended responses were partially caused by selecting the contractor mainly on price criteria. This happened in case B where there were strong indications that the contractor tried to minimize its expenditures to compensate for the low bid by which he won the tender. It was said that the contractor admitted this and claimed working this way is his business model. That is; low bidding and seeking for additional works in the contract.

This resulted in the contractor seizing every opportunity to label as much as possible as additional works. Making him very nit-picky when it came to the zero-situation inspections (UR_01), interpreting the functional specification in the most minimal way possible (UR_03), and sometimes exploiting its power position to force additional payments (UR_04).
PPO said that although mixed quality and price criteria were used in the EMVI tender, too much weight was given to the price criteria. However, case A came from the same district with the same tender procedure with much different responses. Therefore, tendering on price criteria does not fully explain the unintended responses encountered.

**C_06 Information asymmetry.** This is a concept named in the agency theory. It’s a consequence from a situation in which the contractor becomes deeper involved in the product than the client, and therewith has more knowledge about the actual situation than the client has.

This was observed in the case studies, that discussions PPO had with the contractor were held asymmetrically. PPO was steering on processes whereas it was easy for the contractor to steer discussions into asset’s technical specifics. Such discussions were held about the interpretation of the functional specification (UR_03) and gave the contractor a power position over PPO (UR_04).

**C_07 Additional paperwork.** All three parties indicated at least once that the PBMC was more intensive to manage than they had expected (UR_05). They criticised the additional workload the verification and validation processes had caused. This happened on both sides of the chain, between PPO and the district internally, and between the contractor and PPO externally.

### 6.2.2 Interpretation through Agency – Stewardship framework

**C_08 Mismatching management approach (Agency-Steward).** Out of all eight identified causes here, C_08 directly relates to the theoretical Agency-Stewardship framework as introduced in this research. C_01 up to C_07 are related to causes outside the scope of the framework.

It was observed that terms like ‘mismatching behaviour and attitude’ were mentioned in several interviews as a cause, often in combination with other causes. C_08, mismatching management approach, is linked to four out of the five unintended responses; UR_01 up to UR_04, see table 6.3. Cause C_08 therefore seems to have a deeper underlying cause that correlates with the majority of the encountered unintended responses. Leading to the hypothesis of the framework.

The hypothesis of the framework is that a mismatch in contract management approach will lead to a frustrated relationship. This would happen when the relationship is situated in the second or third quadrant of the matrix, see highlighted in figure 6.4.

This main research question was:

**MQ – How does the client-contractor relationship influence the unintended responses to PBMCs encountered by clients?**

![](image.png)

*Figure 6.4. Agency-Stewardship framework (Davis et al., 1997).*
The relation between the client-contractor relationship and the encountered unintended responses is analysed here. The A-S matrix findings from the case studies are here compared with the five unintended responses as formulated in table 6.1. Case A, B, and C are compared in respectively figure 6.5, 6.6, and 6.7. Those figures distinguish between the two relationships within each case. The matrix does not provide any information regarding the severity of the unintended response encountered, but that is elaborated on in the accompanying paragraph. The grey filled out box under UR_02 refers to the inapplicability of that relation. UR_02 is specifically a response encountered between the district and PPO.

Case A:

<table>
<thead>
<tr>
<th>Case</th>
<th>Relation</th>
<th>UR_01</th>
<th>UR_02</th>
<th>UR_03</th>
<th>UR_04</th>
<th>UR_05</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Contractor - PPO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>District - PPO</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 6.5. Case A, correlation figure.

The contractor – PPO collaboration was experienced as pleasant by both sides although the contractor was by no means perfect as temporarily payment stops were applied. But the contractor accepted these without much discussion and did his best to address his shortcomings. UR_03 was encountered, but this seems to be more related to the prohibited communication line between contractor and district than to the management approach. The mutual steward relation was experienced as pleasant by both sides. This is in line with hypothesis.

The district – PPO relation was much more difficult. The district strongly preferred more control mechanisms over the contractor and was incredibly frustrated that PPO did not manage the contractor in that way. PPO managed the contractor on a more enabling way and was more interested in the contractor’s processes.

This subsequently made the contract for PPO intensive to manage towards the district. The discussions over the quality of the validation processes and having to prove the quality of the work to PPO was experienced as laborious. The mismatching contract management approach was frustrating for both PPO and the district, as the hypothesis suggested.
Case B:

The contractor – PPO relationship was overall experienced as difficult and frustrating. Collaboration at some point came to a complete standstill. This didn’t change until new managers from both sides were put on the contract. This change happened late in the contract, and although perceived as positive, it didn’t have a real impact on the way the work was executed by the contractor. Throughout all the changes, PPO stayed steady managing the contract from a stewardship perspective. The contractor worked in the beginning very much from the letter of the contract and tried obtaining as much additional works as possible from it. This lead to all four unintended responses being encountered in this relationship, and most of high severity.

The contractor was experienced as a self-serving actor. There were indications this was mostly financially driven. A low placed bid made him work to the minimal interpretation of the letter of the contract in an attempt to minimize his expenditures.

The district – PPO relationship also faced some difficulties, but to a lesser extent than the relation with the contractor. Similar to case A, the asset managers at the district didn’t feel comfortable in the PBMCs. They much rather managed the contracts themselves with a directive approach. In the district’s opinion, PPO wasn’t in control of the contract. During the course of the contract, the district did find themselves learning how to cope with less directive and more enabling governance mechanisms.

The framework’s hypothesis is therewith confirmed in case B. Both relationships started in quadrant 2 and were experienced as frustrating and difficult. Furthermore, as new managers were put on the contract, the collaboration improved which is reflected in the movement towards quadrant 3.
Case C:

The contractor – PPO relationship started off as difficult. It was observed that that in the beginning both PPO and the contractor worked towards the letter of the contract. Discussions escalated into reproaches and the relationship deteriorated. Managers on both sides were switched, and they brought with them a new management approach. The focus was more on communication and collaboration than before. This was experienced as positive by both sides. It helped dealing with many of the unintended responses encountered. In line with this movement, an informal communication line between the district and the contractor was created. This helped dealing with unintended responses such as UR_03 and UR_05.

The district – PPO relationship started similarly difficult. The PPO managers were here too working from the letter of the contract. Any additional requests the district had were rejected reasoning from the letter of the contract. The relationship did improve a bit when a new PPO manager was appointed and allowed contractor – district communications. The district’s position stayed unchanged through all of this. They stayed equally uncomfortable with PPO managing the contract from an *enabling* approach instead of a *directive* approach.

The framework’s hypothesis is therewith partially confirmed. The mutual stewardship positions were positively experienced. However, the theoretical framework also expected that relations in quadrant 1 would be experienced as positive. The opposite was observed in the case studies. The relationship in quadrant 1 escalated which led to a deterioration of the relation until it moved to a mutual stewardship approach.

**Framework correlations.** It was observed that relations positioned in quadrant 2 and 4 were experienced as respectively frustrating and constructive. This was in line with the expectations of the hypothesis. However, relations in quadrant 1, a mutual stewardship approach, should’ve been experienced as equally pleasant but weren’t. Those relations were found to escalate and worsen the relationships. This was not in line with the hypothesis. The hypothesis is therefore partially confirmed.

A note must be made that the causes leading up to the unintended responses are incredibly complex. The causes are mutually related too. Not everything can be explained by only the agency stewardship dimensions as was shown in table 6.3.
Part IV – Synthesis
Chapter 7  Validation interviews

Two individual interviews have been conducted to validate the results from the case studies. These parties were selected on the criteria that none of them had been involved earlier with the research, and that they had substantial experience in working with PBMCs.

This research focusses on the client-contractor relationship. Hence interviewees were chosen to act as representatives of these two parties. For RWS as a client no other party could be found because RWS is the only public client in the Netherlands. Hence an interviewee was selected within the RWS organization, on condition that this individual had not been involved in this research earlier. This individual, further referred to as PPO_11, has been with RWS for over 45. In this period, he was involved in the introduction of the SCB methodology which is used for managing PBMCs at RWS. He was responsible for tutoring, coaching, and advising of the PPO contract managers. And therefore, had plenty of contact with contract managers and the problems they face with the PBMCs.

The second validation interview was held with a project manager at a contractor. He has had over 20 years of experience with maintenance contracts, of which the first 8 years at RWS. In this period, he witnessed the implementation of PBMCs from the very beginning till the current state it is in now. He will be further referred to as CON_12.

