

# **The monitoring and enforcing of offered additional value in best-price-quality-ratio tendering**

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## **Abstract**

The railway agency has faced challenges due to transitioning from traditional lowest price procurement to Best-price-quality-ratio (BPQR) procurement. This shift has increased the need to monitor contractors closely as their offered additional value requires more attention during the execution phase. However, little is known about the agency's current monitoring and enforcing process and barriers faced by its employees during this process. This study focuses on the agency's approach to monitoring and enforcing BPQR-offers of contractors, along with identifying barriers of the monitoring process and lastly finding possible mitigations for the found barriers. Data collection involved surveys, interviews, expert discussions, and document searches. Results reveal that while the agency's risk-based assessment method is suitable for technical monitoring, it lacks uniformity, flexibility, continuity, and clear responsibilities for the monitoring of additional value. Employees encounter physical and cultural obstacles, from fear of damaging relationships to time constraints. Recommendations include establishing monitoring guidelines, promoting the benefits of BPQR tendering amongst employees and driving a cultural shift within the agency. Further research could explore whether types of BPQR criteria influence barriers and identify ideal monitoring structures across different sectors.

### *Abbreviation list*

CM: Contract Manager

PM: Project Manager

BM: Building manager

AM: Asset management

RSE: Rail System Engineer

CE: Cost Engineer

TM: Tender Manager

BPQR: Best Price Quality Ratio

MIW: Ministerie van Infrastructuur en Waterstaat

Keywords: monitoring, enforcing, Best Price Quality Ratio (BPQR), barriers, culture

## 1. Introduction

The lowest bid tendering, which has dominated the construction sector until the mid-2010's, has been evaluated and gradually switched towards a more value-based tendering. This value-based tendering, based on the best-price-quality-ratio (BPQR), has impacted the entire construction industry. However, public organizations have been impacted the most. This is due to the decision of the Dutch government to change the law and obligate public organizations to practice socially responsible procurement and tender based on quality as well as price (Rijksoverheid, 2023). The switch towards BPQR-tendering has increased the need for more extensive monitoring during the execution phase, as the monitoring of "clear" technical details would no longer suffice to monitor a complete execution of the contract (Fernandez, 2009; Varnäs, 2009). Monitoring of contractors on how they are executing the agreements, as stated in the contract between client and contractor, is a multi-disciplinarily process (P. S. P. Wong et al., 2010). It requires technical knowledge, social skills and management skills. Due to the multi-disciplinary needs of the process, there are a large number of factors which influence the performance of the monitoring and enforcing system. Previous research has been done into the physical monitoring of construction project sites (Pour Rahimian et al, 2020) and into the relationship between client and contractor (Snippert et al., 2015). The physical monitoring has been optimized and digitalized over the recent years, however, little research has been done into the monitoring of qualitative agreements and which factors have an influence on the performance of the monitoring and enforcing system of an organisation. To analyse a complex process such as the monitoring and enforcing of qualitative agreements, the process needs to be divided into sub-themes which are analysed separately in the context of the railway agency.

The industry in which the organization operates determines the demand for monitoring and enforcing. In the case of the railway agency, the rail industry practices a high amount of time pressure onto the system, as the rail industry is organised on an European level which comes with very tight agreements and large consequences for overshooting those agreements. Next to that, the rail industry has an high number of users which are all effected by the decisions made by the agency. As the railway industry is a public organisation, its' tendering process is heavily regulated, limiting the possibilities for later monitoring and enforcing of contract. On an organisational level, the agency has the freedom to establish their own monitoring structure as part of their desired project organisation. This monitoring structure, including division of tasks, amount of monitors and the location of the monitors determines the performance of the monitoring process of an organisation (Gauci, 2013). The railway agency has their own monitoring structure in place which has its own (dis)advantages. Gauci (2013) introduced three different monitoring structures; orchestrated-, choreographed- and migrating monitoring, the characteristics of Gauci's structures will be used to analyse the monitoring structure of the agency.

The Dutch Railway agency has experienced problems with the realisation of BPQR-offers made by contractors during the tendering phase. The agency has experienced cases where the contractors did not execute their offered promises, but the agency did not enforce the contract and still paid the full project sum. Therefore, not getting their wanted "value for money". They suspect that this might be due to insufficient- or misused monitoring methods or due to insufficient enforcing of contracts. This suspicion is supported by literature, as the study of Varnäs (2009) shows the lacking of a monitoring system can have impact on the realisation of green procurement. Therefore, the agency wants to know the state of their current monitoring- and enforcing practices. Monitoring can be performed using various methods (Fernandez, 2009). Clients can chose to perform constant monitoring or have the contractor prove to the client that they executed the contractual agreements. These reports can then be assessed by the client periodically or via a risk based assessment (Fernandez, 2009; Railway agency, 2023).

The railway agency is interested in the barriers which its employees encounter during their daily monitoring and enforcing practices. This due to the fact that the agency wants to improve their practices to realise their desired "value for money". Literature identifies possible barriers which organisations might encounter during their monitoring and enforcing practices. Osipova (2015) identifies barriers for monitoring and enforcing which coincide with the relationship between client and contractor from agency theory perspective, looking into the relational aspects of monitoring and

the effect of common agency theory aspect on the overall process. Important bodies in the infrastructure industry like; the Dutch ministry of Infrastructure, the Railway Agency and the CROW have produced a large body of literature focussing on the tendering process using BPQR-criteria. These organisation have defined barriers of the BPQR-tendering process which can have an effect on the monitoring and enforcing process when not executed correctly (MIW, 2021; CROW, 2023; Railway agency, 2023).

Adding to that, the monitoring and enforcing system of the agency makes or breaks at the attitude of its employees. This attitude is created based on the organisational and industry wide culture and the employees awareness of- or knowledge on the subject of BPQR-tendering. This gives a personal- and relational dimension to the process which influences the performance of the system. As the attitude of employees influences the frequency, thoroughness and therefore the overall performance of the system (ABB-Group, 2023). Previous research into relational barriers in the construction sector show where the industry is lacking in terms of relational aspects. Snippert et al. (2015) have studied the construction sector and a possible move towards more stewards-like relationship. However, it can be seen that clients move back to a more monitoring and controlling state as they are unsure about the goals of the contractors. Also, the little experience clients have with best value practices can lead to them relapsing into old monitoring behaviour (Snippert et al., 2015). This fear of moving towards a more transparent relation is a result of the industry wide culture that clients assume that contractors will show opportunistic behaviour. This culture has been cemented into the industry due to the opportunistic behaviour which contractors have shown over the past decade, effecting the requirements for the monitoring process.

This research will focus on the phases of the project where decisions are made which have an (in)direct influence on the monitoring of contractors during the execution phase. As the thought process, together with the decisions which follow from it, at the start of the tendering procedure can have major consequences for the possibilities of the client to monitor the progress of the contractor. Figure 1 (Schotanus, 2022) visualises the scope of the research. The research will focus on the transparent sections of the model of Schotanus (2022) and will disregard the grey sections. By analysing these phases and their effect on the monitoring and enforcing practices, the research hopes to answers the questions of the railway agency; : *‘‘ How are the performances of contractors on the realisation of their tendered BPQR-offers monitored and enforced by the railway agency’’*. For the researcher to be able to formulate a comprehensive answer to this question, the following trio of sub-questions was answered. Firstly, *‘‘ Which instruments are used by the railway agency to monitor and enforce the BPQR-offers made by contractors during the tender phase?* The instruments include monitoring methods, the accommodation of monitors in the project structure and the instruments flowing from the industry in which the railway agency operates. Secondly, *‘‘what are the barriers for a client to monitor the BPQR-offers?’’* And lastly, *‘‘how can the barriers found for the client be mitigated?’’*

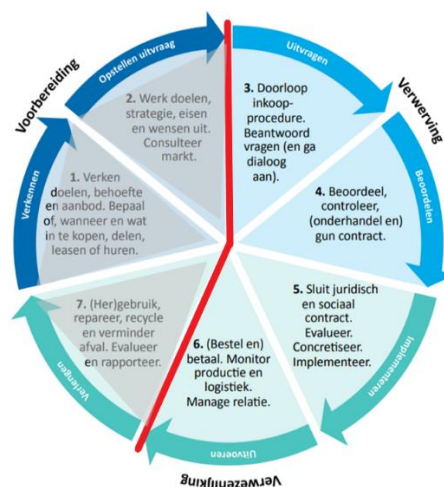


Figure 1: focus area of this research based on model of Schotanus (2022)

For this thesis, the decision is made to focus on a certain set of BPQR-criteria. The criteria for which the monitoring is analysed are criteria which are clearly distinctive during the tendering phase. This meaning the contractor had an considerable advantage in winning the tender due to their BPQR-offer. Examples of distinctive criteria are; Plan of Action, Risk Management Plan or environmental cost calculations.

This paper is structured as follows: chapter two dives into the theory on which this research is based. Chapter three will elaborate on the methods which are used to obtain the data and results which are discussed in chapter four. Chapter five includes a discussion of the results and chapter six reads a conclusion drawn from the main finding in this research.

## 2. Theoretical framework

### 2.1 Project structure and organisational context

To understand the monitoring and enforcing process of the railway agency, it is important to understand the monitoring structures and methods which the agency uses to monitor its contractors, as the structure and methods have a direct impact on the monitoring and enforcing capacity and capability of an organisation. The monitoring structure which an organisation uses is partially determined by the industry in which the organisation is active and in which context the organisation is operating. The rail industry has multiple traits which have an effect on the monitoring structure of the railway agency, but also on the possibilities that the agency has to monitor or enforce contractual agreements.

#### 2.1.1 Monitoring structures

To be able to analyse the monitoring structure of the agency, it is important to have a theoretical backbone which can be used to reflect on the used structure, as the way the monitoring is structured within an organisation can have large impacts on the quality of the monitoring process (Gauci et al., 2013). Gauci (2013) has identified three ways how an organisation can structure their monitoring practices. Organisation can use orchestrated-, choreographed- or migrating monitors. The first makes use of a central location  $g$  from which the group of monitors  $M_1, M_2, M_3$  does their work. From this location they assess events  $T_1, T_2, T_3$  which happen at the projects  $P_1, P_2, P_3$  at locations  $l$  and  $k$  and decide if any action is required. In Figure 2, you can see the orchestrated monitoring model of Gauci et. Al. (2013).

