UNIVERSITY OF TWENTE & ANTEA GROUP

Identifying transaction costs in Best Value Procurement tenders in public civil engineering projects

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Bart van de Pol

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Voorwoord
Voor u ligt het laatste onderdeel van mijn opleiding Construction Management & Engineering aan de Universiteit Twente. Deze paper is het resultaat van het afstudeeronderzoek naar de transactiekosten van een inschrijver bij Best Value aanbestedingen dat ik heb uitgevoerd bij Antea Group. Tijdens deze stage heb ik veel kunnen leren over het proces van een Best Value aanbesteding en over het aanbesteden in de civiele sector in het algemeen. Dankzij interviews, die ik met Best Value experts van Antea Group en meerdere aannemers heb mogen afnemen, had ik de mogelijkheid om bij veel aannemers in de keuken te kijken. Ik wil dan ook de geïnterviewde bedanken voor hun openheid en dat ze bereid waren om tijd vrij te maken om mij te ondersteunen met mijn onderzoek. De interviews waren essentieel voor mijn onderzoek en zonder de interviews had ik geen eindproduct kunnen neerzetten. Verder wil ik ook graag mijn begeleiders bedanken voor de gerichte feedback die ze mij gaven. Hierdoor kon ik steeds weer een stap verder komen en toewerken naar een gestructureerd eindproduct. Tot slot ik wil mijn vriendin, mijn vrienden, mijn familie en collega's van Antea Group bedanken voor hun steun, tips en afleiding. Hierdoor heb ik erg genoten van mijn afstudeertijd.

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Abstract

Over the past decade there has been an increase in the number of public clients who apply the Best Value Procurement whilst tendering for the public civil engineering project. Best Value Procurement is used by the client in order to find the expert among several vendors who can execute the project on time and within budget. Currently the transaction costs of vendors are increasing, because clients are focussing more on quality and price instead of only price. This shift causes an increase in the transaction costs for vendors, because vendors have to show to the client how the quality will be implemented and maintained throughout the project. However, it is unclear how the transaction costs are identified for vendors in a Best Value tender. This study identifies the transaction costs of vendors in Best Value tenders and how Best Value influences the transaction costs of a vendor in the tender phase. A case study research is used to identify and analyse these transaction costs. This is assessed in seven civil engineering projects, which present the diversity of the public civil engineering industry. A conceptual framework of the transaction costs is constructed, and it is used to classify the transaction costs for vendors. The transaction costs that are the highest for a vendor in a Best Value tender are identified as: (1) hiring experts, and (2) preparation of interviews. First, vendors often hire Best Value experts in order to assist the vendor during the tender, because vendors often do not have experience in working with Best Value tenders. Best Value experts are also hired to help the vendor prepare for the interviews with the client and/or with writing the tender documents. The preparation of interviews is often intense for the key officers who do the interview, because they must understand and explain every single aspect of the vendors plan for the tender. To add the project objectives of a Best Value tender are often to abstract for a vendor. Furthermore, it is difficult for a vendor to find the correct verifiable performance information in order to participate in a Best Value tender. As a result, the transaction costs for a vendor in Best Value tender a seven to ten times higher to a MEAT tender when compared to numbers from a study that researched the transaction costs of MEAT tenders in the Netherlands.

Introduction

Best Value procurement and transaction costs are both getting more and more attention in the civil engineering industry in the Netherlands. Best Value Procurement (BVP) is being used more often by public organizations (Van de Rijt and Witteveen, 2014) in order to procure public civil projects. BVP has been developed by Dean Kashiwagi and the Best Value approach is described as an method to identify and select vendors for their projects, based on performance instead of just lowest price (Verweij, 2016). BVP is described as a 'Procurement system that looks at factors other than only price, such as quality and expertise, when selecting vendors or contracts.'(Office of Construction and Innovative Contracting, 2012). In the Netherlands it came to light that many fraud cases occurred in the construction industry (Enquêtecommissie Bouwnijverheid, 2003). As a measure the government issued that public authorities must make use of award criteria based on price and quality using the MEAT (Most Economically Advantageous Tender) criteria (Van de Rijt and Santema, 2012). One of methods of applying award criteria is combining MEAT criteria with BVP (Kashiwagi and Kashiwagi, 2011; Van der Rijt and Witteveen, 2011). As a result, BVP was introduced in 2005 and has been since been used in various public works in the Netherlands. The Best Value approach in the Netherlands is based on the conviction that minimizing risks or eliminating risks when allocated information is effectively used for a proper choice. This entails, the more information that is available and the better it is utilized, the better the future can be predicted and the fewer decisions or risks must be made.

Transaction costs have been increasing the last decade for vendors due to the fact the focus has been shifting for lowest price to highest quality (Van de Rijt and Santema, 2012; Economisch Instituut voor de Bouw, 2014). Witteveen(2013) state that main reason for using BVP is that the procurement of Design and Build- contracts usually leads to high transaction costs and long tender procedures. Rijkswaterstaat, a government agency responsible for main infrastructure facilities in the Netherlands, has adopted to use BVP for 16 of 30 bottleneck projects to minimize transaction costs for vendors.

Over the past there have been many researchers trying to identify the transaction costs in the construction sector (Santos, 2008; Farajian, 2010; Sollño and de Santos, 2010; Dufek, 2013; Rajeh, Tookey and Rotimi, 2013; Li et al., 2015; Thomassen et al., 2016). Transaction costs in public private partnerships have been identified and factors, that influence the transaction costs have also been investigated (Rajeh, Tookey and Rotimi, 2013; Li et al.,

2015). However, there is a literature gap about what the transaction costs are for a vendor in Best Value tenders. Best Value was first introduced in the Dutch construction sector for public civil projects for Rijkswaterstaat. Hence, the scope will be based around Best Value tenders for public civil works in the Dutch construction industry. This is important because public works must be based of the Public Procurement Act, which includes social responsibility.

This research aims to identify the transaction costs for vendors in Best Value tenders for public civil projects and draw a comparison with a common used with a common method used for public procurement in the Netherlands. The following research question will be answered: What are the transaction costs for a vendor in Best Value Procurement tenders and how does Best Value Procurement influence the transaction costs for a vendor compared to a MEAT tender? Answering this research question contributes to the existing research in two ways: (1) Best Value procurement is studied in an industry where practical research is scarce regarding the transaction costs of a vendor, and (2) the costs that vendors make during the tender phase is studied, which contributes to the existing literature of what can be considered as a transaction cost. The research question was answered by studying seven Best Value tenders for public civil engineering projects.