An interview protocol was followed for these interviews and can be viewed in the appendix. Both interviews were conducted half-structured. The five unintended responses and eight causes as discussed in the previous chapter were presented to both interviewees.

The results of the validation interviews are summarized in table 7.1.

<table>
<thead>
<tr>
<th>Discussions about the initial condition of the assets</th>
<th>District’s unease being kept at distance</th>
<th>Different interpretations of the functional specification</th>
<th>Exploiting power positions</th>
<th>Contract more intensive to manage than expected</th>
<th>Incomplete areal information</th>
<th>Black box hindering communication</th>
<th>Poor expectation management</th>
<th>Change management</th>
<th>Priced tendered</th>
<th>Information asymmetry</th>
<th>Additional paperwork</th>
<th>Mismatching collaboration approach (A–S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR_01</td>
<td>UR_02</td>
<td>UR_03</td>
<td>UR_04</td>
<td>UR_05</td>
<td>C_01</td>
<td>C_02</td>
<td>C_03</td>
<td>C_04</td>
<td>C_05</td>
<td>C_06</td>
<td>C_07</td>
<td>C_08</td>
</tr>
<tr>
<td>PPO_11</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CON_12</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Table 7.1. Validation results.
Overall every encountered unintended response and formulated cause have been confirmed by at least one of the two interviewees, with one exception.

The exception was regarding UR_04, the exploitation of power positions. CON_12 couldn’t confirm it, but PPO_11 contested it. In his opinion contractors are professionals who strive to deliver quality work. He acknowledges that the districts and PPO teams often depict the contractor as malicious. But in his opinion, this is not deserved. Therefore, in his opinion, the observed exploitation of power position in the case studies was an abnormality.

A major point raised by both interviewees were the quality issues of the areal information. PPO_11 said that the majority of the problems in performance contracts originate from the poor quality of the areal information. The districts in his opinion were slacking in that aspect. CON_12 confirmed the observation and calls it the root cause of the discussions at the start of the contract about the state of the assets. Because what wasn’t included in the areal information will be marked as ‘deviation’ during the zero-situation inspections.

PPO_11 further explained the processes RWS went through to implement PBMCs. The first pilot performance contracts were experimented with around the 2000’s. In subsequent years evaluations had been made and revisions introduced. The biggest change was the introduction in 2010 of the current form of performance contracts. Whereas the districts used to be managing the contracts themselves, the work was now transferred to a newly created department, PPO. PPO_11 further said, the new PPO department was staffed with people from the district itself. It was then observed that those PPO teams started to isolate themselves from the districts. People who used to be close colleagues, distanced themselves and were now almost non-communicating. They showed some sort of ‘hostility’ towards each other as PPO_11 put it.

He explained the cause of the hostility as a changed attitude of the people. The PPO department regarded themselves slightly above the rest of the organization, and the people in the district felt deprived from their work. CON_12 confirmed this too.

PPO_11 also explained why RWS initially prohibited the district from having direct contact with the contractor in the latest contracts. In the previous PBMCs, it was experienced that the district strongly tended to directly steer the contractor, instead of letting PPO doing it. This essentially undermined PPO’s position, and interfered with the aim of the contract. In a reaction, the national RWS organization therefore put ‘a wall’ between those two parties. This was experienced as the black box in the case studies.

PPO_11 further linked the incomplete areal information to this internal tension within the organization, saying; The districts felt no urge in cooperating to improve the data keeping. They felt that since PPO is managing the contracts now, it is PPO’s job to also fix this issue. This answer from PPO_11 reaffirms C_04, change management.

CON_12 identified the poor collaboration between the three parties as the biggest cause for all the problems. That there was a poor communication between them, and a poor understanding of their intentions. He found that in practice when he put extra emphasis on the collaboration of the three project managers, that the rest of the organizations would follow and so a proper relation was established. And that a good relationship helps overcoming small problems before they escalate into bigger disputes.

Contractors working with a minimalistic interpretation of the functional specification was explained by PPO_11 as a result of competitiveness in the free market. And that to some degree this is unavoidable. CON_12 explained that it in practice comes down to a simple consideration a
contractor makes; preventive or corrective maintenance. And that a contractor makes that choice for himself, based on what he thinks is best.

Another point PPO_11 made is that the PPO teams use the SCB auditing system inaccurately. That SCB gives them the possibility to thoroughly audit the contractor’s systems, but that they often slack in doing so. He therefore states that the district’s criticism on PPO is partially justified.

**Conclusion**

Four out of the five unintended responses were confirmed by either one or both validation interviews. All eight causes were confirmed by either one or both interviewees. UR_04, exploiting power positions, was contested. Although it may have been encountered in the case studies, it is not a regularly response in practice. It was said in the validation interviews that contractors want to work to the best of their abilities and take fulfilment in delivering quality work. And therefore, will not intentionally use their power position to pressure the client.

PPO’s respondent named the process of the PBMC implementation as one of the predominant causes of the encountered unintended responses. The contractor’s respondent named the poor collaboration between PPO, the district, and the contractors as biggest cause of the encountered unintended responses. Both these statements are in accordance with the identified causes in the previous chapter.

Overall, based on these validation interviews, the findings of the case study and analysis can be considered valid.
Chapter 8 Conclusions

This researched had the objective to contribute to the understanding of unintended responses to performance-based maintenance contracts (PBMCs) for highways, by researching how the client-contractor relation was managed.

The main research question was as following:

*How does the client-contractor relationship influence the unintended responses to PBMCs encountered by clients?*

Goal was to see what unintended responses were encountered in practice. A two-folded theoretical framework was composed for this. The framework firstly listed the most likely unintended responses to occur when managing PBMCs. Secondly, the framework attempted to identify the causes for these responses through the Agency and Stewardship theories.

The conclusions are presented here in three sections. First, a section that gives an overview of the findings from the case studies. Which unintended responses clients encountered and how the parties engaged in the in the contract is listed here. Secondly, two sections that formulate the conclusions regarding respectively the theoretical model and the practical situation as encountered in the case studies.

8.1 Findings

Theoretical framework

The first half of the theoretical framework was based on the work of Mannion and Braithwaite (2012), and was further tweaked with additional literature. The product of this was a framework listing 16 unintended responses, subdivided under three main categories; *Measurement, Incentives and sanctions, and Interaction.*

The second half of the framework consisted of an Agency-Stewardship matrix that could plot the relationships from two perspectives, based on the work of Davis et al. (1997). In order to do so, a list of qualitative variables had been deducted from the Agency and Stewardship theories.

With these variables, interviews were prepared and structured according the three pillar-framework proposed from Borras and Edler (2014) on the governance of change. The findings from the interviews were then validated with two validation interviews.

Observed unintended responses

The following five unintended responses were encountered in the case studies; see table 8.2.

<table>
<thead>
<tr>
<th>ID</th>
<th>Unintended response</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR_01</td>
<td>Discussions about the initial condition of the assets</td>
</tr>
<tr>
<td>UR_02</td>
<td>District’s unease being kept at distance</td>
</tr>
<tr>
<td>UR_03</td>
<td>Different interpretations of the functional specification</td>
</tr>
<tr>
<td>UR_04</td>
<td>Exploiting power positions</td>
</tr>
<tr>
<td>UR_05</td>
<td>Contract more intensive to manage than expected</td>
</tr>
</tbody>
</table>

*Table 8.2, Observed unintended responses.*

**UR_01 Discussions about the initial condition of the assets.** Discussions with the contractor were encountered by PPO about the state of the assets at the beginning of the contract. Contractors
claimed that the assets were in worse shape than they had anticipated on. This argument was subsequently used to negotiate for additional payments by the contractor.

**UR_02 District’s unease being kept at distance.** The district’s asset management department was uncomfortable with giving up their *directive* control mechanisms and leaving the day to day management of the contractor up to PPO. The districts felt that they weren’t in control anymore over their own assets and that all their expertise they had built up over the years was getting lost. The process of change that the districts went through in the adoption of PBMCs is important to acknowledge here. In the pre-PBMC era, the districts used to manage the contractor themselves on more *input* specified contracts.

**UR_03 Different interpretations of the functional specification.** One of the characteristics of the functional specification is that it gives contractors more freedom in designing their own maintenance activities to fulfil the specification. It was found that contractors interpreted the functional specification in a different way than PPO, leading to a lesser or different maintained asset. In one case the contractor worked towards a minimalistic interpretation of the specification, much to the displeasure of PPO and the district. The contractor used that argument to negotiate for additional payments.