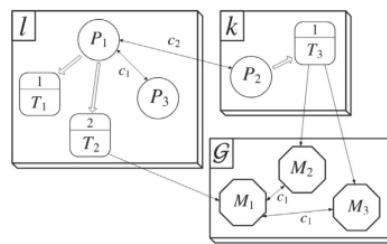


Figure 2: Orchestrated monitoring (Gauci et.al., 2013)

With Choreographed monitoring, the monitors are spread out over the different projects and they assess the events at the project location. Choreographed monitoring focusses on local verification to reduce the amount of communication lines needed to monitor the events. However, the structure is more intrusive and is a more complex structure to facilitate within an organisation. In Figure 3, you can see the choreographed monitoring structure by Gauci et. Al. (2013).

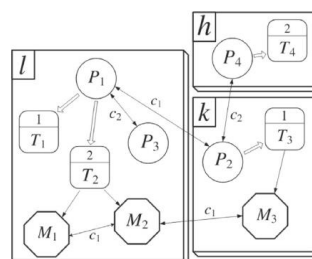


Figure 3: Choreographed monitoring (Gauci et. al., 2013)

In case of migrating monitors the monitors monitor events at multiple projects from the corresponding project location (Gauci et.al., 2013). Here you see the need for less monitors as they move between the project locations. This structure focusses on a by-need basis as the monitors migrate to the project

where events occur which need monitoring. Same as the choreographed monitoring, the migrating monitoring is more intrusive than the orchestrated monitoring. The migrating monitoring requires larger efforts from the monitors as they need to process information from multiple events at the same time. In Figure 4, you can see they migrating monitoring according to Gauci et. Al. (2013).

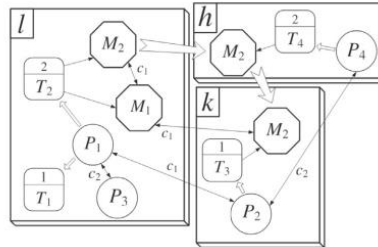


Figure 4: Migrating monitoring (Gauci et. al., 2013)

The models of Gauci were used during this research to visualize and analyse the monitoring structure of the railway agency. By putting the monitoring models of Gauci over the organisational structure of the agency, the advantages and, possible, shortcomings of the monitoring structure can be identified. The division of responsibilities within an organisation can heavily influence the monitoring processes, Gauci (2013) helped identify the consequences of the division within the railway agency. The models of Gauci (2013) have also helped with writing up advices to mitigate the found shortcomings of the monitoring process of the agency.

#### 2.1.2 BPQR tendering in a public organization

The railway agency is a public (utility) organization. Therefore, their tendering procedure is heavily regulated by government. As most aspects of the tendering procedure are determined by the national government, the impact of the tendering procedure on the monitoring and enforcing practices of the agency need to be known to make an accurate analyses (Rijksoverheid, 2023). The government asks utility organizations to tender in a societal responsible way, this means that all projects have to be tendered using BPQR-criteria. The agency uses a large variety of qualitative criteria during their tendering process (Railway Agency, 2022). The tender teams of the railway agency are responsible for choosing which qualitative criteria are suited for a certain project. The tender team consists of the PM, TM and CE, together with advisors who look into the juridical and societal side of the tender. The decisions made by the tender teams of an organization have large consequences for the later execution of the contracts (MIW,2021). As the tender teams of the organization decide which criteria are used to reward the project and how the offers of the winning contractor are included in a contract. They therefore dictate which aspects the project team has to monitor and they define the possibilities the project team has to monitor the offered additional by the formulation of the contract (MIW,2021).

All these criteria require different monitoring methods and processes. This research has focused on the most used qualitative criteria used by the agency, some being generalized within the tendering strategy, others being used for specific projects. The general criteria which were of interest for this study were the CO2-ladder and the safety-ladder. These have become standard practice for the organizations' tender teams and are therefore interesting to find the general view on BPQR-tendering and monitoring. For the specific criteria, the research focused on the plan of approach, risk-management-plans and the environmental management plans (Railway agency, 2022). These criteria are accustomed to large infrastructural projects with high quantities of stakeholders, making them interesting to analyze the monitoring process when the stakes are high.

Table 1: BPQR-criteria of interest for this study

BPQR-criteria of interest for this study	Explanation
Plan of approach	The POA of contractors has large impact on their fictional bid price and needs to be strictly monitored. The reaction of the agency to a contractor not meeting their offered POA is of interest for this research.
Risk management plan	Contractors can distinct themselves from other by mitigating risks using a well-supported risk management plan. The monitoring of such plans is therefore of interest for this research
Environment management plan	As sustainability is becoming more and more important in construction, contractors can gain tender advantages by offering more sustainable construction then other contractors (Varnäs, 2009). This makes the monitoring of such plans of interest for this research
Environmental cost calculations (MKI score)	As sustainability is becoming more and more important in construction, contractors can gain tender advantages by offering more sustainable construction then other contractors (Varnäs, 2009). This makes the monitoring of such plans of interest for this research

Table 2: BPQR-criteria not of interest for this study

Other used BPQR-criteria not of interest for this study	Explanation
CO2-level of contractor	The CO2-ladder is no longer distinctive within the construction sector as all contractor are certified at the highest level
Safety standards	The Safety-ladder is no longer distinctive within the construction sector as all contractor are certified at the highest level

To determine which contractor gets rewarded the contract, the agency uses percentual discounts for the different BPQR-criteria to fictively discount the price offer of the contractor (Lupi, 2017). The discounts are determined for each BPQR-criterion, there are no predetermined percentages or values for the sub-criteria on which the BPQR-criterion is scored (Railway agency, 2022). After rewarding the contract to a contractor, the agency can use different methods of including the BPQR-offers into the final contract. One method commonly used is a Bonus/Malus rewarding system, meaning that a contractor has a clear understanding of the consequences on the payment sum when the agreed terms are not met. The second often used method would be to include a fine into the contract which is given to the contractor when they do not execute the BPQR-offer they made during the tender. This fine is generally formulated as: *1,5 times the tendering advantage of the offer*. Meaning that, if a contractor does not execute the contract sufficiently, they would be fined 150.000 euros if they had a 100.000 euro fictional discount due to that BPQR-offer. The second method often results in disputes as contractors feel that they are disproportionally fined when they, for example, execute nine out of ten sub-criteria and are fined on the fictional discount of the total BPQR-criterion.

As the agency is operating as a public utility organization, they are allowed to implement and acknowledgement system, in Dutch ‘Erkenningsregeling’, for the contractors they work with (Railway agency, 2023; Rijksoverheid, 2023). This system has the goal to guarantee capacity, skills and knowledge within the contractors which the agency can rely on for the completion of their projects. The system is suspected to have an influence on the monitoring and enforcing practices of the agency. As the system is suspected to create a sense of false security amongst employees regarding the delivered quality.

### 2.1.3 The rail industry

Next to the influence of the railway agency being a public utility organization, they also operate in a specific sector which influences the monitoring and enforcing practices of the organization. The rail industry is a very regulated industry with a high number of users and stakeholders, both national and international. This shows, for example, in the procedure around train free periods (Tfp's). A train free period is a time where the track is freed from any traffic to create possibility for construction works on the tracks. The Tfp's have to be requested on a European level three years prior to the works. The tfp is a very hard deadline, affecting all users if exceeded. This brings extra stress upon the monitoring and enforcing of the agency, as they cannot afford to exceed the tfp. This results in the employees of the agency having to sometimes make choices between monitoring and possible enforcing or making the tfp.

### 2.2 Way of working

The monitoring of contractors' performances is done using a large variety of methods. Fernandez (2009) identified six commonly used monitoring tools. Those being; inspections of work in progress, inspections of work completed, complaints monitoring, examining contractor reports, performance measurement systems and citizen surveys. These methods are suited for both small-, medium- and large-scale projects in different sectors. A commonly used method in the construction sector is the contractor self-inspection, which is an example of the examining of contractor reports method of Fernandez (2009). This method is often used when additional value is tendered using BPQR-criteria. The other option is, sometimes intensive, monitoring from the client side, an example of the monitoring work in progress of Fernandez (2009). This monitoring is performed using different types of software. For public clients in the Netherlands, the software used for all project communication is prescribed by the Dutch government. This software is also used for the feeding back of information during the contractor self-inspection. Another important feedback moment are the building meetings. These are meeting where all actors in the construction project come together to update on the progress of the project, this includes updates on the creation/plans on how to create the additional value (Varnäs et al., 2019). At the railway agency, the progress monitoring and possible enforcing is currently performed by a limited set of employees. The building managers are responsible for the monitoring of construction projects, Rail System engineers monitor the engineering contracts and contract managers are responsible for the monitoring of large framework agreements. Project managers are, together with the juridical department, in charge of the enforcing in case of a contractual breach.

To have correct and consistent monitoring throughout the organisation, it is important that the organisation uses consistent monitoring language (Gauci et.al., 2013). Therefore, it is important that the organisation have guidelines in place for all employees on how to perform monitoring of BPQR-offers. This consistent language enables the organisation to learn from its own projects and create best practices on monitoring. Next to the advantages for the agency, a uniform monitoring language results in a fair judgement across contractors, stimulating a smoother flow of the project.

### 2.3 Barriers for monitoring and enforcing

The railway agency is experiencing difficulties with the monitoring and enforcing of BPQR-offers. One of the goals of this research is to create an overview of the barriers which its employees encounter during their daily monitoring practices. Literature identifies barriers which could possibly occur during the monitoring and enforcing process. During this research, these barriers were tested in the context of the railway agency to see if the barriers were experienced in practice. There are two main sources of literature used to identify predicted barriers. Those being the agency theory (Osipova, 2015) and the government guidelines on BPQR-tendering (MIW, 2021; Rijksoverheid, 2023)

#### 2.3.1 Barriers from agency theory

Osipova (2015) identifies problems which can occur for the duration of a principal agent relationship. These problems are shown in Figure 5. A number of these identified problems have an influence on the monitoring and enforcing structure of the principal, in this case, the railway agency. Firstly, the fact that outcomes are not always measurable create difficulties for monitoring the



progress of an agreement. When the railway agency, for example, is executing a project which was tendered based on lowest CO2-emission, it is difficult to “see” the progress and the agency has to believe the contractor and his intentions (Osipova, 2015). It is suspected that the railway agency puts too much trust into contractors when it comes to agreements which are difficult to measure, resulting in only assessing the agreement after completion of the project, when it is too late to rectify the contractors’ works. The problems of information asymmetry and difference in goals defined by Osipova (2015) show during the daily contract management operations of the agency. The agency and the contractor(s) are often debating on contractual clauses which are multi-interpretable, these debates are often lost by the agency when the agreement is indeed multi-interpretable. The contractors are assumed to know what the agency means, but remain to show opportunistic behavior.