The structure of this paper is as follows. Section 2 describes existing literature on Best Value procurement and transaction costs, providing an overview on the status quo on this topic. Section 3 describes the framework for the case study analysis. The cases and research context are introduced, as well as how the framework analysis was used. Section 4 describes the results, which are analysed in section 5. Section 6 captures the discussion and section 7 the conclusion, followed by the limitations in section 8.

2. Best Value Procurement & Transaction costs
In this section a description is given as to how public procurement is done in the Netherlands in regard to the MEAT criteria and the Best Value approach. Furthermore, the concept of hybrids is explained and to conclude an overview of the current literature regarding in transaction costs in construction is examined.

2.1 Procurement in the Netherlands
Transaction costs are made during the tender phase of a project. Currently, the most used tender procedure in the Netherlands is a tender with Most Economically Advantageous Tender (MEAT) criteria. The MEAT criteria is a method of assessment that can be used as a selection procedure for publicly-procured contracts, allowing the contracting party to award the contract based on aspects of the tender submission other than just price. The alternative criteria which can be used in MEAT assessment are for example: quality, technical merit, accessibility, social characteristics, environmental characteristics. (European Union, 2014).
In a MEAT tender each used criterion must be given a weighting, which must be set out in the tender documents. The rules stipulate that the client must make clear to the vendor that the MEAT criterion will be used to judge their submission. A two-stage process of tender evaluation can then be used. The first stage is a technical evaluation which uses individual weighted criteria to assess the technical merit of the tenders. The second stage is a financial evaluation which calculates the relative cost of each tender compared to the lowest price offered. Finally, the tenders are ranked based on the aggregate score of both stages. This two-stage process can be named a tender phase for the vendor. The tender phase is the phase where the transaction costs are made for a vendor to get the contract. In this study the MEAT tender will be compared to a Best Value tender, because both tenders are used public civil projects
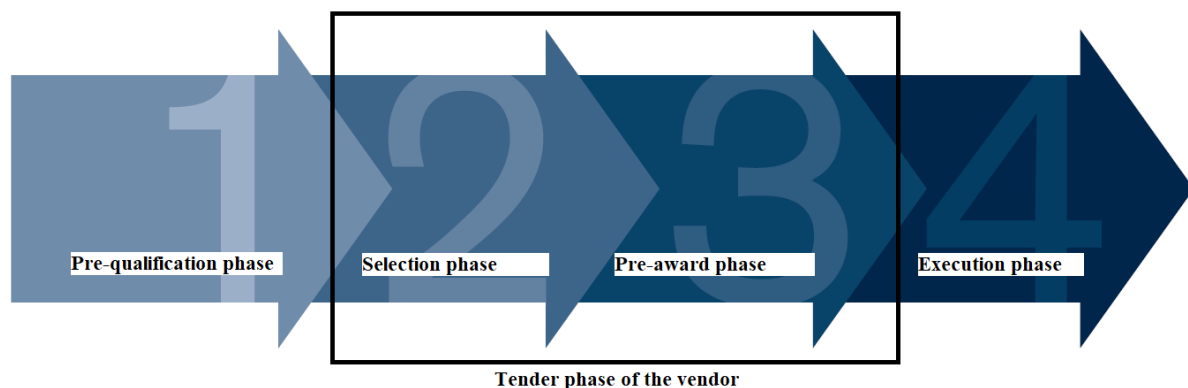

Figure 1 The phases of a Best Value tender in the Netherlands according to Van der Rijt & Santema (2013)

The Best Value approach is a procurement and project management approach that focuses on gaining the best value for the lowest costs (Snippert *et al.*, 2015; Storteboom *et al.*, 2017). In this approach the client minimizes the direction of the project and releases control over to the vendor. This entails that the vendor is accountable for the project, due to the minimizing of direction and decision-making by the client. The Best Value approach is shown in Figure 1 and it consists of four phases: pre-qualification phase, selection phase, pre-award phase and execution phase (Van de Rijt and Santema, 2013).

The tender phase for a vendor consists of only the selection and pre-award phase see Figure 1. In the selection phase private contractors need to hand in three qualitative documents and state for at what price they will do the work. These three documents consist of the value-added plan, risk assessment and the project capability, where each document must only be two pages long. The private contractor needs to show verifiable performance information (VPI) or metrics in the documents in order to prove that the contractor can finish the project on time and within budget with low risks. At the end of the selection phase key officers from the contractor are interviewed regarding the handed in documents (Van de Rijt and Santema, 2013).

After the interview a contractor is chosen using the MEAT principle in which the results are monetarized. The contractor with the lowest fictitious sum of money is the winner and the pre-award phase will start. During this phase the offer of the selected (potential) vendor is clarified, up to a level that the client understands what is going to happen and how the goals of the project are going to be reached. The contract is awarded after the client agrees with the plans of vendor.

The transaction costs are made by the vendor between the publication of the tender and the contract is awarded to the vendor. In a Best Value tender the costs, that are made during the selection and pre-award phase by the vendor are in this study classified as the transaction costs.

2.2 Hybrids of BVP
The first project that used BVP in the Netherlands was the so-called Fast Trak program by Rijkswaterstaat in order to resolve 16 major road bottlenecks (Van de Rijt and Santema, 2012; Storteboom *et al.*, 2017). The project was considered a success due to the fact that 14 of the 30 project where completed, surpassing the goal of 10 project, the average completion time for projects was reduced by 25% and procurement transaction costs were reduced by over 50% for both Rijkswaterstaat and reduction of tender costs of the construction contractors (Van de Rijt and Santema, 2012; Storteboom *et al.*, 2017)

Since the introduction of BVP in the Netherlands and there have been over 1.000 projects that used BVP and have been successfully implemented across several sectors (Blommestijn and Brown, 2013). With the more frequent implementation, it is also a fact that more hybrids of BVP occur. Storteboom(2017) did a study to analyse the presence of theoretical process elements in real projects and he concluded that there are hybrid versions of methodology, but key elements such as weighting documents (MEAT criteria), interviews, pre-award phase are important factors in a Best Value tender. According to Verweij(2016) these hybrids of BVP occur, because a large group of public organizations, with no BVP guidance, have started to use elements of BVP in their own specific procurement process. Consequently, these tenders are in fact hybrids of BVP and traditional procurement method. Verweij(2016) constructed a tool in order to distinguish a hybrid tender from a BV tender. The tool that Verweij (2016) constructed was derived from the principles from the basic concepts from Information Management Theory (IMT) from which BVP was originated (Kashiwagi and Kashiwagi, 2011; D. Kashiwagi, 2016; D. T. Kashiwagi, 2016). However, the tool that Verweij (2016) has constructed is to perceptive for vendors to use. This is due to the fact because the checklist can be interpreted differently amongst people. For this study a new checklist must be constructed in order to assess Best Value tenders whether they are hybrid tender or a Best Value tender.