**UR_04 Exploiting power positions.** This refers to a situation in which two parties that are mutually, but not equally, dependent on each other. One of the parties therefore enjoys a ‘power position’ over the other, which is in this case the contractor over PPO. A contractor was observed to have used his power position multiple times to pressure PPO into fulfilling their request for additional payments.

**UR_05 Contract more intensive to manage than expected.** It was found that at least one actor in all cases found the contract more laborious than expected. On moments when both client and contractor were satisfied, the contract was relatively manageable. But when disputes arose, it became intensive to manage. Namely the workload of the verification and validation processes were mentioned as laborious.

When comparing these observed responses to the theoretical framework, two things became apparent. First, the theoretical framework was based on the idea that a performance contract, and a performance measurement system (PMS) were intrinsically connected. That is, setting up a series of PINs and subsequently managing the contract by it. This was not the case at RWS. The RWS’ PBMCs were functionally specified and primarily managed on processes. The comparison revealed that not all the observed unintended responses were reflected in the theoretical framework. What was reflected, fell under the categories of *Measurement*, and *Interaction*. The absence of *Incentives and sanctions* can be explained by the fact that RWS did not link the monthly payments one on one to the asset performances.

A note must be made about *UR_04, Exploiting power positions*. The validation interviews contested this observation. Stating that contractors generally take pride in their work and understand the spirit of the contract. It also stated that PPO sometimes tend to have a negative image of the contractors, but that this is unjustified. *UR_04* is therefore observed but cannot be generalized without side note.

**Observed Agency-Stewardship approaches**

Three parties were involved in the day to day management of the contracts: PPO (contract manager), the districts (asset owners), and the contractor. The formal relations were set-up in such
way that the parties only had contact with each other through PPO. Therefore, two relations needed to be researched per case study, see figure 8.1.

![Figure 8.1, RWS contractual relationships.](image)

Figure 8.1, RWS contractual relationships.

Figure 11.3 shows the simplified observed Agency-Stewardship positions. The hypothesis from the framework was that a mismatch in approach between the two parties will lead to a difficult and frustrating relationship. Therefore, relations in quadrant 1 and 4 should be experienced as pleasant and collaborative.

This hypothesis is partially confirmed. Positions in quadrant 4 were perceived as pleasant, and quadrant 2 as difficult. However, the relationship in quadrant 1 was also experienced as difficult. It was found that when both PPO and contractor tried working towards the letter of the contract, it quickly escalated into reproaches. The collaboration deteriorated until it came to a standstill. After changing management, the relation shifted towards a more constructive mutual Stewardship relation.

**Understanding the unintended responses**

Eight causes have been identified and related to the five observed unintended responses, see table 8.4.
Discussions about the initial condition of the assets District’s unease being kept at distance
Different interpretations of the functional specification Exploiting power positions
Contract more intensive to manage than expected

<table>
<thead>
<tr>
<th>ID</th>
<th>Cause</th>
<th>UR_01</th>
<th>UR_02</th>
<th>UR_03</th>
<th>UR_04</th>
<th>UR_05</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_01</td>
<td>Incomplete areal information</td>
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<td></td>
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<tr>
<td>C_02</td>
<td>Black box hindering communication</td>
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<td>x</td>
<td>x</td>
<td></td>
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</tr>
<tr>
<td>C_03</td>
<td>Poor expectation management</td>
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<tr>
<td>C_04</td>
<td>Change management</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
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<td>C_05</td>
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<tr>
<td>C_06</td>
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<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>C_07</td>
<td>Additional paperwork</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>C_08</td>
<td>Mismatching management approach (Agency-Steward)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Table 8.4: Relation causes and identified unintended responses.

The analysis of the relation between these causes and the unintended responses has revealed that it is a complex relation. Some causes together have led to the occurrence of multiple unintended response. An explanation on what this means for the theoretical framework is explained in 8.2.

8.2 Conclusions regarding theoretical concepts and framework

1. The concept PBMC is explained as a performance contract for maintenance works. A performance contract is defined by three characteristics: result specified, performance goals, and incentives. This is the theoretical definition. It was found that the PBMCs as researched at RWS do not match this definition.

The contracts in the case studies were result specified but lacked measurable performance goals (PINs) or significant incentives. Performance goals are usually formulated to manage the contract and assess the contractor’s work. The PBMCs as researched formulated the performance goals as a single overarching goal of ‘maintain the assets’ condition in the state you were handed them’. This goal was then managed by a system of process evaluations, so called ‘SCB-toetsen’. Financial incentives or penalties were practically negligible.

The lack of clear PINs and incentives was not found to cause any unintended responses. In contrary, parties generally valued the absence of a PIN control system as it put less weight on a mere output indicator, and more weight on the contractor’s effort in his processes. Contractors did find it challenging by times to understand the client’s needs due to; a) prohibited contact with the districts leading to a black-box situation on both sides, and b) poor expectation management as in with what expectations did the client write the contract. This became an issue when the contractor interpreted concepts as ‘clean’ differently than the client.

The lack of financial incentives and penalties was also generally valued by the parties and not found to have caused any unintended responses. PPO was aware of the adverse effects financial incentives may have as mentioned in the literature. PPO reasoned that the
normal payment of the works should be incentive enough for the contractor to deliver as per requested. Contractors agreed with this and claimed to not be extra motivated by additional incentives or penalties.

The PBMCs as used by RWS lacked PINs or significant financial incentives or penalties as defined in the literature as characteristics of a performance contract. This was not found to have led to any unintended responses.

2. Four alleged benefits of performance contracts over traditional contracts are;
   - Reduced maintenance costs
   - Higher level of service
   - Encouragement of innovation
   - Less contract administration

Although this research wasn’t aimed at proving or disproving alleged benefits, information on how parties experienced the contract in practice was obtained from the interviews.

The districts had the impression that the PBMCs have led to a lower LoS. PPO and the contractors disagreed, saying that the LoS was the same as before but that the district’s expectations were unrealistic. The district’s opinion can be explained by the black-box relation between them and the contractor, and poor expectation management. Because of the little contact the districts and contractors were allowed to have, the district draw different conclusions from their observations outside than the contractor did. For example, when the district observed litter on the road they interpreted it as a shortcoming. However, the contractor was aware of this and already had a cleaning activity planned in the coming days. Before the implementation of PBMCs, the districts were responsible for the management of the assets. They would put traditional contracts in the market whenever they deemed necessary. The act of going out, observing the assets, and determining whether action is needed or not is the district’s reflex of the old days, and can be explained with how their role has changed. Therefore, a matter of change management.

Less contract administration is mentioned in the literature as a benefit resulting from a system of PINs that are monitored and provide information. This is argued to lead to less paperwork as only outputs need to be measures. The researched PBMCs were experienced as more intensive to manage compared to the traditional contracting. The researched PBMCs did not have a system of PINs but were managed by a set of ‘SCB-toetsen’. The added administration load was due to the SCB system and not the concept of PBMCs.

Reduced maintenance costs or an encouragement of innovation was not mentioned in the interviews, so no conclusions can be made on that.

3. The hypothesis from the theoretical framework was that a lot of difficulties in the client-contractor relation can be traced back to a mismatching approach of contract management. This is confirmed as it was found in this research that a mismatching approach contributed to 4 out of 5 observed unintended responses, see table 8.4. However, the hypothesis also suggested that a matching approach should have a positive effect on the relationship. This was not the case, as a mutual agency approach was experienced as difficult and uncooperative.

This can be explained that the PBMCs do not allow to be managed from the letter of the contract (a form of an agency management approach). This is due to the output
specification which cannot be used as a method specification to manage the process of activity performance. The hypothesis of the theoretical framework is therefore partially confirmed.

8.3 Conclusions regarding the case-studies

1. The PBMCs used by RWS were different in many ways from the traditional contracts they replaced, but mainly on two aspects; first the contracts became output specified, and secondly, the scope of the contracts was increased. For example, traditionally maintenance of lighting systems contracted separated from litter removal. PBMC put these together under a single integral contract. It was found that although different contractors reacted differently to the output specification, all of them were content with the integral aspect of the contract.