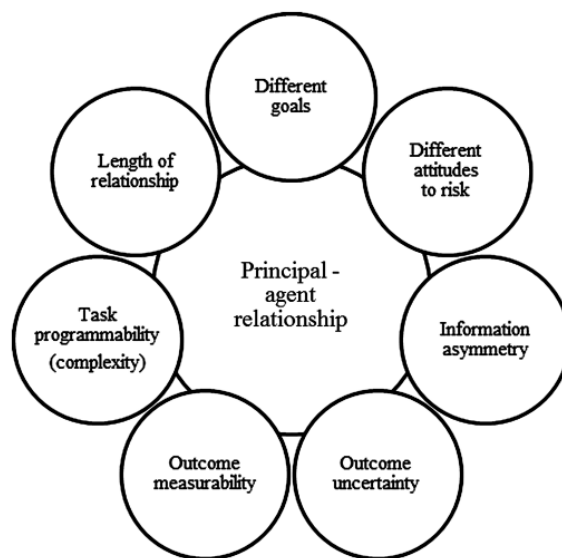


Figure 5: Agency problems according to Osipova (2015)

### 2.3.2 Barriers from BPQR-tendering

The Dutch government has written multiple guidelines on how they see the BPQR-tendering process and which problems organizations might encounter during their operations (MIW, 2021). There are a number of decisions made by the organisations tender team which influence the monitoring and enforcing process of the railway agency. The MIW (2021) warns organisations to carefully look into the pre-tender handling of BPQR-criteria and careful formulation of the tendered criteria. As small imperfections in text can lead to discussions with contractors for the employees responsible for the later monitoring of the execution phase (MIW, 2021). Next to the formulation of the criteria, both the MIW (2021) and the CROW (2023) recommend that organisations should invest into the creation and validation of Key Performance Indicators (KPI's) for their often used BPQR-criteria. According to both those institutions, the fact that organisations do not think about measurability of their tendered criteria is one of the main barriers for organisations to be able to monitor and enforce BPQR-offers in contracts.

### 2.4 Culture and Awareness

One crucial part of the monitoring and enforcing process are the employees of the railway agency. Their attitude towards the process of BPQR-tendering and the corresponding monitoring and enforcing, their knowledge/awareness on these processes and their willingness to execute these processes determine the performance of the practices. These views are determined by the organizational and industry wide culture which are currently in place. This culture has been cemented into the railway agency over the past decades by the experiences the employees gained during

projects. This culture is preserved by traits of the relationship between client and contractor defined by the agency theory (Osipova, 2015). Traits like information asymmetry, difference in goals or attitude and the difficult measurability of outcomes created and preserved these cultural aspects which impact the monitoring and enforcing practices of the railway agency. These cultural aspects can be grouped into two main topics which influence the monitoring and enforcing practices of the agency: opportunism and trust.

#### 2.4.1 Opportunism and agency theory

To analyse the dynamic between a public client, such as the railway agency, and a contractor, this research made use of agency theory. Agency theory is a well-known paradigm within different industries which explains the relation between a principal and a client (Corporate finance institute, 2023). The theorem can be of use in different industries. In finance, the theorem describes the relation between a company's shareholders and the board. In any other organization, you can apply the theorem to explain the relation between an employer and his/her employees. For this research, the actors within the agency theorem will be the railway agency as principal and the contractor as agent.

It is known that the nature of a principal is to assume that an agent will behave in an opportunistic way (Osipova, 2015; Snippert et. al, 2015). This assumption is also part of the larger, industry wide, culture which has been cemented in the rail industry over the past decade. Within the construction sector, it is difficult for the principal to know precisely what the agents are doing and if they are acting in the best interest of the principal (Osipova, 2015). The information gap which is left here is filled by the introduction of monitoring (Snippert et al., 2015). However, these monitoring practices show that there is a level of distrust within the principal that the goals of principal and agents are aligned. As the BPQR-offers are difficult to monitor, the information gap stays in place and influences the behavior of the principal (Osipova, 2015). Osipova (2015) identifies problems which can occur when a principal and an agent go into a contract together, the problems stated by Osipova (2015) is shown in Figure 5.

#### 2.4.2 Levels of trust

To understand the levels of (dis)trust between client and contractor during the process of monitoring and enforcing, it is important to understand the relational aspect which comes with the process of monitoring and enforcing. A client can trust a contractor on different levels (W. K. Wong et al., 2008). For this research, three levels of trust are analysed: personal-, institutional-, and competence trust. The employees of the railway agency responsible for the monitoring of the contractor experiences trust on a personal level between him/her and the project manager of the contractor. Next to that, the entire railway agency puts trust into certain contractors. The agency works with acknowledged contractors ("Erkenningsregeling" named in section 2.1.2 BPQR tendering in a public organization) which means that the agency puts trust into the contractor that can provide the required capacity to deliver the work (W. K. Wong et al., 2008). This institutional trust has close similarities with the competence trust in which the railway agency puts trust in a contractor that they have the competence to execute the works and deliver the desired quality (W. K. Wong et al., 2008).

The influence of the different levels of trust is enhanced by the use of BPQR-tendering by the railway agency. BPQR-tendering requires more trust from the principal side, as BPQR-offers are often non-touchable and difficult to monitor (Osipova, 2015).

#### 2.4.3 Awareness

The behavior of the agency's employees towards BPQR-tendering and the monitoring process influences the performance of its monitoring and enforcing system (MIW, 2021). The willingness of employees to take the time and make the additional effort to monitor the additional tendered quality determines if the process is executed accordingly. The decision to make this additional effort is not solely a question of willingness. There is a chance that employees show willingness to make the additional effort but lack the knowledge to make the effort. They can lack knowledge on BPQR-tendering, available instruments or juridical possibilities (MIW, 2021; Railway agency, 2023).

## 2.6 Theoretical framework

To summarize, this research will use different theories to analyse the practice from different points of view. To analyse the influence of the relation between client and contractor, the aspects of Osipova (2015) and Wong et. al (2008) will be used. The practice where the railway agency and a contractor go into a contract will be seen as a relationship between a principal and an agent with the main focus on the phenomena of opportunism and trust.

To map the monitoring practices of the agency, the theory of Gauci (2014) is used to define the monitors, their location and their dynamics during the execution of a project. The theory of Gauci (2014) will help to visualize and analyse the complexity of a monitoring structure of an organization. To add, the monitoring methods defined by Fernandez (2009) help with analysing the effect of the methods chosen by the railway agency on the monitoring and enforcing practices. Next to that, the effects of BPQR-tendering on the monitoring and enforcing practices of an organisation will be viewed with the assistance of Varnäs (2009).

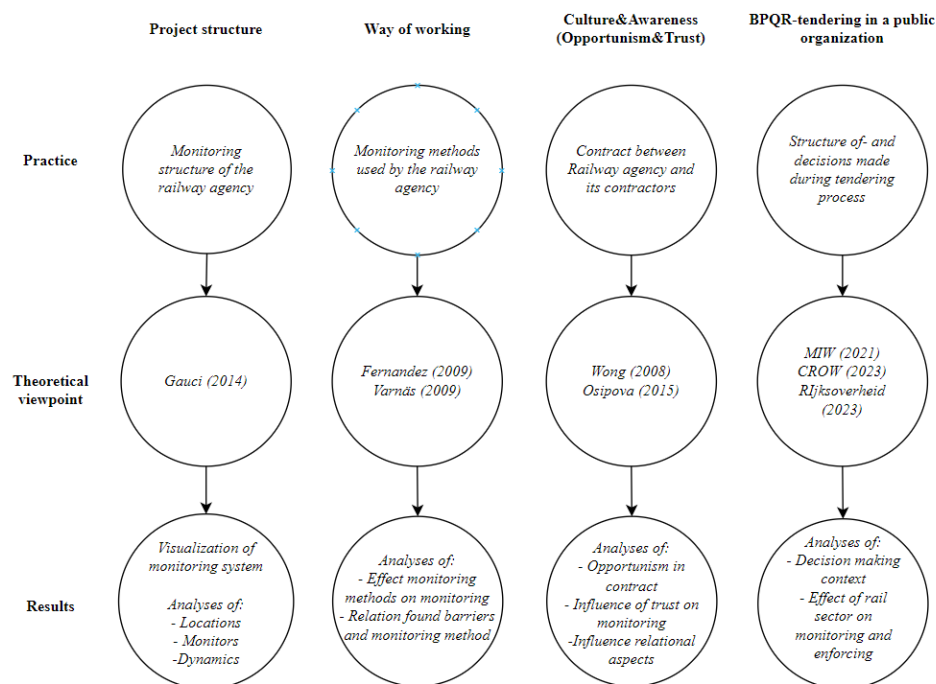


Figure 6: Theoretical framework

The entire research will be performed in the context of the rail agency. Meaning a public organization which has a largely regulated tendering procedure (Rijksoverheid, 2023; MIW, 2021). Also, the context of the rail sector influences the monitoring and enforcing process, as the works within this sector have very specific characteristics.

### 3. Method

#### 3.1 Research outline

This research has been a sequential combination of two research techniques. The first technique used was a survey study. Surveys are easily deployable and can be quickly spread amongst a large group of possible respondents (Ball, 2019). Also, the gathering of data is automated, which requires less effort to create the required data set. Next to that, the data is easy to analyse, visualize and explain (Ball, 2019). The second technique was a more in-depth case study. The case studies were started after the survey results were obtained to find the explanations for the answers obtained from the survey. A total of 4 projects were selected as cases. These cases were a possibility to dive deeper into the way of working on how contractors are monitored during the execution phase by public clients. As this research focussed on a ‘‘how’’ question, case research is a very suitable method (Yin, 2018). The combination of the survey study and the case studies aimed at gathering a large volume of detailed input for the researcher to draw conclusions and provide recommendations for the hosting company.