2.3 Transaction costs
The term of transaction costs comes from Coase(1937)who initially used the concept of transaction costs to develop a theoretical framework to identify when an economic move should be initiated. However the most used definition of transaction costs comes from Williamson (2008) where he introduced the transaction costs theory. The transaction cost theory stated the client vendor relationship as a contractual agreement. This agreement consists of costs of information, competitive advantage, negotiation, contract management, market structure, enforcement and measuring performance. Winch (1989) and John (2014) state the transaction cost theory can be used to choose to most suitable procurement system for a project by analysing the transaction costs of client vendor relationships in terms of contractual agreements.

There have only been a handful of studies that attempted to quantify transaction costs in construction projects but only for PPP projects (Dudkin and Välilä, 2005; Santos, 2008; Farajian, 2010; Sollño and de Santos, 2010) . Dufek (2013) state even more that transaction costs in construction refers to the specification and the management of the contract. To add to the definition Sollño and de Santos (2010) distinguish transaction costs between external costs

(technical, legal and financial advice) and in house costs such as project preparation costs. Hughes *et al.*(2005) states that transaction costs arise in construction, because there are several parties to the process and the organizers of the total process must identify potential participants, select those most appropriate, monitor that they are performing well and take action if they are not. Canıtez and Çelebi (2018) also argue that transaction costs are mainly the information and search costs for operators, bargaining costs, as well as monitoring and enforcement cost of contracts. Both Sollño and de Santos (2010) and Li *et al.* (2013) state that in construction projects transaction costs can be categorized in two types: pre-contract transaction costs and post-contract transaction costs. Sumpikova *et al.*(2016) identified the transaction costs in public procurement for both the client and the vendor using the definition of Sollño and de Santos (2010) of pre and post contract transaction costs. The transaction costs of public procurement according to Sumpikova *et al.* (2016) are shown in Table 1.

Table 1 Transaction costs in public procurement defined by Sumpikova *et al.* (2016)

Sector\ Time	Ex-ante	During	Ex-post
Client (Public sector)	• Preparing public procurement documentation • Announcing public procurement • Cost of outsourced services (for experts used – legal, technical etc.)	• Explanations	• Complaints • Legal cases costs • Costs incurred by hiring new supplier if first contract fails • Price increase if the first contract fails
Vendor (Private contractor)	• Preparing bid • Purchases to be able to fulfil qualification criteria • Guarantees	• Communication	• Complaints costs

According to a survey of literature done by Li *et al.*, (2015) pre-contract transaction costs include the cost of market research, the cost of exploring financing opportunities, the cost of conducting a feasibility study, the cost of bidding/negotiation, and the cost day-to-day pre-contract project management. Rajeh *et al.*,(2015) defined determinants in order to estimate the overall transaction costs for different procurement systems, specifically for traditional and design-build systems for comparison. Rajeh *et al.*,(2015) defined pre-contract transaction costs as information and procurement costs, and post contract transaction costs as administration costs and enforcement costs.

To conclude the Economic Institute of Construction (EIB) did a study in 2014 regarding the transaction costs for both the client and the vendors in the Dutch construction sector. In this study the EIB defined the transaction for a vendor in three categories (Economisch Instituut voor de Bouw, 2014):

- Calculation costs - Calculation costs arise because time is spent on the calculation of the costs and on the preparation of an offer, tender and / or action plan.
- Other labour costs - Other labour costs are related to time spent by other employees or by the management on the tender, such as the approval of the registration by the management, attending the tender including travel time and giving an explanation the offer. These are working hours that are not settled by the hourly rate for calculation work.
- Other costs - Other costs may include the costs of, for example, legal advice, costs of regulations, proof of documents, etc.

There have been several studies regarding the transaction costs in construction industry for the client and the vendor. The transaction costs according to several studies can be divided in pre-contract and post contract transaction costs (Rindfleisch, Heide and Vol, 1997; Bajari and Tadelis, 2000; Hughes *et al.*, 2005; Santos, 2008; Li *et al.*,2015; Rajeh *et al.*, 2015; Sumpikova *et al.*, 2016). In Best Value tenders the tender phase for vendors consists of the selection and pre-award phase. In this study transaction costs are defined as the costs that are made by the vendor during the selection and pre-award phase. There have been a few studies that determined what the transaction costs are for a vendor in the Dutch construction industry, however these studies did not quantify the transaction costs specifically for vendors. To determine the transaction costs in a Best Value tender, a conceptual framework was developed using the determinants set by (Rajeh *et al.*, 2015).The process of developing the conceptual framework for this study can be found in the Appendix.

3. Research method

As mentioned earlier, in order to assess a Best Value tender, a checklist needs to be constructed and to determine the transaction costs for a vendor a conceptual framework must be constructed. With the conceptual framework and checklist, transaction costs of vendors in Best Value tenders can be determined and analysed. This research was conducted as a multiple case study, which are described by Eisenhardt, (1989) and Yin (1984). The cases were selected if the vendor was able to give information regarding a Best Value tender, which transaction costs were made during the tender and if the tender was for a public civil project. After the cases were selected, data was collected from the cases regarding what type of transaction costs the vendor made during the tender phase.

3.1 Best Value checklist

Van de Rijt and Santema(2013) describes the process of a Best Value tender in the Netherlands and was used to construct the checklist. To validate the checklist multiple interviews were held with four Best Value experts, who have many years of experience regarding assisting vendors in Best Value tenders in the Netherlands. The experts were asked to validate the constructed checklist with the focus on using the checklist to assess the tender documents from the clients. The checklist is list of characteristics of which must be present in the tender documents of the client in order for it to be called a Best Value tender. The checklist can be found in the Appendix. The assessment of the tender has been done by analysing the tender documents 'Tender guideline' and 'Required specifications'. These two documents together with the checklist were used to determine whether the Best Value tenders were a hybrid tender or not.

3.2 Conceptual framework

Using the initial conceptual framework of Rajeh *et al.* (2015) a starting point was set regarding the determinants of transaction costs for Dutch vendors. In order to apply the conceptual framework by Rajeh *et al.* (2015) certain determinants had to be altered in order for the framework to be applied to Dutch vendors, who participate in Best Value tenders. This was done by interviewing four Best Value advisors, who all have several years of experience regarding assisting vendors in Best Value tenders in the Netherlands. The process of constructing the determinants from the interviews can be read in the Appendix. The determinants that came out the interviews are shown in Table 2 and were used to determine the transaction costs in the case studies.

