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FROM AGENTS TO STEWARDS? EXPERIENCES FROM A DUTCH INFRASTRUCTURE CASE STUDY

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In the construction industry clients largely depend on contractors to deliver projects. According to agency theory problems of goal conflict and information asymmetry arise in this delegation of work because both the principal and the agent are self-interested. The control-oriented governance mechanisms that agency theorists propose as a means to resolve these problems can act counterproductive and give rise to new problems. Stewardship theory offers a counterweight to agency theory and assumes a relational reciprocity between the principal and the steward. Recently, a large group of Dutch public construction clients and contractors have collaboratively expressed their desire to improve their relationship in a manifest called 'the market vision'. This phenomenon can be interpreted as a desire to shift from a principal-agent towards a principal-steward relationship. The aim of this paper is to explore how public clients engage in stewardship relationships with contractors. This research is based on a case study of one of the most ambitious projects under the umbrella of this market vision trajectory. The analysis of the documents, observation notes and semi-structured interviews with project team members indicate that they developed a relationship which can be characterised as a principal-steward bond. By investing in relationship-building from the pre-commercial phase, throughout the tender phase and the execution phase, they put their individual differences beside in order to reach their initially defined common goal. It remains however to be seen whether this can be considered as a complete stewardship relation.

Keywords: agency theory, stewardship theory, public commissioning, partnering

INTRODUCTION

The construction industry is often criticized for its lack of cooperation, generating cost and quality problems. Especially in the public sector, the relationships between clients and contractors are said to be adversarial and competitive rather than cooperative. It is argued that traditional procurement procedures and contract forms discourage cooperation between those involved (Eriksson, 2008). In 2015, a large group of public clients, contractors and advisory firms in the Dutch construction industry collectively proposed a move towards cooperation in a manifest called 'the market vision'. In this manifest they expressed their dissatisfaction with current building practices and reported on a multitude of problems. Problems described include high transaction and procurement costs, misallocation of risks and liabilities, cost and time overruns and legal processes. Dominant in the manifest are the desire to focus on collective rather than individual goals and the wish to transform the current

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hierarchical client-contractor relationship into a relationship based on equality and complementarity. Even though in the market vision there are no explicit references made, the description of the current relationship seems to be based on agency theory and the desired relationship seems to hinge on stewardship theory. Whereas agency theory has been widely applied in construction management research, stewardship theory remains relatively underexposed in this domain. In the market vision, experimenting with and within actual projects is encouraged and the first initiatives have slowly started to unfold. However, the shift in the relationship seems to be a slow and cumbersome process and it is still unclear under what conditions this shift is most likely to happen. Therefore, in this paper the following question is addressed: how do public clients engage in stewardship relationships with contractors? To answer this question, first a theoretical elaboration of agency theory and stewardship theory is provided, which are in essence two contrasting perspectives on how to manage contractual relationships (Van Slyke, 2006). This exploratory research is based on a Dutch infrastructure case study under the umbrella of the market vision trajectory. Based on a qualitative data analysis of project-related documents, observations and semi-structured interviews with the project members the findings are presented. The procurement and project management implications are discussed in the conclusion.

THEORETICAL BACKGROUND

Agency Theory

Agency theory has its roots in economics and is based upon the key assumption that both the principal and the agent are self-interested. As the principal delegates work to the agent, he also delegates some of his responsibility. The agent is expected to act on behalf of the principal, however, the interests of the agent may conflict with those of the principal. In addition, the two parties have asymmetric information, so there the agent has a discretionary space in which to behave opportunistically. Adverse selection is a pre-contractual problem that arises in the selection of the agent and refers to "misrepresentation of ability by the agent" (Eisenhardt, 1989, 61). Moral hazard is a post-contractual problem that arises once the agent has been selected and refers to "the lack of effort of the agent" (Eisenhardt, 1989, 61). The principal has two options to curb the opportunism of the agent: investing in monitoring systems to discover the agent's actual behaviour or to contract on the outcomes of the agent's behaviour (Eisenhardt, 1989). As agents are assumed to be extrinsically motivated, these control mechanisms are focused on financial rewards or sanctions (Davis, Schoorman, and Donaldson, 1997).