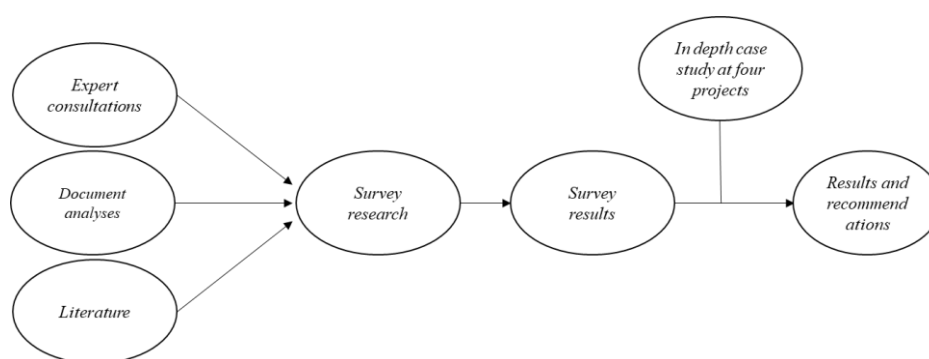


Figure 7: Research outline

#### 3.2 Data collection methods

Multiple data gathering methods were considered to optimise the reliability of the data collection for this research. A survey research, semi-formal interviews with relevant employees, document searches and expert consultations were chosen to be the best suited data collection methods. Note, the expert consultations were both informal and formal. At the start of the research, informal talks are held with experts to set a context- and gather input for the following research steps, such as the survey. The formal expert consultations were held at the end to validate the results of the study. The document search included all documents which contained information about the handling of the best value approach during the tendering, monitoring and enforcing phases. These documents were related to the procurement of projects such as tenders, bids from contractors, signed agreements, monitoring checklists and communication on the realisation of the offered additional value. Also, guidelines, both internal and external, on the use of BPQR-criteria, monitoring and enforcement were investigated.

The survey research gathered data on the monitoring and enforcing process of the agency, focussed on the monitoring and enforcement of additional value-offers made by contractors. The survey asked the employees on their general view on the monitoring process, where they think the responsibilities for monitoring the additional quality offers lay and how they experience the current practices regarding the best-price-quality tendering. Next to that, the survey will ask the employees how much they can relate to barriers for monitoring and enforcing found in literature and via the informal expert talks. The data gathered was empirically analysed and those results were taken into the case interview to investigate why specific barriers were related to by employees and what possible reasons were in that case for the barriers to occur.

For the following phase of the research, four case projects were chosen and analysed to find the explanations behind the survey results. The cases were analysed by interviewing employees who were involved in the case projects. The participants for the interviews were selected on their function

and their contribution to the monitoring and enforcing process within the selected cases. The important functions for this research were identified based on the informal expert consultations. The initial set of important function was project manager, building manager, rail system engineer, cost engineer, tender manager and contract manager. Note, contract managers are not used in every project, only in larger framework agreements with multiple partial projects. After the first case interviews were completed, the cost engineer and tender manager were removed from this set due to their little insights on monitoring and enforcement of value promises.

For case 1, the contract manager, who was originally tender manager, and the building manager were interviewed. Due to civil nature of the project, there was no RSE active in the project and the project manager was no longer active at the agency. For case 2 the total initial set of relevant functions was interviewed. For case 3, only the contract manager was interviewed. As the HFM department combines the functions of project manager, contract manager and building manager into one contract manager. This contract manager is supported by location managers, only due to the short span of the contract, they were not able to provide more insight than the contract manager already gave. For the 4<sup>th</sup> case, the project manager and building manager were formally interviewed. The cost engineer was also consulted, this time in an informal way, as the cost engineer was the only employee who was still active which was involved during the entirety of the project. The project manager was the 4<sup>th</sup> for this project and had only been active during the execution and delivery phase.

The interviews were mostly held physical at the office of the agency, as it was a safe and known environment for the employees. Due to some of the employees working at different offices of the agency and the fact that since the COVID-19 period working from home has become more common, some interviews were held via Microsoft Teams. The interviews were held in Dutch, as it was the native language of all participants, to make the interviews run smoothly and make the threshold for employees to participate as low as possible. Also, the interviews were recorded to enable the interviewer to focus on the interview rather than on keeping minutes. Also, to enable the interviewer to listen back for data processing purposes (Yin, 2018).

### 3.3 Survey

The survey was set up within the agency to find the general opinion of its employees on the monitoring- and enforcing practices of the agency, the company culture and the employees' vision on BPQR-tendering. The survey was spread amongst the following sets of employees; contract managers, project managers, building managers and rail system engineers. These sets of employees are responsible for the monitoring of BPQR-offers of contractors within a project or are involved in the process of enforcing when contractual clauses are not met. The list of survey questions, as presented in Appendix A, was spread via a google forms. The questions for the survey were based on a prior literature study into monitoring and enforcing together with information gathered from informal expert consultations with high ranked employees of the agency.

<i>Theme</i>	<i>Question number (See appendix A)</i>	<i>Scientific relevance</i>
<i>Project organisation and organisational context</i>	1, 2,3,4,5,6,17,29,31	The monitoring structure of an organisation and the context in which it operates has a large influence on the monitoring process (Gauci, 2013)
<i>Way of working within railway agency</i>	4,5,6,8,9,10,11,12,13,31	The performance of the monitoring and enforcing practices is dependent on the used methods, distribution of tasks and responsibilities and decisions made by the tender teams of the organisation (MIW, 2021; Fernandez, 2009; Kujala et Al. 2020)

<i>Barriers for monitoring and enforcing</i>	12,13,14,15,17,19,21,23,25,27,29,31	Barriers for the monitoring and enforcing during the execution phase can occur in all different project phases (MIW,2021; (Varnäs et al., 2009); Schotanus, 2022)
<i>(organisational) culture</i>	7,15	The culture within an organisation and the entire industry can have large influence on the practices of employees. This also applies to the monitoring and enforcing practices (Kujala et al., 2020).
<i>Awareness</i>	7,29	The awareness amongst employees is important for a successful implementation of BPQR-tendering and therefore has an influence on the monitoring process (Schotanus, 2022)

The survey contained questions on the awareness of employees have about instruments which they can use to monitor contractors or enforce contracts. As a principal needs instruments to check for possible opportunistic behaviour from the agent (Snippert et. Al., 2015), as a lack of these instruments can lead to inconsistent of incomplete monitoring. Other survey questions asked the employees if they see that the agency has developed a fear of monitoring as a result of a fear of relational damage. This was a large barrier named by the experts in the preliminary expert talks, which also links to the agency theory, and is therefore included in the survey.

As monitoring is a complex process with a lot of different responsibilities, the survey asked employees where they see the responsibility for the monitoring of BPQR-offers currently lays and where they think it should lay (Gauci, 2013). In addition to that, employees are asked how and when they think their function should be involved in the monitoring process, being the main responsible or supporting the responsible employee. The employees are also asked what they think of the current monitoring structure(s) the agency uses and what challenges that structure may bring (Gauci, 2013).

Next to different responsibilities, monitoring process can work via different methods. Fernandez (2009) has identified six main methods for monitoring. In the survey, these six methods are represented by four main monitoring methods suitable for the railway agency. These being; monitoring at pre-set moments, risk-based-assessment, pro-active monitoring and constant monitoring (looking of the shoulder of the contractor).

Table 3: Translation from methods of Fernandez (2009) to fitting methods for the agency

<b>TYPE OF MONITORING ASKED ABOUT IN SURVEY</b>	<b>CORRESPONDING MONITORING METHODS OF FERNANDEZ (2009)</b>
MONITORING AT PRE-SET MOMENTS	❖ Inspection of work completed ❖ Examining contractor reports
RISK-BASED-ASSESSMENT	❖ Inspection of work in progress ❖ Complaints monitoring
PRO-ACTIVE MONITORING	❖ Inspection of work in progress ❖ Citizen surveys
CONSTANT MONITORING	❖ Inspection of work in progress ❖ Performance measurement systems

According to the Dutch ministry of infrastructure and waterworks (MIW, 2021) the BPQR-decisions made in the tender phase by the agencies tender team have a large influence on the capacity and possibility of the agency to monitor and enforce the contract during the execution phase. Therefore, the survey included questions which asked employees if they experience any consequences of decisions made during the tendering phase. An example is the hypothetical barrier for monitoring which states: the BQPR-criteria were not formulated in a SMART manner.

### *3.4 Case description*

To create a representative image for the way of working, the projects chosen for the case study are regular works for the Dutch railway agency. However, all cases were unique as they were tendered using case specific BPQR-criteria. The Dutch railway agency is responsible for the construction and maintenance of all rail infrastructure. This includes tracks, overheads and stations. These works are contracted using two main methods: design & construct contracts or larger framework agreements with separate partial contracts for the partial projects. Next to that, the rail agency has multiple service contracts with suppliers, these were also represented within the cases.

Case 1 was a partial project focussed on the upgrading of the station pavements and barriers. This project is a partial project of a larger framework agreement which was tendered based on additional sustainability criteria. Within the partial project, the BPQR-criteria Environmental-cost-indicator (ECI) was used. After awarding the contract, another sustainability incentive was given to the contractor by a bonus/malus agreement on the use of circular concrete tiles.

Case 2 was a construction project including multiple railway intersections and a double layered traffic underpass. This is a design and construct contract with the primary client being the local municipality. The BPQR-criteria which were used in the tendering of the project were risk management and nuisance minimalization.

Case 3 was a supplier contract between the railway agency and a refreshment supplier. This refreshments contracts contains multiple BPQR-criteria on which are monitored. These criteria are customer satisfaction, sustainable supply and social sustainability. This contract is managed and monitored by the department of HFM (Facility management). This makes it interesting to investigate if there are different views on - and methods for the monitoring and enforcing of contracts between the departments within the organisation.

Case 4 was the construction project of an underpass in a small Dutch village. This project is part of a larger knowledge alliance, the Tunnel alliance. Within this alliance, contractors and engineering firms which have extensive knowledge on the construction of underpasses are asked by the railway agency to bid on certain underpass projects. The partial projects coming from this alliance are rewarded on a performance line. This is a set of ten criteria where contractors promise a certain quality level and they are rewarded, if they get given the project, based on their performance compared to the promised quality level.

### *3.5 Data analysis*

The survey was sent out to the employees within the organisation with the following functions: Contract manager, project manager, building manager, Rail system engineer and all contract developers. It was chosen to not include cost engineers and tender managers in the survey, as they are not involved in the monitoring process directly. However, these groups were consulted on their indirect impact on the monitoring possibilities their colleagues have during the later stages of the project. The decisions tender managers make during the pre-tender stage, including the choice of BPQR-(sub)criteria, the weights of these criteria and the grading during the awarding of the contract, have significant impact on the monitoring practices. As the decisions made determine the level of difficulty- and the quantity of monitoring required from the responsible employee during the execution phase. The cost engineers were consulted to see where they could add value in the monitoring process and what their current role in the entire procurement procedure is.