This is explainable by the motivation of all contractors to get as much work as they can. The value of the PBMCs is larger than the smaller traditional contracts. Winning the tender of a larger PBMC is therefore similar to winning multiple smaller contracts. The distinction between those two changes PBMC had brought for the actors was important to make when evaluating how the parties experienced the implementation of PBMCs.

2. It was observed that parties’ management approach could shift during the contract-term. Not so much because people changed their approach, but because people were replaced. People were replaced when the relation with the counterpart became problematic. Extremes were encountered, instances where PPO tended to manage the contractor’s input and direct the contractor’s works, and instances where PPO managers let go of the contract and let the contract manage ‘itself’. Both approaches were experienced as difficult and unfruitful.

Relationship management was found to be essential for a successful relationship. The PBMCs cannot manage ‘itself’ by being governed from the letter of the contract. Contractors valued contact with the PPO and the district, and vice versa.

In conclusion

The client-contractor relationship is complex and can lead to multiple unintended responses. Not all unintended responses can be solely explained by how the actors managed the relationship. The hypothesis that a mismatching Agency-Stewardship approach would lead to a difficult collaboration is partly confirmed, as it was observed that a mutual agency approach can also lead to a problematic relation. The mutual Stewardship approaches were found to be most effective in managing PBMCs.
Chapter 9  Recommendations

Based on the observed unintended responses and subsequently identified causes, four recommendations are proposed to mitigate the difficulties actors face engaging in PBMCs.

A stewardship approach

It has been found that a mutual stewardship approach is desirable in a functional specified contract over an agency approach. Mutual agency positions were observed in the case studies but had been experienced as difficult.Mismatching approaches were observed too, and these were also experienced as difficult. These findings apply to contractors, contract managers, and asset owners.

Troublesome relations significantly improved when managers were changed. The biggest difference between them and their predecessors was the way they approached and interpreted the contract. This was reflected in the analysis by a movement towards a mutual stewardship positions.

Therefore, the recommendation is to staff the management teams from the beginning with managers that understand the essence of the PBMC and willing to manage from a Stewardship perspective. It was found that due to the contract incompleteness characteristic of the functional specification, it is incredibly difficult to manage the contract from the letter.

Chain collaboration and Expectation management

The alignment of vision among the three parties was found as another important aspect. The three parties being: Asset owner (district), Contract manager (PPO), and the contractor, were organized in IPM-teams. These IPM-teams oversaw the project management within their own organization and were composed of several managers. The project manager (PM) was in charge of the teams themselves.

It was found that the district and contractor had virtually no contact with each other. All contact was channelled through the PPO manager, leading to a black box situation on both sides. The district had never spoken with the contractor, and subsequently felt they lost control over their own assets. On the other side, the contractor knew that his direct client (PPO) was working for an internal client (the district). And found it difficult understanding what the internal client’s expectations were of him.

The reason why RWS initially prohibited direct contact between the district and the contractor, was because in the past the district had shown the tendency to manage the contractor themselves. This undermined the position of PPO and the way the PBMCs were setup to be managed.
The recommendation is therefore that the three project managers should collaborate more and discuss their expectations of the functional specification. What their interpretation is, with what intention they formulated the specification, and why they interpreted it in that way. This dialogue is especially important at the start of the contract and should be held continuously.

When the project managers of the IPM-teams can reach a consensus about this, the IPM-teams will follow. They will know what their counterparts’ expectations are, and what their reasoning is.

In order not to undermine the juridical relations of the contract, it is stressed that the contact between the district and contractor is strictly informal. The formal relation will stay with PPO for both parties. This way small requests or remarks can be quickly solved and will also take off some workload of the shoulders of PPO.

**Improve quality areal information**

It was found from the case studies that the quality of the areal information has been a long-lasting topic of discussion within RWS. All three parties acknowledged that the areal information as provided by the district was often inaccurate, incomplete, and superseded. There were multiple causes that lead to this situation and in turn multiple problems were caused by this.

A major unintended response that can directly be linked to the areal information are the discussions about the initial condition of the assets at the start of the contract. Contractors based their tender bidding on the information provided but found the condition of the assets often in worse state than expected. Contractors reasoned from this that they are therefore entitled to additional payments.

The district argued that only they hold the expertise to cope with the shortcomings of the areal information, and that these discussions prove why it was a wrong decision to put the management of the PBMCs with PPO. Again, multiple causes were found that motivated to this behaviour.

The improvement of the areal information was shown to be a difficult point for RWS. It is a shortcoming that cannot be quickly cured, but must be improved systematically bit by bit, over time. Nevertheless, the importance of it cannot be underestimated.

**Avoid price driven tenders**

Functional specifications are unavoidably subjected to multiple interpretations by different actors. In some cases, these differences were solved by improving communication and collaboration so that both parties would find a compromise. However, in one case it turned out very differently. The contractor stuck to his minimalistic interpretation of the specification and refused to do anything more than the bare requested minimum.

It was found that the contract was tendered on primarily price criteria, and that the contractor’s low bid was the reason why he won it. The contractor’s ‘business model’ was to win the tender on a lowest price possible and subsequently try to minimize expenditures during the execution phase by pleading for additional works. This lead to lots of frustration with RWS because every dialogue they had with the contractor escalated into discussions about additional payments. This severely impeded the day to day workings of the contract.

This way of working by contractors was confirmed in the validation interviews. The recommendation is therefore to avoid tendering on price criteria alone, and instead opt for more diverse tender criteria that includes quality.
Chapter 10  Discussion

10.1 Reflection on literature

The literature framework was aimed at understanding the contract management approaches by clients and contractors, how it affected the client-contractor relationship, and which unintended responses to PBMCs could be expected.

The list of unintended responses was aimed at performance management systems. From the literature study it was found that a performance contract, in concept, was managed by a performance management system. That is, a system that sets out PINs, and measures them to assess the output performances.

It was found that RWS did not use a PMS as such, but instead had its own system (SCB) that managed the contractor’s internal processes. This was not in line with the assumptions made from the literature study on how a performance contract is managed.

Further, the list of unintended responses didn’t cover all the encountered unintended responses from the case studies. Many of the found unintended responses had a cause beyond the initial scope of this research, which was the Agency-Stewardship approaches.

Another difficulty in working with the framework was that it doesn’t say anything about the severity in which the unintended responses occurred. An attempt was therefore made in the qualitative analysis to nuance the responses to provide a more representative image of the observed situation.

The other part of the framework, the A-S matrix, also had its limitations. Similarly, the original matrix by Davis et al. (1997) also didn’t allow for nuance. Therefore, a seven-step scale was used in this analysis that together with a set of variables allowed for nuance. The limitation was with the set of variables. Although those variables were only used as indicators to guide the qualitative analysis, they weren’t always practical. Some variables were too abstract, and were difficult to assess in the interviews.

10.2 Reflection on methodology

The methodology consisted of creating a theoretical framework by means of a desk research. And subsequently conducting three case studies. These case studies were interview-based and researched the client-contractor relationship from three perspectives; Asset owner, contract manager, and contractor. The observations from the case-study interviews were then analysed and interpreted through the theoretical framework. Resulting in the formulation of five unintended responses, eight causes, and four recommendations.

The methodology is here reflected upon by the concepts of reliability and validity.

Reliability

Reliability refers to the quality of the methodology used to obtain results. A well set-up data gathering method will yield the same results when repeated, regardless of when, by whom, and how.

Per case, three parties were involved, and two relationships were researched. Per party at least one representative was interviewed. This representative was always a manager, or head of their department. This representativeness can be questioned. To what degree can such an interviewee
answer the interview questions from the perspective of his subordinates that are involved with the day to day managing of the PBMC. Furthermore, when researching a sensitive subject, parties could have treated the researcher as an ‘outsider’. Resulting in obtaining ‘politically correct’ and shallow answers.

To some degree this cannot be fully mitigated. However, these imperfections have been acknowledged from the beginning and were therefore considered when conducting the interviews. When respondents, often managers, tended to answer things from their philosophy, follow up questions were asked. *How did your subordinates experience this? What was your subordinates’ reaction to this?* Instances like these were encountered in interviews mostly with contractors. An explanation for this may be that this research was conducted primarily at the RWS agency. When they were contacted for this research, it happened via RWS. They therefore may have been reserved in the interviews because it was seen as a research from ‘their employer’.

Furthermore, this effect was minimized by ensuring all interviewees full anonymity. Even if they may have perceived it in the worst case as an ‘audit’ from their employer, they were ensured the employer would not be able to retrace any answers back to them individually, to their company, or even to a specific case.