Table 2 The determinants that were used in this study in order to determine the transacation costs for vendors

Collecting information	Collecting information from tender documents
	Gathering information about stakeholders and project environment
Interaction with the client	Attend individual meetings
	Drafting questions
	Attend information meeting
	Examining information notice
	Preparation of interviews
	Sessions with the client in the pre-award phase
Contract	Checking contract documents
Action plan	Brainstorm sessions within own organization and project team
	Plan of approach (In / out, risk mitigation, assumptions, planning, Best Value documents)
	Determining costs
Tender guidance	Building a project team
	Hiring experts
Administration	Revision
	Go / No Go
	Naming metrics
	Estimating costs
	Formal decision making (Signature board)

The different types of transaction costs are studied in order to identify, which type of transaction costs is the highest in each tender. Each case is first studied individually to understand what the causes were for the high transaction costs. Next, the cases were compared to analyse if a pattern can be seen amongst all cases.

3.2 Data collection procedure

A fieldwork was conducted on seven public civil engineering projects of four vendors. Furthermore, a multiple case study research was used in order to answer the above-mentioned research questions(Yin, 1984). A case study research involves an in-depth, longitudinal examination of single instance or event: a case. The research

provides a systematic way of looking at events, collecting data, analysing information, reporting results. The case study can be defined as a research strategy, an empirical enquiry that investigates a phenomenon within its real-life context (Yin, 1984). In this research, seven public civil engineering projects were used for the multiple case study research. The vendors were chosen, because they had participated in Best Value tenders, that the tender was a public civil engineering project and that the tender was categorized by the client as a Best Value tender.

The projects were analysed using the conceptual framework to make a comparison between the seven cases. Different methods were used for collection of data, including document analysis, interviews and observation. Semi-structured interviews were held with key figures of the seven Best Value tenders (such as tender managers, project managers, project engineers and Best Value experts). The interviewees were chosen because of their inside knowledge of the Best Value tender regarding the tender process and the transaction costs that were made during the tender. In these interviews, their views of the Best Value process were reconstructed as well as how successful the tender process went. Next an analysis was made regarding the Best Value tender. All relevant documents in the tender project (Tender guidelines & Required specifications) were studied. The data was collected qualitatively. First, the Best Value checklist was used to assess the Best Value tender. Then, an in-depth analysis of the transaction costs was made for each tender and finally a cross-case analysis was used to spot patterns.

3.3 Data analysis methods
First each case was analysed individually regarding the transaction costs of each individual tender. The total collected data was cross analysed using the 'cross-case synthesis' by Yin (1984). Cross-case synthesis can be performed whether the individual case studies have a predesigned part of the same study. The predesigned part of this study is the conceptual framework of the transaction costs for Best Value vendors. Each case is treated as an individual study and if all cases have been analysed individually the cases will be cross-analysed, which means the findings of each case were compared with the other cases' findings. The cases are compared to see if there any similarities or patterns can be seen between the cases. To structure this analysis the cases were allocated in the framework of the transaction costs shown in Table 2. The information gathered in the interviews did appoint to how much the transaction costs were for each vendor in a Best Value tender. In total seven cases were compared to each other in order to see if any patterns or similarities can be detected. When similarities were detected amongst the transaction costs, extra attention was paid as why these types of transaction costs were high in the cases. This was done by analysing and comparing arguments given during the interview.

4. Results

In this paragraph the results are shown what data was collected from the case studies. First, an overview of the cases is presented. Next, the results are shown of how each Best Value tender scored when comparing the Best Value checklist to the tender documents (Tender guidelines and Required specification). Following that, an overview of the transaction costs for each determinant are shown for each case.

The cases shown in Table 3 a representation of when Best Value Procurement is used in the public construction sector. The cases were used to determine the transaction costs were for each case. In addition, the transaction costs of BVP tenders in this study will be compared to the transaction costs made in MEAT tenders. The transaction costs in this study will be compared to the data from a research that was done by the (Economisch Instituut voor de Bouw, 2014). Their research determined what the average transaction costs were for vendors in the Dutch construction industry and what factors influence the transaction costs for vendors for different procurement methods.

In Table 4 the results of the case studies are shown when the checklist was used to assess the Best Value tenders. In the Appendix it is shown specifically, which characteristics each Best Value tender had. When comparing the cases, it is clear to see that most cases does not have every characteristic from the Best Value checklist. According to the checklist case 4 and 6 are Best Value tenders. Cases 1,2,3,5 and 7 are considered hybrids according to the Best Value Checklist.

Table 3 Overview of the cases, the project size of each case and the type of work.

Cases	Project size (€)	Transaction costs (€)	Type of work
Case 1	350.000	23.000	Eco passage
Case 2	1.300.000	92.000	Fish passage
Case 3	3.000.000	40.000	Water connection
Case 4	1.500.000	96.000	Bike route construction
Case 5	6.000.000	46.030	Infrastructure in neighbourhood
Case 6	11.000.000	106.540	Infrastructure work
Case 7	4.400.000	90.000	Bridge construction

Table 4 An overview of how the tenders scored on the Best Value checklist according to (2013)

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
How many Best Value characteristics does each case have? (total = 15)	10/15	11/15	13/15	15/15	13/15	15/15	13/15

The transaction costs for each case and for each type of transaction cost are shown in Table 5, including the total transaction costs. It is important to note that total transaction costs were provided by the vendor, but the vendor estimated each determinant in order to categorize the transaction costs in Table 5. The vendors gave estimates, because the vendors did not clearly distinguish different types of transaction costs. Therefore, vendors were asked to give estimates as to how much each type of transaction cost was.

Furthermore, the percentage for each type of transaction is also shown in Table 5. The percentage is also shown, because according to the EIB(2014), the project size is a significant factor when it comes to transaction costs in Dutch civil projects. The larger the project size, the higher the transaction costs will be. As a result, the transaction cost for each type is divided by the total transaction costs of the tender in order give the percentage shown in Table 5.