In the context of construction, agency theory has been widely applied (Ceric, 2013). Winch (2010) specifically refers to the concepts of adverse selection and moral hazard and suggests procurement procedures to contest the former and complex contracts to counter the latter. In theory, a competitive tender can eliminate adverse selection, as "the buyer induces sellers to reveal their valuations of the contract so as to eliminate information asymmetries between buyers and sellers, so the buyer pays the lowest price to the most efficient seller" (Winch, 2010, 107). This is based upon the assumption that information is complete. However, in the competitive tendering of construction projects, information is incomplete. For example, clients are not fully aware of their requirements and contractors can interpret requirements ambiguously.

Agency theory has not been without criticism, because it is based upon a one-sided view of man (Davis *et al.*, 1997). Indeed, there are several extensions to agency theory, such as a relaxed assumption of goal conflict in situations where selfless rather

than self-interested behaviour is displayed (Eisenhardt, 1989). However, at the heart of agency theory remains self-interest and opportunism. The instruments proposed in agency theory to curb opportunism can also work out counterproductive, as they can lower the motivation of selfless delegates (Davis *et al*., 1997). There is a need for additional theory that assumes intrinsic motivation of delegates as a starting point.

Stewardship Theory

Stewardship theory offers a counterweight to agency theory. Stewardship theory is based upon psychological and social insights. In contrast to agents, stewards value collective rather than individual goals and therefore behave in a cooperative manner. In stewardship theory a relational reciprocity between the principal and the steward is assumed (Davis *et al*., 1997). The principal then uses mechanisms to facilitate and empower rather than to control the steward. As stewards are intrinsically motivated, these mechanisms are based on intangible rewards such as reputation, responsibility and autonomy, stability and tenure. Stewardship theory "relies significantly on the principal's and steward's initial trust disposition" (165), in which trust is described as "the willingness and risk of being vulnerable, on the part of both actors, to the possibility that one actor in the contract may pursue his/her own self-interest to the exclusion of the collectively agreed upon goals of the contract" (Van Slyke, 2006, 165).

Few studies have been conducted on stewardship theory in the construction industry. Snippert, Witteveen, Boes, and Voordijk (2015) identified barriers to realizing a stewardship relation between the public construction client and the contractor through the implementation of the Best Value approach. In a multiple case study of four projects of the Dutch Highways Agency, the interactions between the client and the contractor in the clarification phase of the Best Value Procurement were analysed from the perspectives of agency theory and stewardship theory. It was found that the observed behaviour could mainly be explained by agency theory. Snippert at al (2015) observed a tendency of the project members to relapse into more control-oriented management styles, due to the traditional background of the project teams.

Davis *et al*., (1997, 24) adopt a situational perspective on stewardship theory, arguing that it "was designed for researchers to examine situations in which executives as stewards are motivated to act in the best interests of their principals". The question is whether these situations (can) exist within the context of the public construction industry. Public procurement regulations are based on the principles of equal treatment, non-discrimination, proportionality and transparency, but inhibit the development of long term relationships between public clients and contractors over the course of multiple projects. This may not be a viable situation for a principal-steward relationship to develop between the client and the contractor, but no further research has been done on this topic. In this paper both theories are used to analyse this relationship.

METHODS

Research Approach

A single case study was considered to be the most suitable to answer the research questions, given the exploratory character of the research and the importance of the context in which the project is embedded. In a case study the researcher explores a bounded system "through detailed, in depth data collection involving multiple sources of information (…) and reports a case description and case-based themes" (Creswell,

2007, 79). The case that is studied is a pilot project of the Dutch Highways Agency. The philosophy behind the pilot came out of a session of the Dutch Public Client Forum in 2013 and was a reaction to the ongoing legalization in the industry. The director-general of the Dutch Highways Agency launched the pilot within his own organization and greatly supported it:

> • All rules may be challenged, except for the law. Think outside of existing frames! Be open-minded, but not naïve (Director-General of the Dutch Highways Agency).