When the survey had been online for the desired time of three weeks with one reminder email after one week, the results were empirically analysed. The analysis will show how different functions

within the agency view the current monitoring process and how much they relate to the barriers for monitoring and enforcing which were found in literature or came up during the initial informal expert talks. This analysis was done by examining the answers to the survey using the google forms build in visualisation tool and Microsoft Excel. Using these tools, the frequency of answers and the average scores for the possible barriers were analysed and presented so comparison between the views of different function can be made.

The analysed results were taken as input for the case study. The interviews used during the case study were aimed to find the underlying explanation of the, often short, survey answers. The interviews searched for more details on the monitoring structures and methods used by the agency, practical examples of the barriers that employees experience and mitigations used during the case projects. The interviews held were recorded and concisely transcribed to enable the researcher to focus solely on the interview without having to take minutes. The employees who are interviewed are free to ask for the transcriptions to check if the researcher interpreted their statements correctly. The information which was obtained during the interviews was used to identify the possible causes of the barriers for monitoring and to formulate an advice for the rail agency.

### *3.6 desired results*

The research should create an overview on the monitoring and enforcing practices of the railway agency, focussing on the BPQR-offers in contracts. Next to that, the research should identify barriers within the organisation or the industry which limit the agency, as client, to monitor and enforce BPQR-offers in contracts. Lastly, the research should try and find possible mitigation methods for the found barriers.



## 4. Results

To obtain the results of this research, a survey study was held, followed by an in-depth case study based on interviews with employees and document searches for the different cases. The responds rates of the survey were as follows:

Table 4: Split of respondents to the survey

Function:	Building manager	Contract manager	Rail system engineer	Project manager	Other...	Totals
Total number of employees reached	117	18	223	109	0	467
Number of respondents	31	7	53	19	4	114
Percentage of respondents	26,5%	38,9%	23,7%	17,4%	-	24,2%

### 4.1 Project organisation and organisational context

The project organisation which the rail agency uses has large impact on the process of monitoring and enforcing. Firstly, the agency has no set out project structure, as all projects require a unique approach. This also means that the responsibilities of a certain function within a project are not set in stone. This increased the difficulty of creating a general overview of the monitoring practices within the agency. However, this also created the possibility to analyse the different project structures and investigate the consequences the project structure has on the monitoring practices.

There are noticeable differences between the monitoring of partial projects of larger framework agreements and the "typical" design & construct contracts from a client perspective. As within a design & construct contract, the focus lays more on the time- and budget aspect of the project, as within a frame agreement, the focus lays more on the development of additional value within the partial projects.

In design & construct contracts, monitoring additional value is largely overshadowed by the large time pressure which is experienced by the managers. Within the survey, 92,5% recognized the time pressure of the industry as a barrier to monitor additional value. Of which, 71,6% of the employees said they regularly encounter problems with monitoring due to the said time pressure. This phenomenon can be related to the industry in which the railway agency operates. As for the construction to happen, the train traffic at the construction site must be stopped for a predetermined period of time. If this period needs to be extended due to a time overrun during the construction, the railway agency can receive claims from all different users of the train track. Next to the possibility for claims, the train free periods (Tfp) need to be requested on a European level, due to the usage of the tracks by international (freight) trains. The time pressure has the largest effect on the monitoring of the additional promised value, as the technical details are very well monitored due to the time pressure. However, the nice to haves of a project are only reviewed after the time and budget targets are met, as they often do not have an influence on the scheduling of the project. The post-completion monitoring, because of the above-mentioned reasons, leads to a non-complete execution of the BPQR-offers made by contractors. Next to that, the post-completion monitoring often leads to discussions between client and contractor, as decisions need to be made on events which happened during the execution.

However, as the employees of the agency do not see the additional value of BPQR-tendering and rather see it as a burden, these discussions are often short with two possible outcomes. First outcome, the agency must pay the extra fees for the BPQR promises as they do not want to get into a (juridical) battle over something which the employees see is not important. Second outcome, the contractor does not receive the additional fees, however, the client is dissatisfied as they wanted to see the BPQR-offers realised conform the clients vision.

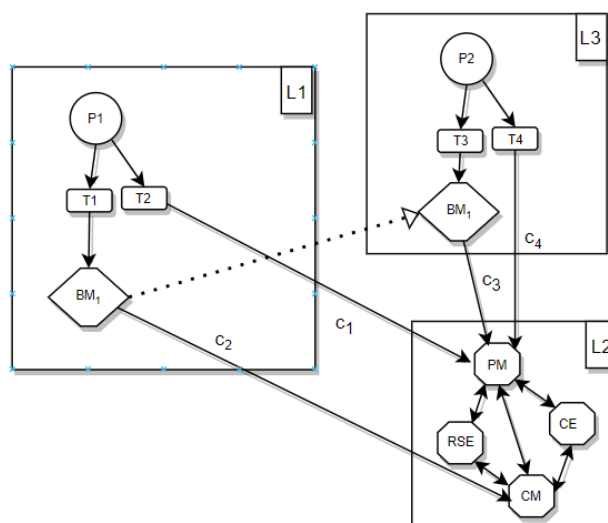


Figure 8: monitoring structure of the Railway Agency visualized according to Gauci (2013)

The railway agency currently uses a hybrid between orchestrated and migrating monitors as defined by Gauci. The interviews show that for all four case projects the monitoring is, most often, executed by the building managers. These building managers can have multiple projects for which they carry the responsibility, which requires them to migrate between the different project locations to monitor the events. As seen in Figure 8, the  $BM_1$  moves between projects P1 and P2, as the building manager is responsible for monitoring both projects. The agency also uses aspects of orchestrated monitoring, as the monitoring in framework agreements is performed more centrally with a local building manager per project who reports back to the project manager (PM) who is responsible for the overhead monitoring of the project. If the project is part of a larger framework agreement, the building manager will also report back to the contract manager (CM), who is responsible for the monitoring of the overhead contractual (framework) agreements. Between the different location *l1*, *l2* and *l3*, there are communication lines  $c_{1-4}$  which contain monitoring information. At *l3*, the main office of the railway agency, the contract manager and or project manager confer with the Rail System Engineer (RSE) and the cost engineer (CE) to determine if the monitoring requires any enforcement. This monitoring system requires multiple information streams per project and transfer of information between  $BM/RSE$  and  $CM/PM$  in case of an escalation.

A side effect of this monitoring structure is the unclarity amongst employees where the responsibilities for the monitoring of BPQR-offers lay. The survey showed that between the 113 respondents, 11 different functions, or combinations of functions, were pointed at when asked where the responsibility for the monitoring process lays. The most named functions were the building manager and the Rail System Engineer, which currently are expected by the agency to perform the monitoring tasks. However, these two functions are often overloaded with monitoring the hard technical details of a project and therefore have limited resources to also monitor the BPQR-offers made by the contractors. 51,2% Of the respondents acknowledged that the current distribution of responsibilities within the agency is unbalanced and puts too much pressure on the responsible functions. The lack of uniformity, with regards to the role division within projects, also has a large impact on the handling of similar monitoring events at different project locations. Examples of this can be a different escalation ladder or the rate at which problems are escalated. These difference cause friction between contractors and the client as they are treated differently at different projects. Lastly, there is a large difference in expectations within the agency for who does what. If employees expect each other to be responsible for the monitoring of the BPQR-offers, the result would be that no one will actually take the responsibility and the monitoring of the promises was neglected. Looking at the implications of the absence of clear monitoring instruments on partial projects within larger

framework agreements, you see a lack of continuity and uniformity in the way that the BM or RSE reports back to the main contract manager.

#### 4.2 Way of monitoring and enforcing

When assessing the current methods of monitoring the agency uses, the employees were asked which monitoring methods they use/see during their daily activities. Two main methods were identified by the respondents of the survey and the case interviews: Monitoring at pre-set moments and risk-based assessment. Both methods are preferred because of the limited resources which the agency can spend on monitoring. The case interviews have shown that monitoring at pre-set moments gave the agency to little possibilities to redirect contractors, only enabling the agency to rebuke. The low frequency of pre-set monitoring led to large disputes after project completion on small multi-interpretible aspects of the qualitative agreements made in the primary stages of the contract. The risk assessments are performed by the agency to see which events needs to most monitoring. Due to the fact that they are considered “nice to have’s” and they often bare little to no risks when not completed, BPQR-offers consistently end up at the bottom of the check list. This means that when the resources are scarce or another event requires extra monitoring due to, for example, the risk of overshooting the train free period, the BPQR-offers are disregarded. In Table 5, the responses of the employees are visualized. The right column shows the connection between the monitoring method and the impact of the found barriers on that monitoring system.

Table 5: Types of monitoring used in daily operations of the agency

Type of monitoring	Percentage of employees who uses the type of monitoring in their daily operations	Impact of barriers on monitoring method
Monitoring at pre-set moments	81,3%	High
Risk-based assessment	74,1%	High
Pro-active assessment	59,8%	Medium
Constant supervision	23,2%	Low

Next to the recognition of the asked monitoring methods, there were also employees who indicated additional monitoring methods are used within the agency, mostly on personal level. The individual methods were often slight alterations of the method of monitoring on pre-set moments. Next to that, employees indicated they did not have any experience with monitoring BPQR-offers in contracts.

The agency has contractual clauses which they can activate when a contractor does not conform with the made agreements. However, when employees were asked which instruments they knew they can use in case of a contractor not conforming to the agreements, the majority of them mentioned they first go into dialogue with the contractor to see how and if they can rectify the errors made by the contractor. Only when rectification is not possible, they would want to escalate to fines and a notice of default. The RSEs and BMs mentioned that the procedure for enforcing is above their level and should be handled by the PRM or CM together with the legal department, they therefore had little knowledge of the enforcing clauses in the contracts.

69% of the respondents said that these enforcement instruments are not used in a consistent way. They state that a lot of enforcement procedures are broken of early by the agency as they would result in a large juridical battle, with possibly high costs, that do not outweigh the gain made by the sanction. Also, the employees mentioned the non-willingness of the agency to go into the long and “difficult” procedure of such a sanction and would rather leave the project as it is and do not enforce any contract clauses. A point of nuance which a handful of employees mentioned was that the agency does not directly have to go to enforcement of the contract, they can first try to steer the contractor into realising the contract, via a different route if needed, rather than directly enforce the contract. This nuance nicely links to the barriers as some employees see that the fear of enforcement due to possible relationship damage between client and contractor weighs heavily within the agency, as mentioned above in section 4.5.