Table 5 Overview of the transaction costs for each case where the highest percentage of each tender are bold

Type of transaction costs	Type of transactiecosts	Case 1	%	Case 2	%	Case 3	%	Case 4	%	Case 5	%	Case 6	%	Case 7	%
Collecting information	Collecting information from tender documents	150	0,5	500	0,5	1000	2,5	5000	5,2	520	1,3	2600	2,4	1800	2,0
	Gathering information about stakeholders and project environment	250	0,9	700	0,8	1500	3,8	3750	3,9	520	1,3	5200	4,9	1800	2,0
Interaction with the client	Attend individual meetings	150	0,5	500	0,5	350	0,9	0	0,0	780	1,9	2600	2,4	0	0,0
	Drafting questions	200	0,7	500	0,5	350	0,9	2750	2,9	520	1,3	2600	2,4	1800	2,0
	Attend information meeting	100	0,3	250	0,3	300	0,8	1000	1,0	520	1,3	2600	2,4	900	1,0
	Examine notes of information	250	0,9	550	0,6	500	1,3	1750	1,8	2600	6,5	3900	3,7	2700	3,0
	Preparation of interviews	1100	3,8	5000	5,4	4000	**10,0**	9000	**9,4**	10200	**25,5**	19200	**18,0**	4500	5,0
	Sessions with the client in the pre award phase	8000	**27,6**	40000	**43,5**	0	0,0	30000	**31,3**	7800	**19,5**	0	0,0	9000	**10,0**
Contract	Checking contract documents	1200	4,1	3500	3,8	4000	10,0	2500	2,6	2600	6,5	10400	9,8	4500	5,0
Plan of approach	Brainstorm sessions within own organization and project team	400	1,4	1000	1,1	1500	3,8	7500	7,8	1040	2,6	2600	2,4	4500	5,0
	Plan of approach (In / out, risk mitigation, planning, Best Value documents etc.)	2500	8,6	7500	8,2	8000	**20,0**	7500	7,8	3900	9,7	7800	7,3	22500	**25,0**
	Determining costs	3300	**11,4**	9000	**9,8**	12000	**30,0**	2600	2,7	5400	13,5	10400	**9,8**	22500	**25,0**
Tender guidance	Building a project team	200	0,7	250	0,3	600	1,5	100	0,1	520	1,3	520	0,5	1800	2,0
	Hiring experts	4000	**13,8**	20000	**21,7**	0	0,0	17000	**17,7**	6000	**15,0**	22800	**21,4**	4500	5,0
Administration	Revision	300	1,0	600	0,7	1000	2,5	2000	2,1	1040	2,6	2600	2,4	1800	2,0
	Go / No Go	300	1,3	250	0,3	800	2,0	250	0,3	260	0,6	520	0,5	900	1,0
	Naming metrics	100	0,4	1000	1,1	2100	5,3	1500	1,6	1040	2,6	5200	4,9	1800	2,0
	Estimating costs	400	1,7	600	0,7	1200	3,0	400	0,4	520	1,3	2600	2,4	900	1,0
	Formal decision making	100	0,4	300	0,3	800	2,0	1500	1,6	250	0,6	2400	2,3	0	0,0
Total transaction costs		23000		92000		40000		96100		46030		106540		88200	

5. Analysis

In Table 5 an overview is shown of transaction costs of each case. The highest percentages of each case were compared to look for differences and/or similarities. When similarities were detected amongst the transaction costs, extra attention was paid as why these types of transaction costs are high of all cases. This was done by analysing and comparing arguments given during the interview.

5.1 Transaction costs in Best Value tenders

In Table 5 cases 1 and 2 have similar results and this is most likely caused by the fact that cases 1, 2 and 3 were all done by the same project manager. Furthermore, the highest transaction costs were from the sessions with the client and hiring experts. The sessions with the client were high in costs was due to two reasons. In case 1 in came clear to the vendor that there was a lot of influence from the national public organization on the regional public organization who was the original client. This resulted in the vendor altering his plan of approach to meet with the standards set by the organization. In case 2 the vendor had to alter structures of the client, which was part of the tender. However, maintenance workers of those structures were very critical towards the vendor. To satisfy the maintenance workers, the vendor had to go much in detail, which required a lot of time and money from the tender team. For both cases a Best Value advisor was hired to assist the vendor throughout the tender phase, which because of participating in a small tender resulted in a high percentage of the total transaction costs.

In case 3 the vendor was not selected to go in the pre-award phase, which meant that there were no sessions with the client. The determination of the costs, the plan of approach and preparation of the interviews have in case 3 the highest percentage. The determination of the costs is higher than the creating of plan of approach, because to give a total number the vendor must go in detail of the planned work, regarding materials, personnel in order to name a price to the client.

In case 4 the sessions with the client and hiring of the experts were also the highest percentage type of transaction cost. The sessions with the client were the highest type of transaction costs for this case, because the vendor went it to very much detail in the pre-award phase. As a result, the vendor had to search for VPI's in past projects, which took a large amount of time. Furthermore, the vendor did not have any Best Value experience prior to this Best Value tender that's why the Best Value advisors were hired to assist the vendor throughout the Best Value tender. Cases 5 and 6 also came from the same vendor. In both cases it is clear to see that preparation of the interviews took a lot of time and money. The reasoning why these costs were so high is, because the key officers of the vendor were not familiar with the project itself and that's why a Best Value advisor was hired to train the key officers specifically. This as a result led to high transaction costs in preparation for the interviews and hiring expertise. In case 6 the hiring of experts is higher since an engineering agency was hired to calculate a model. This led to higher transaction costs, because the vendor did not have the expertise to construct a model on their own. To conclude in case 6 the vendor was not selected to participate in the pre-award phase that is why the sessions with the client are not included in the table.

In case 7, the plan of approach and the determining of the costs are both ranked high. The reasoning behind this was the fact that the project was very specific, and the vendor had little experiences in Best Value tenders. The vendor worked out the entire plan of approach in detail in the selection phase. As a result, the vendor knew its plan very well and was selected to proceed to the pre-award phase. The vendor also hired a Best Value expert to assist with the preparation of the interviews and the assist the vendor throughout the Best Value process.

When the cases are compared to each other, there are a few types of transaction costs that are consistently high for several cases. These types are hiring experts, and preparation of interviews. The reasoning for these high transaction costs in preparing the interviews is the fact that a lot of value is placed on the interviews and that the key officers must understand the vendor's entire plan. This requires extra attention and training for the people who are doing the interview. In addition, an external Best Value advisor is hired to prepare the key officers for the interviews, which consists of several training sessions.

In addition, a Best Value advisor is also hired for guidance throughout the tendering process and to give more knowledge about how the client sees the Best Value approach. Furthermore, depending on the tender it is also common for a vendor to hire external organizations/persons to assist the vendor during the writing process and/or to provide specific knowledge regarding the tender itself. The transaction costs when hiring expertise are high, because these experts have specific knowledge and experience, which the vendor do not possess. Specifically, in regard to Best Value is that a vendor does not have the correct metrics in order to take on the tender. The qualitative documents (project capability, value added, risk assessment) asks for metrics and a lot of vendors do not have a database where they can get these metrics. It therefore takes a lot of time and money for a vendor to find the right metrics if the vendor has to get the metrics from elsewhere.