The renovation or replacement of a bridge, was later appointed to the pilot. A market consultation took place in June 2015 and the tender procedure comprising of four phases started in May 2016. In July 2017 the tender was awarded to a consortium of two middle-sized contractors (from here: the contractor). The construction activities on site started in September 2017 and the project is expected to be delivered in September 2018. The project budget is 12 million euros.

Data Collection and Analysis

Schillemans (2013) studied the principal-agent and principal-steward relationship between ministries and agencies. His operationalization of the theories is used as a basis for this research and translated to the context of public clients and contractors in construction and is presented in Table 1.

Table 1: Operationalization of agency and stewardship theory in the public construction context, based on Schillemans (2013).

	Agency theory	Stewardship theory
Selection of the contractor	Based on mitigating potential abuse of discretionary space of the contractor. Competitive tendering to align the various interests and to reach agreement through a contract.	Based on engaging with candidates that have maximally overlapping interests and goals.
Task specification	Based on a top-down approach in which the client writes down in a contract exactly what is expected of the contractor.	Developed conjointly, creating a shared perspective on goals and the implementation of tasks.
Monitoring	The contractor reports in detail so that the client can verify what has been done in practice.	The client trusts the contractor that its work and/or services are of high quality.
Incentives	Based on extrinsic motivation: financial incentives or expansion of tasks.	Based on self-actualization: verbal praise.
Relationship management	The formal contract is the main device, informal contact is avoided.	The relationship characterized by equivalence and collaboration.

The data used for this research were collected from documents, observations on site during the execution phase and semi-structured interviews with project team members. The documents are secondary data and include articles from the project's website, as well as the contract documents and tendering documents. The observations were made during the execution phase of the project in February and March 2018. In the observation period the researcher worked at the joint site office to have informal conversations with the project team members and to attend project team meetings. In that same period thirteen interviews took place with project members of the client and the contractor, including management and operations staff. The interviews were conducted face-to-face in a meeting room at the joint site office and lasted between 25 and 85 minutes. The interviews were recorded and transcribed verbatim. Documents, interview transcripts and observation notes were analysed using ATLAS.ti based on the analytical framework as depicted in Table 1.

FINDINGS

Selection of the Contractor

The client started the project with a market consultation in which the industry was invited to think about the procurement and contracting procedure. These procedures were then developed further in eight sessions with delegates of the sector's trade associations.

> • We thought about eliminating the mechanisms that lead to undesirable behaviour, […] opportunistic behaviour for example [...] everything that leads to a hassle after awarding (delegate of the contractors' trade association).

Because of the public character of the client and the budget of the project, the client was legally obliged to set up an open tender. Therefore, a competitive dialogue procedure was chosen, which suggests a rather traditional approach of contractor selection. However, the way in which the tender was designed and the selection criteria that were used, indicate that the project team of the client was actually opting for a more collaborative approach. In the first phase of the tender, the fifteen interested candidates were asked to hand in a vision document. The five teams that were selected proved to have the best fit with the pilot's philosophy.

The second phase of the tender consisted of a collaboration assessment, which was intended to find out which of the contractors' teams made the best 'match' with the client's team. This collaboration assessment was designed and judged by an independent party and lasted for five days in total; every day, the client's team paired up with a different contractor's team. The composed teams were invited to discuss a fictional case, were observed and then judged by the independent party. The assessments criteria were focused on the team's ability to take and bear joint responsibilities; the capacity for open communication, reflection and feedback; and having mutual respect and empathy. Three out of five candidates were selected.

In the third phase the final candidate was selected based on his plan of approach with regards to the interpretation of the customer's need, engineering, price and risk. In this project, the operator of the bridge was considered to be the customer. This phase ended with a provisional award. During the fourth phase the client and the contractor team worked collaboratively on the task specification and on the design. The final awarding criterion was the price, which was collectively developed and agreed upon by both parties based on the principle of "honest money for honest work". The whole procedure breath the wish of the client to engage with contractors with maximally overlapping interests.