#### 4.3 Barriers for monitoring and enforcing

When filling in the survey, the employees were asked if they experience or see any barriers when it comes to monitoring of contractors and the enforcement of contracts. 61% Of the respondents recognized that there are barriers for the employees of the agency to monitor and, if needed, enforce the agreements made with contractors. There were differences in the percentage of employees who recognized that there were barriers within the organisation between the different functions. The BM had the lowest percentage of employees who recognized that there were barriers for monitoring and enforcing within the organisation, however, the BMs gave the highest scores on average to the barriers which they were presented with in the survey. The CMs had the highest percentage of employees who stated that there were barriers present within the agency and had the second highest average score across the presented barriers. This can be explained by the fact that the CM is the final escalation ladder and they have a more birds eye view on the monitoring practices.

Table 6: Percentage of employees who experience barriers with monitoring and enforcing per function

Function:	CM	PM	BM	RSE	Other	Totals
Number that recognizes there are barriers	6 (85,7%)	16 (84,2%)	18 (58,1%)	34 (64,2%)	2 (50%)	76 (67,5%)
Number that does not recognize there are barriers	1 (14,3%)	3 (15,8%)	13 (41,9%)	19 (35,8%)	2 (50%)	38 (32,5%)
Total respondents	7 (100%)	19 (100%)	31 (100%)	53 (100%)	4 (100%)	114 (100%)

Time is very costly in construction projects and often a scarce good. As the railway agency operates in a very time bound sector, see section 4.1, this phenomenon is emphasised even more, as (constant) monitoring of additional quality promises takes up a large portion of the building managers' time. The building managers can have a portfolio of multiple projects for which they are responsible. Within the agency, there is no policy on a maximum number of projects a building managers portfolio can hold. The survey showed that the time constraint aspect was mostly recognized by project managers. Building managers and rail systems engineers recognized the time barrier, however, some mentioned that it is their main focus and therefore they prioritize the monitoring over their other tasks. The group which did not recognize the time constraint were the contract managers. As it is their primary task, they perceive to have enough time for monitoring. The contract managers also stated that BPQR-offers should not require constant monitoring, as the onus lies at the contractor.

The end of the previous paragraph also touches upon another barrier for the monitoring of BPQR-offers. There is no uniform definition of monitoring within the agency, employees have different views on what is 'good' or 'enough' monitoring. There were no noticeable differences between functions regarding monitoring definitions. The agency often works with risk-driven assessment, where the events/agreements which carry the most risks are checked most frequently or with self-assessment from contractors which report back to client. The contractor self-report is often presented during construction meetings and presented quarterly in written form. The employees of the agency see these methods of assessment as monitoring, while monitoring is a constant practise which performs small check-act cycles with small periods in between.

Together with a missing definition of monitoring, the agency has a lack of uniform monitoring instruments. When the employees were asked which monitoring instruments they were aware off, they could only name the contractual clauses the agency can use to enforce the contract onto the contractors. None of the survey respondents mentioned any software, or other (computer guided) tools which they now can assist them during the monitoring. The survey showed that the CM

new more of the procedures to monitoring contractors than the BM, PM or the RSE, the latter only mentioned reports and testing moments. When looking at enforcing tools, the PM and the CM described the methods more in detail, this can be explained by them being the main responsible for the enforcing. During the interviews, a software program which is used to structure the monitoring of contractors during the execution phase of projects was mentioned by an RSE and a BM; RELATICS. RELATICS is a software in which the client can make lists of practices which they want the contractors to report on. The order of the list is determined by the above-mentioned risk-based assessment. When the interviewees were asked why other employees did not know about RELATICS, the following was said; ‘you can see RELATICS as an oil stain in the ocean, it starts small and it is currently spreading across the organisation as people see that it works’. From interviews with the contract managers for framework agreements, the building managers responsible for the monitoring of the partial projects were left free in determining their own monitoring method which they found suitable for the project. This works well for the project specific requirement, but for the overarching requirements from the framework agreement, a uniform pre-set monitoring method is needed to prevent unequal treatment of contractors within the framework agreement.

The most recognized and most often named barrier was the insufficient information flow between the different project stages within the agency. The warm transfer (in Dutch: ‘warme overdracht’) is missed by the employees who are responsible for the monitoring of the BPQR-offers as they feel they have an information gap when they enter the execution phase of the project. The tendering team of the agency is responsible for including the additional value in the tender and for assessing the bids which are submitted by the contractors. They chose to which contractor the contract is rewarded and together with the contract experts of the agency set up and finalise the contract. Then the contract is ‘thrown’ onto the desk of the BM or RSE and they are asked to execute the contract. Here it is that the BM and RSE feel like they miss information, as they do not receive any additional information on the criteria used to set up the tender and to why the specific contractor was rewarded the assignment. Therefore, a reluctance to monitor these additional value promises has developed over the past years. The survey showed that this barrier is highly recognized by the BM, RSE and CM. However, the PM barely recognized the issue. This can be explained as the PM control their own information flow, as they one of the few functions which are involved in all different project phases. Therefore, when looking solely at the survey, the barrier is not ranked amongst the most recognized. However, when the interviews are included, the lack of information flow became the most recognized barrier. There were PM which responded to the survey who stated that BM are often involved in the early project stages to tackle this problem. However, this statement was not confirmed by the responses from the BMs.

Adding to the insufficient information flow are the unclear formulation of criteria and insufficient prior thought on the enforcement. 96,6% Of the employees who experienced barriers within their work has experienced problems with monitoring contractors because of non-SMART formulated criteria by agencies tender teams, with 60,3% stating they encounter the barrier with a high frequency. Adding to that, 84,8% of the employees agreed that the monitoring process is obstructed by the agency not assigning monetary values to the different BPQR-(sub)criteria. The agency leaves the PM or CM to decide how to interpret the penalty clauses in the contract which leads to large juridical discussions with contractors, something with the employees would rather want to avoid.

Table 7: recognition of barriers

Barrier for monitoring or enforcing	Percentage of employees recognizing barrier
<i>Non-SMART formulation of BQPR-promises in contracts</i>	96,6%
<i>Missing prior agreements on the (monetary) value of (sub)criteria</i>	84,8%
<i>Lack of information flow between project phases</i>	77,9%
<i>Fear of relational damage with (acknowledged) contractor</i>	95,5%
<i>There is to little time available to monitor additional quality in projects</i>	92,5%
<i>There is a lack of good instruments for employees to monitor and enforce contracts</i>	95,6%
<i>There is less need for monitoring due to the agency only working with accredited contractors.</i>	80,9%

#### *4.4 Awareness*

The main problem CMs identified within the agency when it comes to the monitoring of BPQR-offers was the lack of awareness amongst employees of the agency. They state that a majority of the employees are not aware of what BPQR-offers are within a project and what the additional value is for the agency or the project. This lack of awareness is due to the fact that employees see some BPQR-criteria as the norm. An example of this lack of awareness is the BQPR-criteria; CO2-ladder. This criterion is used in nearly all the agencies' projects as it stimulated sustainable building. However, employees see it as a criterion which they just always have to use. Therefore, no active monitoring position is taken and the criteria is not well monitored. Next to that, the criteria is deemed by employees as non-distinguishing as near all contractors are on the same level, leaving only price as the distinguishing criterion. This also results in the neglect of the BPQR-criteria.

#### *4.5 Culture*

There is an organisational culture present within the organisation which influences the monitoring practices. The first cultural aspect which has been embedded within the organisation is that the building managers of the railway agency are assessed based on their capabilities to make time and budget. If they overrun any of the previously mentioned, the fact that they performed excellent monitoring and enforcing of the BPQR promises is completely overshadowed. This aspect arose from the case interviews with the BMs of the different cases. The other project team members of the cases recognized the cultural problem when being confronted by it.

This phenomenon shows a larger cultural problem within the organisation. The 'nice to have' BPQR-promises, within a project are not rated as highly as the strict technical demands. The survey shows that 51% of the employees believes that the additional value of BPQR-tendering is not seen by the employees of the agency. According to these respondents, the employees of the agency see BPQR-tendering as a part of central, top-down, policy which they have to implement. As a result of this view, the responsible employees are less likely to enforce the BPQR-offers made by contractors during the realisation phase.

Another cultural element on an organisational level which has an influence on the monitoring is the fear of enforcement. 64% Of the respondents, who stated that there are barriers within the organisation which complicate the monitoring and enforcement process, stated that a fear of relational damage between client and contractor was a main contributor to the lack of monitoring and enforcement. Next to that, the railway agency works with certified contractors. These contractors are certified to perform works for the agency due to their capacity and expertise. This certification system contributes to the cultural trait that employees are reluctant to enforce the BPQR-offers.

## 5. Discussion

### 5.1 Theoretical contributions

The research performed adds to the existing body of research which looks into the client contractor relationship and the monitoring- and enforcing process which comes with such relationships. The research adds to the literature written to support clients with the monitoring of BPQR-offers as written by the (CROW, 2023). The procurement method of the agency is difficult to assess. The agency is bound by the European procurement law, as the majority of their projects rise above the European threshold. The choice of the agency to include BPQR-in their procurement strategy can be discussed but they are bound by their societal duty to take this procurement strategy. One aspect of their procurement strategy which can be discussed is the integration of BPQR-offers into the contracts. This has not been a focus point of this research, but the influence of the inclusion of BPQR-offers as Bonus/Malus arrangement or as primary selection criteria when awarding the contract came up during the interviews as a possible cause of unclear enforcing procedures.