5.2 Best Value vs MEAT

In tables 6 & 7, cases two and seven of this study are compared with the data from EIB(2014), because both are infrastructural works and have a similar project size. It is clear to see that the transaction costs of Best Value tenders are significantly higher than the transaction costs that from the EIB study. The reason why the transaction costs are so much higher comes from the fact there extra additional costs in Best Value tenders in comparison to MEAT tenders. The largest additional costs are in comparison to MEAT are: understanding the project objectives, educating Best Value approach, the preparation of the interviews and finding metrics.

Table 6 Transaction costs of MEAT tenders according to the EIB study (Economisch Instituut voor de Bouw, 2014)

Type of work	Project size (€)	Criterion	Average transaction costs for vendors (€)	Percentage of transaction costs divided by project size (%)
Infrastructure	1.000.000	MEAT	6.000	0.6%
Infrastructure	5.000.000	MEAT	15.000	0.3%

Table 7 Overview of the transaction costs for a Best Value tender according to this study

Cases	Project size (€)	Criterion	Transaction costs for vendor (€)	Percentage of transaction costs divided by project size (%)
Case 2	1.260.000	Best Value	90.000	6.9%
Case 7	4.400.000	Best Value	90.000	2.0%

The client will state in project objectives and not deliverables, what he wants to see as an end result of the project. The vendor is according to BVP, in fact the expert and therefore knows how to execute the project. The project objectives in a Best Value are of a high abstract level. As a result, the vendor may find it difficult to understand what the client wants. Due to the high abstract level of the project objectives, it can take some time for a vendor to understand what the clients means with the project objectives that he formulated.

The Best Value approach is centred around the idea that the vendor is the expert and therefore knows the best way to execute the project. This way of thinking and how to translate this idea in writing the tender documents takes training and time. Educating the vendor to teach them in the right way of thinking also creates additional costs. If a vendor understands the Best Value approach, then the vendor can better translate his ideas into writing. Vendors often need to be trained in order to understand the Best Value approach and how to apply the Best Value approach. This extra training in the Best Value approach creates extra transaction costs for a vendor. Another extra cost for vendors in Best Value tenders in comparison to MEAT tenders are interviews. Interviews do not occur in MEAT tenders, so the preparation of the interviews themselves are also additional transaction costs. The key officer that will be interviewed must be well prepared and must understand the entire plan and ideas of the vendor. In order to do so, the key officers are trained very well in advanced or often part of the entire tender process. The training for the key officers consists of holding several test interviews and holding several sessions with the tender team about the plan of the vendor. Furthermore, the training of the key-officers is often done by a hired Best Value expert. The preparation of the key officers for the interviews will result in extra transaction costs for the vendor.

In the qualitative documents (project capability, risk assessment and value-added plan) a vendor must substantiate each statement with Verifiable Performance information (VPI). This type information is also known as metrics and these metrics should not be refutable, verifiable, accurate and translate to the tender at hand (Van de Rijt and Santema, 2013). Vendors do not have a quick access to these metrics and each statement that a they make must have a metrics that should not be refutable and must translate to the tender. It is often the case, which vendors take a lot of time in order to find a metrics that fits with the tender. Due to the fact that they have to search through previous projects to see if a metric can be used to substantiate a statement. To add, a vendor often uses an external expert or organisation in order to possess the right metrics to back up a statement. This will also increase the transaction costs for the vendor.

Best Value is focused around a minimal scope and requires the expertise from the vendor. In contrast to MEAT, where the focus is on delivering added value to the project. In MEAT tenders, the client dictates and directs, through an inquiry, what the client wants to see as the end product with added criterion. In Best Value tenders the vendor has to back up each statement with a suitable metric and it takes time for a vendor to find multiple metrics for a tender. Sometimes the vendor must hire experts in order to assist the vendor or provide metrics. To conclude a vendor must train the key officers in order for them to understand the vendor's plan completely. All of these factors have the effect that the transaction costs of Best Value tenders are approx. 7 to 10% higher than the transaction costs in Most Economically Advantageous Tenders.

6. Discussion

The results of the case studies showed that the transaction costs of vendors in Best Value tenders are significantly higher when the transaction costs are compared to MEAT tenders that were used in the study by EIB (Economisch Instituut voor de Bouw, 2014). The transaction costs are higher, because vendors make additional costs in Best Value tenders than in MEAT tenders. Another reason for the high transaction costs in Best Value tenders is, because not all clients and vendors understand and know how to apply the Best Value approach correctly. This is, because it is a relative new method of tendering and there is no clear definition how to apply the Best Value approach together with UAV/GC contracts and the Public Procurement Law.

Each Best Value tender is therefore different, because each public client has their own idea on how a Best Value tender process should go. This inconsistency of Best Value tenders comes from the fact that there is no clear method in Netherlands as to how a Best Value tender process should go (Verweij, 2016). The inconsistency is also a reason why the transaction costs of each case is different from each other. However, the study still shows that there are a types of transaction costs that are consistently high for all cases in the study even if each Best Value tender was done by multiple vendors and for multiple clients.

Furthermore, the literature defines two categories of transaction costs: pre-contract transaction costs and post-contract transaction costs (Rindfleisch, Heide and Vol, 1997; Bajari and Tadelis, 2000; Hughes Hillebrandt, P. and Greenwood, D., 2005; Santos, 2008; Li, Arditi and Wang, 2015; Rajeh *et al.*, 2015; Sumpikova *et al.*, 2016). This study only focused on the pre-contract transaction costs and not the post-contract transaction costs for a vendor. The focus was on the pre-contract transaction costs, because the post-contract transaction costs are considerably lower for a vendor than the post-contract transaction costs.

To add, most of the post-contract transaction costs with the client. This study focussed on the vendor, however client also make transaction costs in Best Value tenders. The client makes transaction costs in the preparation phase, the selection phase and the pre-award phase. Further research is required to what a client defines as transaction costs and how the Best Value tender procedure influences the transaction costs from a client's perspective.

In each case it was clear that the vendor did not categorize the transaction cost of Best Value tenders. All the vendors that provided a total figure of what the total transaction costs were. They estimated the costs for each type of transaction cost according to the total figure they had in their own database. Therefore, the provide data cannot be verified and for future research multiple individuals from the same tender should be asked how much the transaction costs were in order to verify the data. Yet, it can be clearly seen that some types of transaction costs of are consistently high for each vendor. Therefore, the study does provide a good idea as to what type of transaction costs are high for a vendor in a Best Value tender.