Task Specification

The task was initially specified by the client in six relatively general functional requirements. The client required a safe bridge with a lifespan of 25-30 years, without the current restrictions for certain types of traffic, at least suitable for the current amount and type of traffic, connected to the existing abutments, foundations and movable bridge section, and completely available for all traffic at the end of Q3 2018.

During the fourth phase of the procurement procedure, the client-contractor team worked collaboratively on a more detailed task specification, for which they visited the customer (the operator of the bridge) and other stakeholders to collect their wishes and demands. The initial, rather general task specification was chosen to avoid misinterpretations of the requirements: from the customer to the client and from the client to the contractor.

> • Normally we [the client] translate the customer's needs into requirements, and we put these requirements in the market. Is this way, we generate information that is sensitive to misinterpretation: did we correctly understand the wishes of the client; did we translate them correctly into requirements […] So now we said: we have to do this together (client).

The misinterpretation of requirements can result in disputes between the client and the contractor even after a project has been delivered, and this is something that the client specifically wanted to avoid in this project. The development of the more detailed task specification, collectively by the client and contractor, proved to be difficult. The wishes and demands of all stakeholders were supposed to be the direct input for the design, but the customer wasn't always able to clearly specify these. For some of the technical staff of the contractor, the lack of a detailed task specification was challenging to work with.

> • That is difficult, because most designers would say, provide me with detailed requirements and then I'll make a drawing and a price and then we'll just start. And now it's all open for discussion, I have to consult the customer or a stakeholder, and that is something we are not used to as technicians. […] They get stressed out because everything is open (contractor).

The client was also strongly involved in the design process of the client, which also took place during the fourth phase of the tender procedure. This proved to be challenging for the client as well as for the contractor.

> • [The greatest challenge within the project was] making sure that we, as the client, had enough time to deliberate with the contractor. It's quite an intensive period, the design period. Usually we receive a document that we test within three weeks, and then we send it back. Now, we were a part of the design process and sometimes we had to make choices on the spot (client).

> • They want to show, "we are not just the client, we also think with you about the plans". That was really contradictory, so designing took longer and when the designs were actually made, their comments did not really make sense, because of a lack of knowledge and experience. We [the client and the contractor] had built trust and maybe I should have pointed that out more: […] maybe you just have to let go (contractor).

During the fourth phase of the tender, the client and the contractor wrote the contract together, in which they developed shared goals, made agreements on how to collaborate and how to deal with risks. The project team members refer to the contract as the "manual", as it lacks detailed specifications.

During the execution phase it became clear that this manual also has a downside; the lack of detailed specifications seems to have resulted in disputes between the (sub) contractors. The subcontractors were not involved in developing this manual.

> • That fact that there is no [traditional] contract does create some fights [between the contractors and subcontractors]. […] If it is not clear what you should and should not do, you try to transfer the costs to someone else. We are not the only ones who do that - contractor A and B also do that (subcontractor).

For this project, the task specification revolved around the development of a shared perspective of the client and contractor on goals and the implementation of tasks.

Monitoring

The Dutch Highways Agency has a standardized procedure to monitor the execution of the works. These procedures are based upon the principle of lawfulness. The contract management method that is normally applied by the client is based on remote

control and supervision. The project team deliberately chose to deviate from this method as it did not fit with the pilot's philosophy.

> • The 'old' framework of contract management focuses on ensuring that the requirements of the contract are fulfilled. The contract management within this project focuses on achieving our collaboratively agreed upon principles, agreements, goals and customer value. In other words, do we jointly meet the obligation that we have made with each other and the customer? (contract management plan document).

To achieve this, the client and the contractor appointed one best-for-project contract manager, who is formally employed by the client, but is supposed to safeguard the interests of both the client and the contractor. In addition, the client and the contractor collaboratively check the quality of the work in the execution phase. The contract manager and an experienced advisor from the client's organization have a central role in this.