The research concretizes the theories of Gauci (2013) by showing how the monitoring models can be seen in the context of a large organisation. The models of Gauci (2013) were well suited to the agencies organisational structure. The project-based nature of Gauci is identical to that of the railway agency. Therefore, the models of Gauci were easy to put over the organisational structure of the railway agency and analyse the monitoring structure. However, the models of Gauci do assume that the set of monitors are all of equal importance. Within the agency, there are monitors on different levels, this meant the Gauci models needed to be expanded with including the specific function of the monitors. Next to that, the monitoring structure of the agency was not a complete match with one of the structures of Gauci. Therefore, a hybrid structure was drawn up to represent the monitoring structure of the agency. This can be explained by the multi-layer monitoring the agency performs by spreading the responsibilities amongst different functions. Therefore, this research adds to Gauci (2013) by showing there are hybrid forms of its monitoring structures. This research sharpens the notion of Fernandez (2009), as the research shows that government organisation experience monitoring benefits. However, the research contradicts the general statements made by Fernandez (2009) that monitoring does not improve the contractual performances. The monitoring methods of Fernandez (2009) were a solid base for the identifying of the monitoring methods used by the agency. However, Fernandez is focussed on private clients and therefore needed to be translated towards public clients. As the research pleads for an increase in trust and transparency within the sector, the research builds upon the statements made by Snippert et. Al. (2015) on the need for monitoring and the requirements for a smooth monitoring process. As the research is performed from the view of a public client, the research adds a viewpoint to the studies of Fernandez (2009) and Kujala and Aaltonen (2021). Both undervalue the effect of monitoring due to the organisational cost of the monitoring process not outweighing the benefits. However, public clients are not focussed on the costs and more on the societal impact the projects (should) have. Finally, the research is viewed from the perspective of Agency theory, investigating the (monitoring) relation between principal (Railway agency) and agent (contractor). This view showed to be useful as it presented multiple largely recognized barriers for the monitoring of contractors. The agency theory helped identify the barrier of relational damage and inspired the researcher to ask about the consequences of working with accredited contractors. The research put the agency theory in a new context. The context of a semi-public rail entity. Hereby adding to the existing body of practical applications of the agency theory, for example, Chang (2014).

### 5.2 Practical implications

Although the monitoring of contractors seems an everyday task, this study has shown that it is a complex process which takes time, consumes resources and involves cultural aspects. The agency can try to mitigate the found barriers on organisational or industry level. Within the organisation, the agency could address the barriers on three sub-levels. Those being: process, instruments and human actions.

First looking at the project organisation of the agency, there are possible adjustments on the sub-levels human and process. The organisation has to critically evaluate the current division of the monitoring responsibilities and the monitoring structure the agency has put in place. The organisation should try and lift the pressure on the BM and RSE by relocating the responsibility for monitoring the BPQR-offers to a secondary employee or (external) monitor. This transition will require additional staff or a creation of new function descriptions which can be filled by internal applications. When further evaluating the process, the agency should lay more focus on the pre-contractual phases. The formulation of BPQR-offers in contracts should be investigated to become more SMART. Next to that, the agency should invest in preliminary valuation of sub-criteria of BPQR-criteria. This will relieve stress and effort from the PM or CM in case of a dispute, as there are less negotiations needed for the determination of the magnitude of fines. Last possible improvement for the monitoring process is making the inclusion of the BM or RSE during the pre-contractual phase a core task of the PM to realise a sufficient information flow.

If the agency wants to tackle the barriers which hamper the monitoring process, the research has shown that the railway agency must invest into the creation of more guidelines to assist its employees in the practice of monitoring and enforcing. Therefore, addressing the instruments sub-level. The agency has to start creating guidelines suited to the different functions to support them in their daily practices. The guidelines should include a division of the main tasks of the monitoring and enforcement process together with a flowchart on where employees can go for assistance in case of disputes. Next to that, the guidelines should contain the tools or procedures employees can use to monitor contractors or to enforce contracts if needed. The creation of these guidelines will provide the employees with a backbone, giving them more confidence during the monitoring and enforcing process. Assisting them on the human actions sub-level. Adding to that, the agency should invest in the possibilities for inter-project learning within the organisation. The creation of best practices documents will create a backbone across the organisation, stimulating the constant improvement of the monitoring and enforcement process (Dubois & Gadde, 2002). These investments will help the organisation in realising their organisational goals.

To counter the lack of awareness, the agency should start an information campaign to make the process of BPQR-tendering more known within the organisation. As it was discovered that employees did not know much about BPQR-tendering and therefore do not see the additional value of BPQR-tendering.

To change the organisational culture in favour of BPQR-tendering, the management of the agency has to initiate a cultural change within the organisation and provide the needed resources for the organisation and its employees to make a switch in culture. When looking at mitigation of barriers at industry level, the research also showed the need for a sector wide cultural switch. For the optimal realisation of BPQR-offers, the client and contractor need to start working together with a philosophy of transparency rather than distrust (Fewings, 2019). Resulting from history, clients have assumed the contractors to show opportunistic behaviour. The result of this was that the clients never showed their hand to the contractors, which in their turn felt the distrust and started acting as the client assumed. If the sector becomes a more collaborative and transparent working environment, contractors and client can join forces to create the promised additional value in projects. A change in the monitoring practises of a client organisation would also result in an attitude change at the contractors' side. If a client would increase their monitoring intensity, contractors will feel less free in their practises. In a contract, the client and contractor often move along the edge of what is possible. Contractors seek confrontation within contracts to maximize their own outcome, resulting in the client to not get the exact project outcome they wanted. Monitoring could change this process, but not with constant surveillance, but by communicating more often with the contractor on the exact wishes of both parties. Contractors are asking for complete transparency from the client, as they then believe they can come to a mutual beneficial agreement. This could then create the possibility for the client to switch to a feed forward system, rather than a feedback system (Fewings, 2019).



## 6. Conclusion

During the span of this research, the current monitoring and enforcing practices of the railway agency were assessed. The research focussed on the monitoring and enforcing of BPQR-offers, made by contractors in the tendering phase, during the execution phase of projects. Based on this assessment, barriers for clients to monitor and enforce contracts are identified and possible improvements to the agencies monitoring structure are presented. To find the answer to these requests, the following question was answered: ‘*How are the performances of contractors on the realisation of their tendered BPQR-offers monitored and enforced by the railway agency*’. For the researcher to be able to formulate a comprehensive answer to this question, the following trio of sub-questions was answered. Firstly, ‘*What methods are used by the railway agency to monitor and enforce the BPQR-offers made by contractors during the tender phase?*’ Secondly, ‘*what are the barriers for a client to monitor the BPQR-offers?*’ And lastly, ‘*how can the barriers found for the client be mitigated?*’

The methods which the agency uses were found to be sufficient for the monitoring of strict technical criteria while having limited time and resources available. The risk-based-monitoring which the agency uses has as a result that the BPQR-offers are at the bottom of the monitoring checklists. As these lists are worked from top to bottom until the BM has no time or resources left, the BPQR-offers are often not monitored during the execution of the project, but rather checked after completion of the project, often finding that the promises have not- or only partially been realised. Following on the method, the monitoring structure that the organisation uses is again suited for the monitoring of strict technical requirements but does not provide the needed space and flexibility to adequately monitor BPQR-offers during the execution phase of a project. In the current structure, as seen in Figure 8, the responsible employee (BM) has to travel between projects and report back on to a different team for each project. As these employees responded, they are often overloaded and therefore have even less time available per project which reduces the chance of the BPQR-offers to be monitored even more. If you view the monitoring structure as presented in Figure 8, you see there are very little communication lines, resulting in high information loads per line. Combine this with a shortage of uniformity in information provision, the system will be overloaded. The migrating monitors reporting to a central location would, in theory, enable the organisation to practice inter-project learning (Dubois & Gadde, 2002). However, in practice, the organisation lacks this type of learning, as the BM have to little time to compare projects and events to create a learning cycle and the employees to which the BM report are too far from the project to draw conclusions from the limited information presented in the reports.

The research also showed that the fact that the organization works with acknowledged contractors (‘*Erkenningsregeling*’) might imply a false sense of competence- and institutional trust from the agencies employees towards contractors, resulting in a reduced sense of necessity for monitoring. On a personal level, trust is built up during the execution of a project between the agencies employee and the employee from the contractor. However, the personal trust did not show to have any effect on the monitoring process, only on the decision (how) to enforce the agreements.

The employees of the agency encounter certain barriers when they are practicing the monitoring process. The employees experience problem with non-SMART formulated criteria by the agency which obstructs them from monitoring and enforcing the BPQR-agreements. These criteria are often the only information BMs or RSEs have as there is a limited information flow between the different project phases. Lastly, the organisation lacks clarity and uniformity when it comes to the definition of monitoring, as it is a process rather than a set of single events/checks, and monitoring instruments. This limits the possibilities for employees to perform the monitoring process, but also limits the managers to evaluate the process due to different definitions of monitoring.

As the agency is looking for ways to improve their practices by countering the barriers, the survey and interviews included questions which helped the researcher identify best practices which might be hidden within the agency. To improve the monitoring and enforcing process, changes can be made on both organisational and industry level. The organisational changes can be made by the agency themselves on three different sub-levels and will have direct effect on the process. Those being: process, instruments and human actions. For the changes within the industry, the agency can initiate such changes,

To counter the lack of awareness and tackle the barriers on the human actions sub-level, the agency can start an information campaign to provide its employees with information on the definition and benefits of BPQR-tendering. This campaign should create support for the procurement policy of the agency and inform the employees on the use and the additional value of the procurement strategy. If the information campaign is successful, the campaign can also create an agency wide definition of BPQR-tendering which helps to structure and unify the monitoring practices of the agency. Next to that, the campaign should provide information on the organizations' acknowledgement regulation to counter any possible false sense of competence- or institutional trust.

To create a uniform and sustainable monitoring structure within the agency, the management layers of the agency should invest in creating guidelines standards for the responsible employees to support them during the monitoring and enforcing of contracts. This addresses the barriers on the instruments sub-level within the organisation. The employees indicated that there were limited guidelines available for them on how they should monitor or enforce the BPQR-offers. Guidelines should be created for the general monitoring of different BPQR-offers. These guidelines can serve as backbone for the BMs or RSEs to create their project specific monitoring method. In the case of a framework agreement with partial project, guidelines need to be created on how to report back to the main contract manager in a uniform way, this takes away the risk of unequal assessment/treatment for the contractors. For the enforcing of contracts, the employees called for standardising processes which can be followed in case of an escalation. As the employees responded that they encounter problems with the difference in treatment of similar events at different project locations. Standardisation would include the creation of flowcharts to visualize which steps employees have to take in case of disagreements, including the juridical steps and which experts/departments of the organisation to contact for advice for each step. The agency should include organisational learning as a key-point for the to be created guidelines. The best practices following from the inter-project-learning will create a backbone for all employees who are involved in the monitoring process.

To add, the organisation should set up a best practice document which will enable to employees to learn from one another. The agency should encourage the centrally located monitors to save information on important monitoring or enforcing processes which were handled well. This will require a restructuring of the information flow between project monitors (BM) and central monitors (PM, CM) as the learning cycle needs to be a constant part of the reporting.

A bigger task for the agency is to change the organisational, and possibly sector wide-, culture of monitoring. The agency has developed a fear of monitoring due to a fear of relational damage. To counter this fear, the agency can set up trainings for employees who are going to be involved in the enforcement. These trainings will, hopefully, reduce the fear of relational damage and increase the willingness and confidence of employees to monitor and enforce BPQR-offers on contractors.