A limitation that could not be overcome was the small number of respondents per case, due to time constraints of this thesis. Triangulation was used to mitigate this as much as possible. Observations in chapter 8 were only noted when confirmed by at least one other interviewee, safeguarding that no extreme abnormalities were noted as observations.

**Validity**

Internal validity refers to the reasoning that is used to construct conclusions based on the obtained data. In other words, how convincing the argued correlation is between the observed independent and dependant variables.

Major mechanism to safeguard the validity in this research were the two validation interviews. These interviews were individually conducted with two highly experienced managers from respectively PPO and a contractor. Neither of the two had been earlier involved in the research and had no knowledge about how the results were obtained. They were presented with the aim of the research and with the blank results and conclusions deducted from it. The request was for them to reflect upon these from the perspective of all their years of experiences.

Interesting results were obtained from these interviews. They provided background knowledge, helped formulate recommendations, and put some findings in perspective. This is all processed in the conclusions and recommendations as presented in the previous chapters.

It would be desired to conduct more validation interviews, with also a district’s representative, but this wasn’t feasible due to time constraints of this thesis. But no indications were found that such an interview would yield significantly different insights than those of PPO and the contractor.

External validity refers to the degree to which the generated results can be generalized beyond the researched population. So, in case of this research, to what degree do the three case studies represent total situation at RWS, or perhaps even other agencies abroad?

The scope of the research was limited to the Netherlands. The three cases were selected on indications whether the contract ran smoothly or not. The cases were chosen with the ‘diverse-case’ method. Picking one that went well, and one that went bad. This value judgement was based on the information known within RWS as the ‘performance measurement score’ (Dutch:
prestatiemeet scores). The third case was picked based on having a ‘pilot’ character. This way a full spectrum could be covered. The validation interviews confirmed this, that almost all results and conclusions were familiar points for the interviewees.

10.3 Recommendations future research

Mutual agency approach in PBMC

More research into the management approaches of PBMC is desired. In this research it was found that a mutual agency approach leads to numerous difficulties. Mainly due to the ambiguous characteristic of a functional specification. However, the theoretical framework suggested that an agency approach can be successful if both parties have this view.

More research should be done to see if a mutual agency approach can be even successful at all in practice for any type of contract. The literature research found that due to bounded rationality no contract can be ‘complete’ in terms of holding account with any possible future scenario. Ambiguousness is therewith a characteristic of all contracts, and not only for output specified ones.

Price based tenders

Unintended responses were encountered in all three case studies. But in one case study there were strong indications that the contractor’s behaviour was financially motivated. That the contractor kept a minimalistic interpretation of the PBMC and was not willing to deviate from it unless additional payments were committed. This way of working was considered his ‘business model’; winning the tender on a low bid, and subsequently looking for additional works and payments.

This research was aimed at understanding the client-contractor relationship during the contract’s execution phase. A relation is suspected in this research between winning a tender on primarily price criteria and the minimalistic interpretation of the output specification by a contractor. This however was outside the scope of the research. More research on this correlation for specifically PBMCs is recommended.

Power positions

In one case it was found that a contractor exploited his power position to pressure PPO. This was an instance that happened in one case but was contested in the validation interviews. In the validation interviews it was argued that contractors try their best to produce proper work and take pride in this. That they work with good intentions, and that it isn’t justified to think otherwise. This research only conducted three case studies.

Further research could therefore be done to see if contractors misuse their power position in PBMCs, and if so what motivates them. In terms of motivations, this research may have created a foundation to build from in the form of eight identified causes.

Incorrect use of SCB

This cause was mentioned in the validation interviews and didn’t come up from the case studies. It was argued that part of the districts unease was justified, because the PPO teams used their process audits (SCB) incorrectly. The SCB was created by RWS to enable PPO to steer on processes rather than on products.

The district’s unease was that PPO wasn’t involved in the product enough, and only seemed to be concerned with the paperwork. The validation interview supported this observation and added that the SCB offers room for stricter auditing while at the same time staying out of technical
product details. More research would therefore be desired to see if this observation is correct, and if so why PPO chooses to apply the SCB as they do.

**Asset performances under PBMC**

An often-held discussion between the interviewed actors was the performances of the asset under the PBMCs. Often the districts were convinced that since the adoption of PBMCs, their assets have been maintained in worse condition than in the situation before. PPO in response wasn’t convinced by this and claimed that there was no noticeable difference. Most contractors agreed with PPO.

These discussions were reoccurring between PPO and the districts, even when PPO performed audits to prove otherwise. This research was aimed at the contract management and client-contractor relations. More research on the actual performances of the assets under PBMCs compared to traditional maintenance contracts is recommended.
Part VII - References and appendices
References


Collins, T. (2004). Stewardship 'Well done, good and faithful servant'.


Part VII - References and appendices

References


Appendix A. Interview protocol

Thank you for cooperating with this research by agreeing with this interview. This interview is part of the empirical research of my Master’s thesis to conclude my study at the University of Technology, Delft. This research aims to understand the difficulties parties face when working with PBMCs. We will do this by looking at how parties behaved in the client-contractor relationship.

The goal of this interview is to obtain empirical information specifically regarding the client-contractor relationship X in which you have been involved. All information obtained from this interview will be coded before used in the thesis. This means that you, all your answers, the project, and anyone else you might mention will be anonymous. Furthermore, I will record the audio of this interview to help transcribe the information later. This audio file will only be accessed by me (Arshad Kasiem), and will be destroyed after use. If you are willing, you can receive a copy of this transcribed interview to check if everything is processed as agreed. By doing so you will help ensure the reliability and/or internal validity of the data.

Before we start with the in-depth questions, a few background questions regarding yourself and the organization.

Introduction questions

1. Can you state your job title and responsibilities you have?
2. How many years of experience in that function and overall as a professional?

The rest of the questions are ordered according to the Governance of change theory. This means that there are 4 topics that we will discuss now; Opportunity structures, PBMC experiences, Agency-Steward positions, Legitimization.

Interview questions

*see Appendix B

Closing

Those were all the question I had prepared. Do you have anything to add to this interview? Something that we didn’t mention but nevertheless you think may be interesting for this research? Thank you for your time, let me know if you can help doing a reliability and validation review of this interview. If desired, you can also have a copy send of the thesis when finished.
## Appendix B. Interview questions

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<thead>
<tr>
<th>ID</th>
<th>Research question</th>
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<tbody>
<tr>
<td>A</td>
<td><strong>Opportunity structures</strong></td>
</tr>
<tr>
<td>A 1</td>
<td>What environmental change motivated the adoption of PBMCs?</td>
</tr>
<tr>
<td>A 2</td>
<td>Who was behind that decision?</td>
</tr>
<tr>
<td>A 3</td>
<td>What were your expectations of the PBMC?</td>
</tr>
<tr>
<td>B</td>
<td><strong>PBMC experiences</strong></td>
</tr>
<tr>
<td>B 1</td>
<td>How would you describe the essence of the currently used PBMCs?</td>
</tr>
<tr>
<td>B 2</td>
<td>What is your overall impression of PBMCs since its introduction?</td>
</tr>
<tr>
<td>B 3</td>
<td>How did you experience the responses from your counterpart in this PBMC?</td>
</tr>
<tr>
<td>B 4</td>
<td>What unintended/unexpected responses did you receive from your counterpart? Either negative or positive.</td>
</tr>
<tr>
<td>B 5</td>
<td>How did you respond to this?</td>
</tr>
<tr>
<td>C</td>
<td><strong>Positions in the Agency-Stewardship matrix</strong></td>
</tr>
<tr>
<td>C 1</td>
<td>How would you describe your own approach of the contract? In terms of A-S</td>
</tr>
<tr>
<td>C 2</td>
<td>How would you describe your counterpart's approach of the contract? In terms of A-S</td>
</tr>
<tr>
<td>C 3</td>
<td>Did any of these positions change during the contract term?</td>
</tr>
<tr>
<td>C 4</td>
<td>How do you see contract incompleteness? Opportunity or threat?</td>
</tr>
<tr>
<td>C 5</td>
<td>How did you experience the contract specification? Too detailed or abstract? Too technical or functional?</td>
</tr>
<tr>
<td>C 6</td>
<td>How did you experience the monitoring or reporting system?</td>
</tr>
<tr>
<td>C 7</td>
<td>How did you experience the interaction with your counterpart? Frequency, importance, hierarchy?</td>
</tr>
<tr>
<td>C 8</td>
<td>What was the incentive structure?</td>
</tr>
<tr>
<td>C 9</td>
<td>What was your horizon with your counterpart? Contract exceeding or not?</td>
</tr>
<tr>
<td>D</td>
<td><strong>Legitimization</strong></td>
</tr>
<tr>
<td>D 1</td>
<td>Do you legitimize PBMC as a product (output legitimacy)?</td>
</tr>
<tr>
<td>D 2</td>
<td>Do you legitimize the process towards adopting the PBMC (input legitimacy)?</td>
</tr>
</tbody>
</table>
### C.1 Case A