> • Once or twice a week, he [the advisor] joins me to check the quality of the work or to see how the work is proceeding, to see if everything is going well; he also does this with the contractor (contract manager).

Based on these findings we can conclude that the client is checking the quality of the work of the contractor; even though they seem to trust the contractor and monitor the work collaboratively with the contractor.

Incentives

With the "honest money for honest work" principle from the fourth phase of the tender, the parties found a balance between the private interest of the contractor and the public interest of the client. The client explicitly did not want to work with a bonus-malus system, which was proposed by the contractor during the tender procedure, as it did not fit with the pilot's philosophy. By means of open cost estimates, the parties agreed upon a profit margin of 5% for the contractor: high enough to assure the contractor's continuity and low enough to assure the effective spending of tax money. The profit margin was then set absolutely based on the lump sum. Based on the documents, this was indented to cancel out conflicts that arise from the pressure on money. Within the contract the client and the contractor also agreed that wrong estimates would not be compensated for, to incentivize optimization of the scope. However, the "honest money for honest work" principle now greatly relies on the reliability of the estimates made, and it is not sure whether this collective interest will be served.

> • During the calculations phase we made a calculation of how fast it [applying concrete] would go, so the production is based upon that estimate. And we don't really make it. […] We have to have longer shifts with more people, and there we are making a loss (subcontractor).

No further incentives structures were found in the data and it is unclear to what types of incentives the project members (would) respond. However, the interviews indicate that there seems to be a distinction between the drivers of the management team and the drivers of the operations staff. The management staff of the client and the contractor is clearly driven by the collective interest and the pilot philosophy of "doing things better in the industry".

> • I am driven by wanting to do things better [in the industry] (management team member of the contractor).

> • I like to find out how we can do things differently, and better. I believe that by working together, we can achieve more (management team member of the client).

Most of the operations staff is driven by "delivering a good project", meaning best-for-project but also best serving the interest of the contractor.

> • Sometimes they [the management team] discuss something that doesn't land with the operations team, because they [the operations team] just want to produce and make money… and that gap, I really notice, that is real (contractor).

> • I am driven by trying to do the work as efficiently and as profitable as possible. [...] That drives me in all projects: trying to make a profit for the firm (subcontractor).

This could be a result of the selection of project members: for the management staff, a fit with the pilot's philosophy considered very important and was also in important criteria to be a part of the project team. The operations staff was mainly selected because there was a position to fill, a deadline to catch or work to finish.

The client tried to eliminate financial incentives in the project and engaged with an intrinsically motivated team of the contractor in the procurement phase. However, in the execution phase the rationale of the contractor to make a profit is still apparent.

Relationship Management

During the fourth phase of the tender, the client and the contractor started working together in one office. At the start of the execution phase they moved to a joint office on site in which all facilities are shared. During the observation period the project members frequently discussed work matters informally, lunched together, and had transparent meetings with one another.

> • What I notice here: we share everything quickly. We don't keep anything to ourselves. We do not discuss a certain strategy or tactic, we just share it (contractor).

The client and the contractor think of themselves as equivalent; they do have different roles but their relationship is non-hierarchical. In the interviews the respondents all underline that the contact, and not the contract, is the focus point. However, the contract was important to make clear agreements between the parties and is sometimes referred to when unexpected events occur.

> • I think that the contract that we made helps us. Especially in the process of deviations from the work. We have made very clear agreements about how we deal with this. That helps a lot. […] The meetings go smoothly because the agreements were clear in advance and we can use them well (client).

So far, there have been some incidents that could have caused conflict between the client and the contractor as they put pressure on the deadline, such as delays as a result of asbestos and cold weather. In these situations, the project members feel the tendency to relapse into "old behaviour", but so far have managed to refrain from it.