The transaction costs were focused on the tender phase of a Best Value tender. The tender phase consists of the selection phase and the pre-award phase. In the framework that was constructed most of the determinants of the transaction costs were measured in the selection phase and not the pre-award phase of the Best Value tender. The vendor is in the 'lead' during the pre-award phase so a vendor decides what activities will occur in this phase (Van de Rijt and Santema, 2013). The transaction of vendors in the pre-award are different, because each Best Value tender is different. Therefore, no comparison could be made regarding the transaction costs by vendors in the pre-award phase. Further research is required as to what type transaction costs vendors make in the pre-award phase of a Best Value tender

However most of the transaction costs by the vendor are made in the selection phase of a tender, and not the pre-award phase. So, the study does provide a large overview as to how what type transaction costs occur in Best Value tenders for a vendor. Further research is required as to what type transaction costs vendors make in the pre-award phase of a Best Value tender.

7. Conclusion

This paper researched the transaction costs of vendor in Best Value tenders in public civil engineering projects. Seven cases that reflect the diversity of this industry were studied during the multiple case study. In order to answer the research, question this study focused in detail on several types of transaction costs that a vendor makes in Best Value tender and divided the transaction costs in the following categories: collecting information, interaction with the client, contract, plan of approach, tender guidance and administration. Insights are provided in to what types of transaction costs are high in Best Value tenders. This study also focused on how the transaction costs were for vendors in Best Value tenders in comparison to a MEAT tender.

The results of this study show that the highest transaction costs of vendors come from hiring experts and the preparation of interviews. An expert is hired to assist the vendor in either writing the tender documents and providing knowledge that the vendor does not have. These experts are often very expensive to hire because they

possess specific knowledge regarding the tender of which the vendor does not possess. This extra knowledge is expensive, but Best Value brings an additional expense. Best Value experts are also hired to assist the vendor throughout the tender phase. These Best Value experts assist the vendor in writing the tender documents and helps the vendor throughout the tender phase including the preparation of the interviews. The preparation of the interviews brings high costs, because key officers need to be trained well, often by a Best Value expert, in order to understand the entire plan of the vendor during the interviews with the client.

In the study transaction costs of vendors in Best Value tenders were compared to the transaction costs of vendors in tenders with only MEAT criteria. The transaction costs are seven to ten times higher in Best Value tenders when compared to the transaction costs in the study done by EIB (2014). There are four main reasons as to why these costs are much higher. First, the project objectives are written of a high abstract level. It is therefore difficult to understand what the client would like to see as an end-result. This high abstract level can lead to much discussion within the vendor's organisation and will lead to higher transaction costs. Second, the Best Value approach is centred around the idea that the vendor is the expert and that he knows exactly how to execute the project. This idea of the vendor being the expert and how to translate this idea into writing takes training and time. Educating and training the vendor in the Best Value approach creates additional transaction costs. Third, in a MEAT tender interviews do not occur. In a Best Value tender key officers are interviewed regarding the handed-in documents by the vendor. These key officers must understand the documents well and as a result these key officers are trained well in advance. The training consists of having multiple sessions with the tender team and often a Best Value expert is hired to prepare the key officers for the interview. The preparation of the key officers for the interviews including hiring an expert provides additional transaction costs for a vendor. Finally, in the qualitative documents of a Best Value tender a vendor must substantiate every statement with VPI or metrics. To prove to the client that the vendor has the knowledge and experience to execute tender. These metrics must not be refutable, verifiable, accurate and must translate to the tender. Many vendors do not have this information available quickly. A vendor must look through past projects in order to find the right metrics. This search for right metrics can took a lot of time and will lead to additional transaction costs for a vendor.

During the interviews vendors were also asked how the transaction costs of a vendor can be reduced in Best Value tenders. Several of the interviewed vendors suggest that in order to reduce the transaction costs short-term, a vendor must understand why the client formulated the project objectives. This will save time regarding the discussion of the project objectives. Another measure in order reduce transaction costs is to find the right expert within the organisation of the vendor. This expert understands the client and has experience regarding executing the tender. The expert will know what to do and has a quick access to the right VPI or metrics, because he has done similar tenders in the past.
Vendors also suggested a few long-term measures to reduce transaction costs. Regular Best Value teams can be used in order to save costs regarding Best Value training and understanding the Best Value approach. Another measure that will reduce transaction costs is creating a database of the metrics of the vendor. With a database of metrics, a vendor will save time in searching for the right metrics for the tender and therefore will reduce the transaction costs.

8. Limitations
There are three main limitations of this research. First, the research used several different contractors who participated in Best Value tenders from different clients. The contractors have different levels of experiences with Best Value tenders, so it is unclear whether the experience of Best Value tenders effects the transaction costs for a vendor in Best Value tenders. This limits the research as to whether an increase in transaction costs is a result of using a Best Value tender when compared to MEAT tenders. However, it provides a current image of the impact that a Best Value tender has on the transaction costs of the vendor.

Next, the limited data and the diversity of the case studies has the limitation nothing specific can be concluded regarding the transaction costs of Best Value tender regarding the project size or project work. It will be interesting for future research to examine the transaction costs for all vendors for one specific Best Value tender.

Finally, the vendor had to estimate the transaction costs for each determinant since vendors often do not categorize the transaction costs. Each vendor has their own idea of what can be defined as transaction costs. As a result, a definition of the transaction costs was used in this study. For future research a closer look needs to be taken to what a vendor considers as a transaction cost and when a vendor makes these costs.

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Appendix

Constructing the conceptual framework

To analyse the transaction costs in Best Value tenders, determinants need to be formulated in order to quantify the transaction costs for vendors. With these determinants vendors can categorize the transaction costs and state how much of the total transaction costs were spend on each determinant. The conceptual framework of Rajeh *et al.*(2015) was used in order provide a basis. This conceptual framework was altered in such a way so that framework could be applied to Dutch vendors, who participate in Best Value tenders. Four Best Value advisors were interviewed in order to alter the conceptual framework. These four best value experts were chosen because they have assisted several vendors in multiple Best Value tenders over the last decade. (Rajeh *et al.*, 2015) stated that pre-contract transaction costs consist of Information costs and Procurement costs. The pre-contract transaction costs are used, because the tender phase of a Best Value tender ends when the contract is signed. The determinants of the conceptual framework were added/changed or removed by each Best Value advisor individually. After the four interviews the framework can be applied in order to determine the transaction costs for a vendor in a Best Value tender.

The information costs are divided in two indicators: information gathering and communication. The procurement costs are divided into five indicators: attending meetings, translation of client's needs, project preliminary design, transition observation, training and site visits.

Next, the conceptual framework of Rajeh *et al.*(2015)) was put in front of a Best Value expert. The Best Value expert had the opportunity to alter this framework to match with his or her ideas of transaction costs for a vendor. This new conceptual framework is put in front of another Best Value expert who can also alter the conceptual framework. This process was done two more times in order to come to the final conceptual framework that was used in this study. In Table 8 the variables, indicators and description of indicators that was used in this study are shown.