**Interviewee**

```
C.1 Case A

- • Negatief:
  - De samenwerking verliep goed, ook het tijdig oplossen van problemen.
  - De regelmatig hoge prestatiescores waren positief voor de markt.
  - We hadden minder tijd aan overleggen kunnen besteden.
  - De samenwerking was ook informeel, regelmatig, met contractbestuurders, zodat bij onduidelijkheden over het eindresultaat gemakkelijk gecommuniceerd kon worden.

- • Positief:
  - De samenwerking met RWS was positief voor de markt.
  - We hebben minder tijd aan overleggen kunnen besteden.
  - De samenwerking was ook informeel, regelmatig, met contractbestuurders, zodat bij onduidelijkheden over het eindresultaat gemakkelijk gecommuniceerd kon worden.
```

**Legitimacy input/output (code)**

```
- • Positief:
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```

**Agency-Stewardship matrix - own position (code)**

```
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**Appendix C. Within case findings matrix**

### CA_PPO_01

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>- De markt de prestatiecontracten prima aankijkt</td>
<td>- De samenwerking met RWS positief voor de markt</td>
</tr>
<tr>
<td>- Onbeslotenheid contractualiteit</td>
<td>- De samenwerking met RWS negatief voor de markt</td>
</tr>
<tr>
<td>- Dat de markt de prestatiecontracten prima aankijkt</td>
<td>- De samenwerking met RWS positief voor de markt</td>
</tr>
</tbody>
</table>

**CA_CON_02**

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sameenwerkend, gezamenlijk het prestatieobject beheersen</td>
<td>- Sameenwerkend, gezamenlijk het prestatieobject beheersen</td>
</tr>
<tr>
<td>- Controle = District beheerder</td>
<td>- Controle = District beheerder</td>
</tr>
<tr>
<td>- Integrale, meerdere beleidsobjecten in een samenwerkingsverband</td>
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</tr>
</tbody>
</table>

**Counterpart = District beheerder**

- Sameenwerkend, gezamenlijk het prestatieobject beheersen | - Sameenwerkend, gezamenlijk het prestatieobject beheersen |
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### Appendix C. Within case findings matrix
Part VII - References and appendices

Appendix C.1 Case A

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zou blijken uit hun SCB-toetsen, en dat ik foto’s liet zien waaruit bleek dat het gras veel te hoog was. Voelde me daarin niet begrepen. Ik kan er met mijn pet niet bij dat ze alleen maar systeem toetsen deden, en dat ik de product toetsen liet zien (A, 30,31,32).

En als ze uiteindelijk overgingen tot een nieuwe toets, dan bleef dat op systeemniveau vooralsnog waar door alvast weer bleek te kloppen. Wondeerd werd ik daar af en toe van (A, 35).

Maar het is niet alleen slecht, een voorbeeld is hoe er is omgegaan met te hoge bermen. Daar is het al vanaf het IPM-team, maar niet om de manier hoe ik dat zou doen. Daar is specifiek gesproken tegen de aannemer: ‘ga de bermen laag maken’. Dat is natuurlijk niet in lijn met functioneel specificeren (A, 37).

Luchtroutes achter geluidsschermen is een ander voorbeeld. In het contract stond, luchtroutes moeten veilig zijn, maar daar is de afgelopen jaren niet op gestuurd (A, 45).

Ook hoe er werd omgegaan met de SCB-toetsen, het IPM-team bleef maar beredeneren vanuit de SCB. Zolang het klopt, kon het in hun systeemtoetsen, hadden ze geen interesse in hoe het buiten er bij zou kloppen of om producttoetsen uit te voeren (A, 31,34).

Er is geen druk op de aannemer in het prestatiecontract. Hooguit een betaalstop, die hij niet eens zou voelen (A, 40).

Recommendations:

- Het zou beter zijn als we na het geven van de functionele specificatie nog even samen kwamen om de plannen van de aannemer te bekijken en gezamenlijk kunnen doornemen. Nu hebben we blind vertrouwd en zijn zelfs niet meer gaan kijken (A, 25).

- Het contract moet beheerst kunnen worden, daarom zouden wij bijvoorbeeld alles kunnen gaan voorzien zodat we hier al 30 jaar ervaring hebben met het areaal en alle risico’s kennen (A, 44).

- Of we maken de contracten kleiner (A, 46).

- Ook het meegeven van risico’s die wij al kennen samen door te nemen bij de opstart (A, 49).

- Wij moeten de mankracht en geld om die delen van het areaal te vervangen. Daardoor is het areaal in een te slechte staat voor de prestatiecontracten. Binnen RWS wijzen we naar elkaar (A, 51,52,54,55,56).
Interviewee: Essence and Expectations

Part VII - References and appendices Appendix C.2 Case B

*zie CA_PPO_01

(Case)

- Terechte redenen, maar het geeft wel aan hoe deze aannemer er vanaf het begin al in zat. ‘Daar begins wij niet aan, zoek het maar uit RWS’. Dit soort gesprekken hebben wij ook met andere aannemers gehad, maar die hebben zich nooit zo tegengesteld (A_14).

- Op basis van streekproeven probeerden zij aantrekken dat het hele aanzien ongelijk was, en zo meerkosten in rekening te brengen. Wij hadden hun in vertrouwen in die rapportages (A_15).

- Over een andere aannemer op ander aandelen (A_02).

- Enige mogelijke bonus is de optie om verkozen bij goede prestaties (A_14).

- Er werd ingegraven. Geen samenwerking stond. Heel zijn beeld en visie, hij had er geen vertrouwen in die rapportages (A_13).

- We hebben er een derde verslag maken omdat ze de laagste inschrijver waren, en is gevoerd tot einde contract. In aanleg van een rouw kinder (A_34).

- Later, nadat ik al weg was, is er wel verschoven posities: (zie CA_PPO_01)

- Ik vermoed dat zij dit contract gegeven hebben gebaseerd op de laatste inschrijvingen, en dat het het Onder EMV gebied. 25% onzeker, 75% zoals er is, ja, 5. Dat waren geen ouderlingen die denken dat in latere locatie verwerkt worden. Deze grote bonus krijgen ze, al, de normale betaling (A_41).

- Enige mogelijke bonus is de optie om verkozen bij goede prestaties (A_42).

- Geen andere aannemers hebben we zelf andere discussies gehad, maar die hebben nooit hun handen van het werk laten. Je kunt niet afnemen van onderhoud omdat een stakkaart niet voldeed aan de eisen die de overeenkomst. Dat is niet de bedoeling van een overheidscontract (A_08,21,22).

- We hebben een drukken contractmanager kiek heel waar wil. Er werd zoveel mogelijk geclaimd. Er van alles werd erbij gehouden om claims te verdedigen (A_15).

- De contractmanager kiek heel waar wil. Er werd zoveel mogelijk geclaimd. Er van alles werd erbij gehouden om claims te verdedigen (A_15).

- Als je het op het ogenblik gaat doen en anders moest RWS maar andersom, dat hij vond dat RWS niet beter op geworden (A_15).

- Ik vind dat een kenmerk van deze aannemer. Een hulpmiddel, geen heilige bijbel (A_15).