> • In the end, we had weeks of delay. Then we were challenged, because there are two interests: on the one hand it is meeting the deadline, and on the other hand it should not cost too much, because then I will leave this project empty-handed. [...] In such a situation, it is important that you find a solution together that suits everyone. That was the first big challenge we encountered. Realizing: what is my behaviour? What is expected of me? And how do I have such a conversation? (contractor).

The client and contractor have different roles but think of themselves as equivalent; their relationship is not hierarchical. The team does however, have formal meetings and sometimes uses the contract, even though it is not the main device.

DISCUSSION

The findings of the research, as depicted in Table 2, indicate that the relationship that was developed between the client and the contractor in the project contains elements of both agency and stewardship theory.

Table 2: Overview of the research findings

	Findings and their relations to agency or stewardship theory
Selection of the contractor	Based on a competitive dialogue procedure (agency theory) because of the public character of the client. However, aimed at engaging with candidates that have maximally overlapping interests and goals and finding the best partner to collaborate with (stewardship theory).
Task specification	First specified in six general requirements; then developed conjointly in the tender phase and collectively written down in a contract, creating a shared perspective on goals and the implementation of tasks (stewardship theory).
Monitoring	The client is checking the quality of the work of the contractor (agency theory); even though they seem to trust the contractor and monitor the work collaboratively with the contractor (stewardship theory).
Incentives	The client tried to eliminate financial incentives in the project and engaged with an intrinsically motivated team of the contractor in the procurement phase (stewardship theory); however, in the execution phase the rationale of the contractor to make a profit is still apparent (agency theory).
Relationship management	The client and contractor have different roles but think of themselves as equivalent; their relationship is non-hierarchical (stewardship theory). However, the team does have formal meetings and sometimes uses the contract, even though it is not the main device (agency theory).

The project team of the client tried to facilitate a principal-steward relationship between the client and the contractor in all phases of the project. The foundation of this relationship was mostly laid in the procurement phase. The selection of the contractor was designed to engage with candidates with maximally overlapping interests and to further develop the rather general task specification with the contractor. The client was, however, obliged due to its public character and the size of the project, to competitively tender the project. Snippert *et al*., (2015) found that the project members tend to relapse into more control-oriented management styles due to their traditional background, therefore inhibiting the development of a stewardship relationship between the client and contractor. The project team in this case study had little prior project experience and also deliberately wanted to develop a non-hierarchical client-contractor relationship that revolved around shared goals. In the execution phase this relationship was maintained by working together in the project site office and by collectively checking the quality of the work. However, the client team still wanted to monitor the work during construction and the contract was also sometimes referred to. In addition, even though the rationale of the contractor to make a profit was not on the foreground, it was still apparent in this project. Reflecting on the situational perspective of Davis *et al*., (1997) on stewardship theory, the client team tried to create a "situation" in which the contractor was motivated to act in the best interest of the client. Due to the public obligations of the client and the private interests of the contractor, a situation was created in which a hybrid client-contractor relationship was developed.

CONCLUSION

Stewardship theory has offered a new lens to describe the relationship between public clients and contractors and has the potential to enrich construction management research. Public clients can engage in stewardship relationships with contractors by

selecting candidates in the procurement phase that have maximally overlapping interests and by collaboratively developing the task specification. To maintain this relationship in the execution phase, the client and contractor should be actively involved in each other's processes. In our specific case individual differences were put beside in order to reach their initially defined common goal. Hence, our findings also indicate that a true stewardship relationship between public clients and the contractors might not be suitable, feasible or even desirable for all construction projects. As the foundation for this relationship is laid in the procurement phase, public clients have an important role in laying down this governance structure. However, this type of relationship should also be governed appropriately by the project managers of both the client and the contractor, with special care to not relapse into the more traditional principal-agent behaviour. Further research is required to study the development of this relationship and its implications.

This research is based upon a single case study of a Dutch pilot project, which has its limitations. This project is very exposed in the media and the project members have also indicated that this results in a wish to actually make the project successful. Furthermore, observations were only done during the execution phase; the data collected about the previous phases entirely relies on documents and interviews and therefore remains retrospective.

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