Table 8 The conceptual framework of the transaction costs that was used in the study

Variables	Determinants	Description
Collecting information (Information costs)	Collecting information from tender documents	Getting information from the tender documents that came from the client. These tender documents include for example the project objectives, the description of the tender process and how the tender documents are scored by the client.
	Gathering information about stakeholders and project environment	Gathering information about stakeholders and the environment where the project takes place. The vendor needs to have information about the location of the project, because the project will be executed outside where stakeholders come into place.
Interaction with the client (Information cost)	Attend individual meetings	Meetings are a major form of communication during project preparation with the client. In these meetings the vendor can ask the client questions regarding the tender documents.
	Drafting questions	It is possible that the vendor has some questions regarding the tender documents. A vendor can formulate questions of which the client can answer
	Attend information meeting	The client will sometimes give an information meeting to introduce the project to several vendors and to provide some background information about the tender.
	Examining Information notice	A client will get the questions from all the vendors and will answers these questions in a Notes of information. The vendor will go through this document thoroughly in order to see what other vendors asked and how the client answered their question(s).
	Preparation of interviews	In Best Value tenders' interviews will be held with key officers. The key officers will be asked about the tender documents that the vendor handed in. Therefore, the key officer needs to be prepared in order to answer all questions asked by the client.
	Sessions with the client in the pre-award phase	In the pre-award phase the chosen vendor has several sessions with the client to give an in-depth view on the plans that the vendors handed in earlier in the tender. During these sessions the client can react to the plans of the vendor. The preparation of these sessions is also included in this indicator.
Contract (Procurement cost)	Checking contract documents	Contract documents are also sent to the vendors, which a vendor must read thoroughly to ensure that the contract does not have any errors and to ensure that the vendor itself upholds the contract

Action plan (Procurement cost)	Brainstorm sessions within own organization and project team	The vendor will often have a tender or project team who constructs the tender documents. The project team will have several sessions to come up with a plan in order to win the tender.
	Plan of approach (In /out, risk mitigation, planning, Best Value documents etc.)	The plan of approach consists of writing all the tender documents that a vendor must hand in to the client. Tender documents such as the planning, risk assessment, project capability documents etc.
	Determining costs	The vendor must calculate to what price the vendor will complete the project.
Tender guidance (Procurement cost)	Building a project team	As mentioned earlier a project team is most likely formed by the vendor. This project team consists of several people, but the vendor must select which people will participate in the tender.
	Hiring experts	If a vendor does not have the specific knowledge regarding a tender an expert is hired in order to provide that specific knowledge. Any party that is not part of the vendor's organisation but contributes in the tender is considered an expert.
Administration (Procurement cost)	Revision	Before the tender documents are handed in, a vendor will mostly check the tender documents to make sure that there are no errors in the documents itself.
	Go / No Go	During the tender phase there are a few go or no-go moments during which the vendor will decide whether to proceed with the tender or not. This will be done in discussion with the project team and to check if the vendor has a significant chance of winning the tender.
	Naming metrics	The vendor must provide metrics in Best Value tender documents. These metrics are Verifiable Performance indicators. These performance indicators should be related to the project goals and risks of the project. These metrics can be found in projects that the vendor has done in the past.
	Estimating costs	Before the tender phase an estimate of the price is set to see how much the tender will cost for the vendor to finish the project.
	Formal decision making (Signature board)	Sometimes a formal signature is required by an executive of the tender organisation to ensure that tender documents are approved.

Best Value Checklist
The checklist that was constructed in order to assess Best Value tenders using the tender documents: 'Tender guidelines' and 'Required specification'. The checklist was constructed using Van der Rijt and Santema (2013) and was validated by four Best Value experts to ensure that the checklist can be used to assess Dutch Best Value tenders. The checklist that was used in this study is as followed:
1 A meeting was held in which the Best Value procedure was explained
2. There is no pre-selection of vendors based on expertise characteristics
3. A limited number of project objectives have been formulated.
4. The project objectives are written in goals and not in deliverables.
5. There is a lot of freedom given to the contractor, which results in a limited tender specification.
6. A financial cap has been determined
7. Qualitative documents are requested with a maximum of 2 A4 pages value added, risk assessment, project capability.
8. Interviews were held for each key officer who is responsible for (part of) the project result
9. The scores used by the client are: 2, 4, 6, 8, 10.
10. There is a pre-award phase
11. In the pre-award phase, the vendor takes 'the lead'
12. The vendor is involved in drawing up the contract.
13. The vendor determines his own performance indicators instead of the client.
14. Weekly reports are assessed with scores by the client
15. The tender guideline states that the vendor must make weekly reports from the pre-award stage.

Characteristics of each Best Value tender
Several characteristics were formulated in a checklist to assess the Best Value tenders that were used in this study. In Table 9 an overview is shown which characteristics were and were not present in tender documents of the Best Value tender.

Table 9 the assessment of the cases using the Best Value checklist

Characteristics of a Best Value tender	1	2	3	4	5	6	7
1 A meeting was held in which the Best Value procedure was explained	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. No pre-selection of vendors based on expertise characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. A limited number of projects have been objectives formulated.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. The project objectives are written in goals and not in deliverables.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. There is a lot of freedom given to the contractor, which results in a	N/a	N/a	N/a	Yes	Yes	Yes	Yes
6. A financial cap has been determined	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Qualitative documents are requested with a maximum of 2 A4 pages of chances, risk file, project capability.	Yes	No (project capability is missing)	Yes	Yes	No (project capability has 5 A4 pages)	No	No (project capability is missing)
8. Interviews were held for each key officer who is responsible for (part of) the project result	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9. The scores used by the client are: 2, 4, 6, 8, 10.	No	No	Yes	Yes	Yes	Yes	No
10. There is a pre-award phase	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11. In the pre-award phase, the vendor takes 'the lead'	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12. The vendor is involved in drawing up the contract.	No	Yes	Yes	Yes	Yes	Yes	Yes
13. The vendor determines his own performance indicators instead of the client.	No	Yes	Yes	Yes	No	Yes	Yes
14. Weekly reports are assessed with scores by the client	No	Yes	Yes	Yes	Yes	Yes	Yes
15. The tender guideline states that the vendor must make weekly reports from the pre-award stage	Yes	No (only in execution phase)	No (only in execution phase)	Yes	Yes	Yes	No
How many Best Value characteristics does the case have? (total = 15)	10/15	11/15	13/15	15/15	13/15	15/15	13/15