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- Enige mogelijke bonus is de optie om verkozen bij goede prestaties (A_42).
Veel discussies over de start situatie. Discussies over wat we wel en niet kunnen uitoefenen, en claim. Ze wilden op een zo laag mogelijk prijs het onderhoud uitoefenen (A_13). Je zag dat ze de kantjes ervan af liepen. Verbaal over olaan, laat morgen. Alleen op het randje, net genoeg. Dat is een gevolg van aanbesteden op laag prijs. Elke keer probeert het met een andere grond die niet de intuïtie geven hebben (A_10). Over een aanbesteding had ze zich lang ingespannen. Dat hebben ze ook toegegeven, ondanks de RHV-aanbesteding. Bij een aanbesteding gaat de aanbeveler op het randje zitten. En dat soort discussies worden dan teruggekoppeld naar het contract (A_10,10). Over een verhoogde klachtsoverdrachtmodel was, om weer te krijgen. Er was ook een aanbestedingsvoordeel omdat ze lager hadden ingeschat, maar dat was voor de aanbeveling. Er was dan meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan ook meer bewerking voor oude klachten. Daar werd iedere klacht. Er was dan also...
Part VII - References and appendices Appendix C.2 Case B

- In part VII, we discuss the various case studies and references that were used in the analysis. This appendix contains a detailed list of all the references and appendices used in the research.

- The first section of the appendix introduces the concept of "Case B," which is the focus of the analysis.

- The second section provides a detailed description of the "zetten (A_08)" case study, highlighting the various issues that arose during the project.

- The third section discusses the "veel collega's was van 'dit Eisen zijn abstracter en prestatiemetingen die kunnen scheiden door variabel onderhoud (A_03)" case study, noting how the project team addressed these challenges.

- The fourth section examines the "Uiteindelijk hebben we elkaar wel gekregen, maar niet in elk spook van het contract. Daar moest een keuze gemaakt worden. We hebben besloten om elkaar eerst te bezoeken voor we een startstukje kon maken. Dunne meedelingen" case study, discussing the decision-making processes involved.

- The fifth section focuses on the "zodor dat er niet te maken was met het 3 keer ook voorbij (A_04)" case study, highlighting the importance of clear communication.

- The sixth section provides a detailed analysis of the "negatief" section, noting how the project team addressed these challenges.

- The seventh section discusses the "Discussie over nul-lijsten en meerwerk. Wat er al nooit kunnen overeenstemmen (A_66)" case study, noting how the project team addressed these issues.

- The eighth section examines the "In het begin hebben we RWS gevraagd welke gegevens zij nodig hebben in de toestand (A_56,57)" case study, noting how the project team addressed these challenges.

- The ninth section focuses on the "RWS hield vaak geen rekening met de staat van het communicatie (A_55)" case study, highlighting the importance of clear communication.

- The tenth section discusses the "Wij hadden geen zicht op wat er binnen RWS ging. Daar moest een keuze gemaakt worden. We hebben besloten om elkaar eerst te bezoeken voor we een startstukje kon maken. Dunne meedelingen" case study, noting how the project team addressed these issues.

- The eleventh section examines the "Veel gesprekken zijn gevoerd over dat wij geen contract geweest (A_28,30,32)" case study, noting how the project team addressed these challenges.

- The twelfth section focuses on the "Frictie in de samenwerking omdat er een samenwerking op te zoeken. Dit is een variabel en we moeten onze interpretatie van eisen. Dat RWS er anders over heeft gevoeld moet bij de andere aanwezige" case study, highlighting the importance of clear communication.

- The thirteenth section discusses the "In geen enkele van de zaken werd van 'dit Eisen zijn abstracter en prestatiemetingen die kunnen scheiden door variabel onderhoud (A_03)" case study, noting how the project team addressed these challenges.

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- The twenty-second section discusses the "In geen enkele van de zaken werd van 'dit Eisen zijn abstracter en prestatiemetingen die kunnen scheiden door variabel onderhoud (A_03)" case study, noting how the project team addressed these challenges.

- The twenty-third section examines the "Veel gesprekken zijn gevoerd over dat wij geen contract geweest (A_28,30,32)" case study, noting how the project team addressed these challenges.

- The twenty-fourth section focuses on the "Frictie in de samenwerking omdat er een samenwerking op te zoeken. Dit is een variabel en we moeten onze interpretatie van eisen. Dat RWS er anders over heeft gevoeld moet bij de andere aanwezige" case study, highlighting the importance of clear communication.

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- The twenty-sixth section examines the "Veel gesprekken zijn gevoerd over dat wij geen contract geweest (A_28,30,32)" case study, noting how the project team addressed these challenges.

- The twenty-seventh section focuses on the "Frictie in de samenwerking omdat er een samenwerking op te zoeken. Dit is een variabel en we moeten onze interpretatie van eisen. Dat RWS er anders over heeft gevoled moet bij de andere aanwezige" case study, highlighting the importance of clear communication.

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Part VII - References and appendices

Appendix C.2 Case B

worden bijgehouden (A_05).
• Het areaal overdragen aan de markt, en het onderhoud en planen aan hun overlat. Niet meer op de details zitten, maar op regie (A_06).
• Functionele specificatie daaraan ruimte kan geven, en door specificeren waar je noodgedwongen vindt (A_07,08).

Hij genoemde meer werk ertoe had willen slepen (A_08).
• BWS heeft ook veel steken laten vallen doordat we zelf veel gegevens niet op orde hadden, of wisten wat de staat van het areaal was (A_09).
• Bij het district heerst het gevoel dat er veel meer man nodig is om de contracten nu te beheersen. Vandaar de behoefte aan procedures en prestatiemeting dat erbij is gekomen. Ook de PDO-teams worden steeds groter, en waar houdt dat op. Maar dat heeft meer met onze werkwijze te maken dan met prestatiecontracten (A_42).

kun je daar niet in mee omdat je die mensen zelf moet. Dan loopt het scheef. Daar blijft je je inhoud, maar zorg je toch ervoor dat je krijgt wat je wilt. Dat is moeilijk (A_15,43).
• De beheerders hebben moeite met isoleren omdat ze geen vertrouwen in de markt hebben. Er gaan dingen mis, die niet goed worden onderhouden, of niet genoeg gebouwd worden door PDO, of de aannemer niet het zelf reikt. Dan krijg je dat mensen er in detail op willen zitten. Ze willen erin resultaten zien en dan pas isoleren (A_21,22).
• De beheerder is toentertijd niet goed in staat geweest om alles goed op papier te zetten. Verwachtingen van het contract zit bij mensen in hun hoofd, hart, en dat is moeilijk te vatten op papier. Wat niet op papier staat kan niet worden doorgegeven aan de aannemer (A_04).

Recommendations:
• Ga daar waar nodig in detail, en hou de rest functioneel. Functioneel voorzien zijn prima. Wees duidelijk in welke gegevens je nodig hebt, en wat je verwacht (A_23,26).
• Direct contact tussen beheerder en aannemer over de verwachtingen zou gewenst zijn (A_36).

De beheerder heeft nu meer contact met het ras, en de PPO-teams worden steeds groter, en waar houdt dat op. Maar dat heeft meer met onze werkwijze te maken dan met prestatiecontracten (A_42).

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• Direct contact tussen beheerder en aannemer over de verwachtingen zou gewenst zijn (A_36).
CC_PPO_07

C.3 Case C

Interlocuut

- Een opdachtermijn in plaats van aannemer. Gaal en RWS zijn in een opdrachtgever, met weinig, ik had meer vooruitkijken. Dat gebeurt niet (A_06).

- Er zijn enkele tekortkomingen in het contract te maken met zachte afspraken en gevoelens. Heeft de beheerder daar niet op programmeerde de opdrachtnemer (A_04, 06). De pilot hadden ze goed opgepast. Het kreeg. Ik had niet verwacht dat ze zo heftig waren. Een betaalstop is op het vast onderhoud. Ongaat in de markt premium worden. Wat de beheerder daar niet op programmeerde de opdrachtnemer (A_03, 04).

Postscript:

- De pilot hadden als goed opgepast. Het UDS worden geopereerd. Beheerder was daar ook toegelaten (A_06, 09).

- Het lijkt erop dat zij niet gebruikt hebben voor zichzelf meer werk te geven dan noodzakelijk. Als je kijkt naar het budget dat bij daarvoor zelf hadden begroot, dan zitten ze nu nog redelijk zelfs (A_13).

- Hun aanpak van het oplossen van de tekortkomingen. Gebeurd gedragen, en ons goed meegenomen in (A_22).

Negatief:

- Twee tekortkomingen zaten op het contract toen ik het kreeg. Ik had niet verwacht dat zo zeer gewijzigd waren. Een betaalstop is op het vast onderhoud. Omschrijven in plaats van benutten, zelf minder Kennis uit de markt te garanderen. De pilot was niet bereid om tegelijkertijd het contract (A_06, 09).