Lastly, to address the barriers on a process sub-level, the agency has to prioritize the early involvement of the BM or RSE during the tendering phase to ensure a continues information flow throughout the different project phases. The task of involving the BM or RSE needs to be included in the general checklist of project managers and become part of the core tasks to make sure the task is performed.

## **6.1 Limitations and future research**

This research has dealt with the methods and barriers of monitoring BPQR-offers made by contractors during the tendering phase. The results of this research have to be seen in the light of the limitations of the research. The first limitations can be found when looking into the method used for the data gathering. The research made use of a survey to gather the input of employees and investigate how widespread the barriers were within the organisation. However, when using a survey, there is a high risk of an observer bias by the researcher, as the answers are often short and lacking context. This risk was mitigated to include the steps of the case interviews where the explanation of the survey answers was investigated. However, the survey answers were not directly linked to the cases, so the explanations found can be case specific rather than them being the general consensus. Another limitation of the survey is the reliability on its respondents. The survey sent out received a total of 114 useable responses out of a pool of +-400 employees who have received an invitation to fill out the survey. This number was deemed sufficient, however, the function spread can be discussed. The most

represented functions were the RSEs (46.9%) and the BMs (27,4%), combining to nearly 75% of the respondents. These two groups were the most targeted as they are currently responsible for the monitoring of BPQR-offers of contractors during the execution phase. However, this could mean the survey response is biased to the barriers occurring for RSEs.

Another limitation is the little experience within the organisation with monitoring BPQR-offers. This can be due to the lack of awareness or the small percentage of projects which are tendered using, distinguishing, BPQR-criteria. This resulted in an initial group of 37 respondents who had active experience with monitoring BPQR-offers. After the reminder email with extra explanation on the goal of the survey, together with answering a large quantity of emails from employees who asked if their response was required due to their lack of experience, the number of responses went up to the final 113. Because of this, the answers given might be more speculative rather than based on experiences. However, the barriers which the second group gave were from experience with the general project monitoring practices of the agency, so the assumption can be made that these barriers also apply to the monitoring of BPQR-offers.

Lastly, the research is performed within one organisation which has a unique field of work. The agency is exposed to high time pressure and large societal pressure, due to the impact its works has on the users. These pressures are not felt in other sectors or at other utility companies, therefore the research performed cannot be generalized without further research into the implications of the found barriers and advice within other organisations.

Taking all limitations into consideration, there are advices for further research. Firstly, a more in-depth study on the view of contractors can validate whether the mitigation of found barriers needs to occur at the contractors side. Next to that, further research could be done into project with different BPQR-criteria to see if the found barriers are amplified or impaired by the choice of criteria. Furthermore, it is suggested to perform the same research at clients in different domains and both at public and private clients. This will tell if the industry in which the organisation is operating has an effect on the experienced barriers and if private clients experience different barriers during their monitoring process then public clients. Another possibility for further research would be to investigate how different BPQR-offers can be monitored. Adding to that, the including of BPQR-offers in contracts can be researched. The research showed that there are differences in how clients experience the monitoring process when the BPQR-offers are treated different within the contract. Examples can be the including of BPQR-offers as bonus or them being included as criteria during the rewarding phase. However, not all criteria can be included in different ways. Lastly, additional research can be performed on the ideal division of monitoring responsibilities within a public client to further improve the monitoring structure and thereby the client organisation to create more value within their projects to help tackle to the societal challenges which come before us.

## **CONFLICT OF INTEREST**

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## Appendix A: Survey

Table 1: Questions asked in survey

Section	Question	Type of question
1	<p>1</p> <p>Wat is uw functie?</p> <ul style="list-style-type: none"> <li>- Contractmanager</li> <li>- Bouwmanager</li> <li>- Rail System Engineer</li> <li>- Projectmanager</li> <li>- Anders...</li> </ul>	Multiple choice
2	<p>2</p> <p>Bij welke kwaliteitsaspecten van een project bent u vanuit uw functie betrokken?</p> <ul style="list-style-type: none"> <li>- Het opstellen van de gunningscriteria</li> <li>- De waardebeoordeling van de verschillende kwalitatieve criteria</li> <li>- Het beoordelen van de aanbiedingen van aannemers</li> <li>- Het monitoren van de kwaliteitsbeloftes tijdens de uitvoering</li> <li>- Anders....</li> </ul>	Multiple choice
	<p>3</p> <p>Bij welke kwaliteitsaspecten van een project vindt u dat uw functie betrokken zou moeten zijn?</p> <ul style="list-style-type: none"> <li>- Het opstellen van de gunningscriteria</li> <li>- De waardebeoordeling van de verschillende kwalitatieve criteria</li> <li>- Het beoordelen van de aanbiedingen van aannemers</li> <li>- Het monitoren van de kwaliteitsbeloftes tijdens de uitvoering</li> <li>- Anders....</li> </ul>	Multiple choice
	<p>4</p> <p>Bij welke functie vindt u dat de taken voor monitoren van kwaliteitsbeloftes horen te liggen?</p> <p>Graag ook een korte toelichting</p>	Open
	<p>5</p> <p>Vind u dat in de huidige taakverdeling binnen de organisatie de functie die verantwoordelijk is voor het monitoren van de kwaliteitsbeloftes genoeg tijd heeft om deze taak uit te voeren naast de andere taken die bij deze functie horen?</p> <ul style="list-style-type: none"> <li>- Ja</li> <li>- Nee</li> </ul>	Closed
	<p>6</p> <p>Waar denkt u dat uw functie eventueel bij kan dragen bij het monitoren van kwaliteitsbeloftes?</p>	Open
3	<p>7</p> <p>Hoe wordt er volgens u binnen de organisatie gekeken naar het aanbesteden met behulp van toegevoegde waarde (BPKV)? Zien werknemers het meer als een onderdeel van het centrale beleid of zien werknemers zelf de toegevoegde waarde ervan in?</p> <ul style="list-style-type: none"> <li>- Hoort bij het centrale beleid van De organisatie</li> <li>- Werknemers zien de toegevoegde waarde</li> </ul>	Closed
	<p>8</p> <p>Er zijn verschillende manieren hoe een opdrachtgever een opdrachtgever kan monitoren. Hieronder een aantal voorbeelden. Kunt u aangeven welke van deze manieren u tegen bent gekomen tijdens uw werk bij De organisatie?</p> <ul style="list-style-type: none"> <li>- Het toetsen van de contracteisen op met de opdrachtnemer overeengekomen momenten</li> </ul>	Checkbox with option to open answer

		<ul style="list-style-type: none"> <li>- Risico gestuurd toetsen</li> <li>- Proactief toetsen van de (kwalitatieve) contracteisen</li> <li>- Het constant meekijken over de schouder van de opdrachtnemer</li> <li>- Anders.....</li> </ul>	
	9	Vindt u dat De organisatie voldoende monitort tijdens de uitvoeringsfase?	Open
	10	Welke middelen kent u binnen De organisatie die beschikbaar zijn om ON'rs te monitoren die ook geschikt zijn om kwaliteitsbeloftes te monitoren?	Open
	11	Welke middelen kent u die binnen De organisatie beschikbaar zijn om te kunnen handhaven wanneer een ON niet aan het contract voldoet?	Open
	12	Worden deze middelen voor handhaving consequent ingezet? Zo nee, waarom niet?	Open
	13	Vindt u dat De organisatie, wanneer er wordt geconstateerd dat een aannemer niet voldoet aan de kwaliteitsbeloftes, voldoende handhaaft? <ul style="list-style-type: none"> <li>- Ja</li> <li>- Nee</li> </ul>	Closed
4	14	Ziet u dat er belemmeringen zijn binnen De organisatie voor het monitoren van kwaliteitsbeloftes van een opdrachtnemer en het mogelijke handhaven als gevolg? <ul style="list-style-type: none"> <li>- Ja</li> <li>- Nee</li> </ul>	Closed
5	15	Er is angst om hand te haven (sanctioneren) omdat er angst is voor relatieschade met de aannemer	Scale 0 to 5
	16	Kleine uitleg van bovenstaande score	Open
	17	De tijdsdruk binnen De organisatie projecten ligt zo hoog, door bijvoorbeeld het werken binnen TVP's, dat er geen aandacht besteed kan worden aan "extra" kwaliteitsbeloftes.	Scale 0 to 5
	18	Kleine uitleg van bovenstaande score	Open
	19	Er is van te voren geen monetaire waarde gegeven aan de deel-aspecten van de extra kwaliteitscriteria waardoor later handhaven bemoeilijkt wordt.	Scale 0 to 5
	20	Kleine uitleg van bovenstaande score	Open
	21	Er is geen tijd beschikbaar binnen projecten om te besteden aan het (constante) monitoren van kwaliteitsbeloftes	Scale 0 to 5
	22	Kleine uitleg van bovenstaande score	Open
	23	Er zijn geen goede instrumenten beschikbaar binnen De organisatie (Software, Leidraden of andere instrumenten) om goed te kunnen monitoren	Scale 0 to 5
	24	Kleine uitleg van bovenstaande score	Open
	25	De kwaliteitscriteria worden vanuit De organisatie niet SMART genoeg geformuleerd waardoor later monitoren belemmerd wordt.	Scale 0 to 5
	26	Kleine uitleg van bovenstaande score	Open
	27	Er wordt bij het opstellen van de kwaliteitscriteria in de inkoopfase vanuit De organisatie onvoldoende nagedacht over latere monitorbaarheid van mogelijke invullingen van deze criteria	Scale 0 to 5
	28	Kleine uitleg van bovenstaande score	Open
	29	De noodzaak van monitoren wordt niet gezien aangezien De organisatie werkt met een erkenningsregeling	Scale 0 to 5

	30	Kleine uitleg van bovenstaande score	Open
	31	Er is een gebrek aan een warme overdracht tussen de verschillende projectfasen waardoor afspraken en ideeën uit de aanbestedingsfase verwateren	Scale 0 to 5
	32	Kleine uitleg van bovenstaande score	Open
	33	Zijn er volgens u nog meer belemmeringen binnen De organisatie voor het monitoren en handhaven van kwaliteitsbeloftes die nog niet aan bod zijn gekomen in deze enquête?	Open
6	34	Heeft u zelf nog adviezen of best practises die u graag wilt delen over het monitoren/handhaven van kwaliteitsbeloftes?	Open