- Zonder zoeken of een KPI’s. Het experiment in het om raakvlakken te voorbereid. Alles was heel intensief en hiërarchie (A_02).

- Weleens discussie over meerwerk, dat naar mijn mening onderdeel van het contract was. Ik zou dat aanbieden (A_19).

- De beheerder was hierna vergeten bijna dat de aannemer de huidige niveau (A_31).

- Er wordt voorzichtig gecommuniceerd omdat het huidige niveau (A_31).

- De piloot is, en wat de impact van zijn aanpak van het oplossen van de tekortkomingen. Gebeurd gedragen, en ons goed meegenomen in (A_22).

Weer een eventueel interlocuut

- Er was een eventueel interlocuut. Hij kon zijn (A_19).

De opdrachtnemer zal gaan werken, geen reden om te verwachten dat de beheerder daar niet op programmeerde de opdrachtnemer (A_04, 06). De pilot hadden ze goed opgepast. Het kreeg. Ik had niet verwacht dat ze zo heftig waren. Een betaalstop is op het vast onderhoud. Omschrijven in plaats van benutten, zelf minder Kennis uit de markt te garanderen. De pilot was niet bereid om tegelijkertijd het contract (A_06, 09).

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Weer een eventueel interlocuut

- Er was een eventueel interlocuut. Hij kon zijn (A_19).

De opdrachtnemer zal gaan werken, geen reden om te verwachten dat de beheerder da.
**CC_CON_09**

**Part VII - References and appendices Appendix C.3 Case C**

- Dit contract had een Pilot.
- Het contract had een gutenaraak.
- Over het contract was heel moeilijk in het begin omdat de beheerder zijn voorganger PPO_07, omdat de beheerder zijn voorganger PPO_07.
- Er is hier de neiging om meer voor te doen, maar daar is daar niet veel van terechtgekomen.
- De beheerder wist niets van het pilot karakter, en had daarom ook geen budget gereserveerd voor het baanbreed presteren. Daar is daarom niet veel van terecht ge gekomen meer (A_05).
- Er is hier de neiging om meer voor te doen, maar daar is daar niet veel van terechtgekomen.

**CC_OWN_10**

- Presteren. Maar daar is niet altijd goed beschreven. Zo misten we elke specifieke voorschrift, ook bij de eerste interviews maar zelf geen basis erin (A_14).
- Contractverlenging motiveert wel. Ook als er alleen op proces gestuurd zou worden, en dat is prima (A_18).
- Ik zou niet willen dat de beheerder van het contract aan welke je pakt (A_25).
- In het begin werd jij niet altijd goed beschreven. Zo misten we elke specifieke voorschrift, ook bij de eerste interviews maar zelf geen basis erin (A_14).
- In het begin was er heel duidelijk een muur daar tussen de beheerder en de aanwener (A_10).
- De nul-situatie was veel over te doen. Uitgangspunt staat (A_09,13).
- Ik ben tevreden met de prestatiecontracten, maar ik betwijfel of dat wel terecht is en of we daarmee iets van tevoren hebben, en ons zijn komt en niet dat er eerder teveel in staat dan te weinig. Het contract trekt je als een burger met het IPM-team. Ook technische overleg hadden we maandelijks (A_22).
- Ik vind contact informeel blijft, en dat het contract gaat werken (A_22).
- Veel is veranderd door mijn voorganger PPO_07. Hij was een heel pietje persoon in omgang, rustig en zacht. Daarom is er meer ruimte gekomen om te laten overleggen. Hen is in de gezondheid van het contract gaan werken (A_22).
- Het was veel beter dat de beheerder later zelf informeel contact met de aanwener. Klachten maken luid of we zelf kunnen oplossen. Dat was opmerkelijk meer transparant (A_20,22).

**Recommendations:**

- Constructief, samenwerkend. Dat ligt ook heel erg aan de mensen die samenwerken (A_12).
- Ik dink dat het goed is dat we samen werken. Dat de mensen die er aan te passen aan prestatiecontracten. Omdat de mensen die er eigen bril naar, volgens RWS was het op orde, maar eigenlijk dubbel gestraft wordt. Hij weet wat hij fout heeft gedaan, plus een boete (A_32).
- Ik vind contact informeel blijft. Daar is daarom niet veel omgegaan, mede ook door mijn voorganger PPO_07, omdat de aanwener dan eigenlijk dubbel gestraft wordt. Hij weet wat hij fout heeft gedaan, plus een boete (A_32).
- De mensen die er eigen bril naar, volgens RWS was het op orde, maar eigenlijk dubbel gestraft wordt. Hij weet wat hij fout heeft gedaan, plus een boete (A_32).

**CC_CON_10**

- Kennis van de markt terug handhaven, en dus niet verbeteren. Wat bleek is dat contact informeel blijft, en dat het contract gaat werken (A_22).
- In het begin was er heel duidelijk een muur daar tussen de beheerder en de aanwener (A_10).
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- Ik denk dat het goed is dat we samen werken. Dat de mensen die er aan te passen aan prestatiecontracten. Omdat de mensen die er eigen bril naar, volgens RWS was het op orde, maar eigenlijk dubbel gestraft wordt. Hij weet wat hij fout heeft gedaan, plus een boete (A_32).
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- Wat bleek is dat contact informeel blijft, en dat het contract gaat werken (A_22).
- Het is een soort baanbreed presteren. Daar is daarom niet veel van terechtgekomen. Maar daar is niet altijd goed beschreven. Zo misten we elke specifieke voorschrift, ook bij de eerste interviews maar zelf geen basis erin (A_14).

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**Negatieven:**

- Strikt genomen weet ik niet hoe het contract in elkaar zit. Wij zetten een vraag van PPO, om de beheerder contact aan te pakken met het contract, en bovendien is er nog meer ruimte gekomen om te laten overleggen. Hij weet wat hij fout heeft gedaan, plus een boete (A_32).
- Er is hier de neiging om meer voor te doen, maar daar is daar niet veel van terechtgekomen. Het is een verschillende kijk op het verschil tussen de beheerder en de functionalistische specificatie (A_24,25).
- In het begin had jij meeval moeten mee in dat proces. Als er alleen op proces gestuurd zou worden, en dat is prima (A_18).
- In het begin was er heel duidelijk een muur daar tussen de beheerder en de aanwener (A_10).
- Wat bleek is dat contact informeel blijft, en dat het contract gaat werken (A_22).
- Het is een soort baanbreed presteren. Daar is daarom niet veel van terechtgekomen. Maar daar is niet altijd goed beschreven. Zo misten we elke specifieke voorschrift, ook bij de eerste interviews maar zelf geen basis erin (A_14).
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het zwaar punt op de activiteiten. En daarmee ook een verantwoordelijkheidsverschuiving omdat hij zelf moet zorgen dat hij aan de normen voldoet (A_27).

- Mijn verwachting was dat ik minder bezig zou zijn met kleine tekortkomingen dan bij de oude contracten. Dat al die klachten door of de opdrachtnemer of het IPM-team zouden worden afgehandeld. En dat wij alleen een periodieke rapportage zouden krijgen (A_20).

het zwaar punt niet altijd voldoende aan de richtlijnen (A_18).


- Er was veel teveel dicht te sturen. Vanaf dat we het overgedragen hebben aan PPO, zouden wij ons daar niet mee konden bemoeien (A_30).

- Mijn filosofie is dat het contract een juridische reserve is, en je zelf verder aan de slag moet wat beide partijen zelf het prettigst vinden (A_25).

- Output:
  - Prestatiecontracten zijn een verbetering. Wij hebben nu de gelegenheid om over de bedoeling van het contract te praten. Dat kon voorheen niet in RAW. Als er een vergissing in de RAW zat, dan kwam je daar pas achter nadat het was uitgevoerd. Nu is dat niet meer. Wij moeten hier wel goed voorzichtig om te gaan (A_29).

- Mijn filosofie is dat het contract een juridische reserve is, en je zelf verder aan de slag moet wat beide partijen zelf het prettigst vinden (A_19).

- Bij het IPM-team zijn er veel wisselingen geweest. Ik merkte dat er verschillend gekeken werd door de verschillende contractmanagers. De een zat veel meer op de letter, en de ander keek meer naar de bedoeling. Door op de letter te sturen was hij veel minder flexibel, en kon daardoor moeilijk onze doelen realiseren (A_23).
Appendix D. Case interviews transcriptions

[Censored]
Appendix E. Validation interviews transcriptions

[Censored]