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Best Value Procurement

The Practical Approach

Arnoud Storteboom

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Supervisor: Ola Lædre, IBM

Norwegian University of Science and Technology
Department of Civil and Environmental Engineering

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF CIVIL AND TRANSPORT ENGINEERING

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Name: Arnoud Storteboom	
Professor in charge/supervisor: Ola Lædre Co-supervisor: Paulos Wondimu	

Abstract:

Traditional procurement methods leave much room for improving risk management and value creation. However, Best Value Procurement (BVP) is designed to increase project value by mitigating risks and increasing the transparency by underscoring the pre-award phase. This shift in paradigm is reached by following a sequence of elements with the principles of transparency, performance information measuring and contractor clarification.

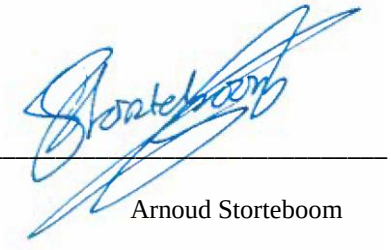
The BVP philosophy is developed in the USA. Following is the Netherlands which has practiced it in many projects. Suggested is to follow firmly the method for obtaining the enhanced yields. However, little research has been done on the alignment of the practice with the original philosophy. The purpose of this thesis is to fill part of this knowledge gap by identifying process elements from the theoretical versions and examine the extent of practice in real projects. The findings form the foundation for recommending elements to be used in practice.

The chosen approach for this research was a literature study and a case studies involving eleven projects. The case study was carried out by conducting interviews with key persons including clients, vendors and involved experts in a range of market sectors.

The findings show that the proposed core elements of the theoretical processes are indeed in-line with most of the practiced processes in the cases. As reflected by the cases, using the BVP principles and the elements sequentially has secured use of expertise. Consequently, an increase in quality and transparency whilst decreasing price of projects were achieved.

Keywords:

1. Best Value Procurement
2. BVP elements
3. The Netherlands
4. Procurement methods



Arnoud Storteboom

Preface

This master's thesis and article are the final part of my master's degree in Project Management at the Norwegian University of Science and Technology. It has been written in the Spring semester of 2017.

This research discusses the process of the Best Value Procurement method with theoretical background and a case study involving Dutch projects. The method has shown to improve the effectiveness of market expertise extraction by creating a win-win procurement relationship. This thesis' outcome can function as a bridge for a more in-depth analysis into the possibilities of this procurement method on the Norwegian market.

Naturally, this research could not have been completed unaccompanied. I would like to express gratitude to my supervisor Ola Lædre and co-supervisor Paulos Wondimu for their support and insights during this research. On top of that, I would like to thank the interviewees who have allowed a peak in practical matters. Without this support, this study could not have been a holistic presentation.

PART I: MASTER THESIS PROJECT

Summary

The objective of this report was to find out what Best Value Procurement (BVP) entails. A scoping literature study was performed to understand the phases of the process, the evaluation and qualification criteria and the differences between the Dutch model and the original American one. Eleven projects were then approach for an interview in a case study to reflect the practicality of BVP to the theory. The experiences were then answering the question of what elements are to be followed for a successful procurement process and whether there were perceived limitations as well as advantages or disadvantages.

BVP is an approach which emanates from the concept of most value for the best price. This is reached by creating a strong relationship throughout the entire chain, with transparency and space to let each parties' expertise come forth. The objectives are to increase profit and efficiency, minimise unserviceable effort and decision making and use expertise rather than management and control. BVP is based upon the Information Measurement Theory (IMT) which states that all events' exclusive final conditions would be predictable if one has all the required information based upon initial conditions and the natural laws. This revolves around the predictability of events with the information available about the event to go from low bid environment to an information environment by applying performance characteristics. With BVP, the vendor is in the lead. They are given the opportunity show in the procurement and to use in the execution their expertise to the fullest to truly distinguish themselves from their competitors. As a result, final conditions are predicted more accurately so the project's quality and risk control increase whilst the client level of control decreases.

The BVP has four phases: the Pre-qualification, Selection, Clarification and Execution Phase. The purpose of the pre-qualification is educating and pre-qualifying the vendors, if preferred, before the actual selection takes place. The (optional) pre-qualification is done to screen for minimum requirements to be able to work with the client. The Selection Phase is there to identify the best vendor for lowest price for the project goal. The 'level of best fit' is based upon the documents called Level of Expertise (LE), Risk Assessment (RA), Value Added (VA) as well as cost and two interviews, all having different weightings. This phase uses the four filters called project capability, including the LE, RA and VA, the interviews, prioritization and, in case of Kashiwagi's model, a dominance check. Dominant information is the driving factor throughout all phases for the vendor to stand out.

The Clarification Phase, which is considered most important before awarding, is performed with the one vendor considered to be best value from filtering. In this phase, the

vendor is to clarify his offer in totality to indicate what is included and what is not. When the client accepts the offer after all the necessary documents have been provided and all uncertainties have been discussed, the contract will be awarded after which the Execution Phase starts. In this phase, the role which the client takes is that of quality assurance. This can be done with the Weekly Risk Reporting and/or Director's Reporting which reflects the transparency and a win-win milieu of BVP.

There are several differences between the two geographical models. Significant is the use of Past Performance Information (PPI) in the American model and not used in the Dutch model because differentiation between the vendors is reasoned not to be large enough for such a measurement. Prestatieinkoop's older version, and as some cases still prefer, proposes to use the planning as a separate criterion in the prioritization assessment. Also, a dominance check is not included in the Dutch model because relative comparison with this check is not considered according to the Best Value fundamentals.

The results from the case analysis concluded that the theoretical model can indeed result in the objectives and results as the models were designed for. The projects experienced BVP as positive as reflected with the use of most of the elements. Several deviations were apparent because of the limitations from their (governmental) nature. However, it can be concluded that key elements such as weighting documents (MEAT), interviews, clarification period, are of importance at all times. The claims of BVP's transferability to virtually all project sectors are corresponding with the range of sectors of the projects and their success. It has shown to improve use of expertise and risk management and increase value whilst lowering costs. Though use of BVP elements varied, the interviewees have indicated the importance of applying the fundamentals of transparency and accountability, abstaining from dogmatism too much. Without reproducing traditional patterns, clients have been able to access the market faster and obtain value from expertise more effectively. The vendors took the freedom and responsibility to higher the satisfaction of the end users.

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1 Introduction

This section will introduce background information on Best Value Procurement (BVP). From this, the motive for the presented research is given by illuminating the research gap and then the research questions.

1.1 Background information

With traditional ways of project procurements (typically characterised by sequential phases), the involved parties are often working in their own specialised silos. As a result, the ones at the last end of the sequence of project phase is to manage all the errors made up to that point. In each phase, unnecessary costs can be made, e.g. purchasing costs, administration, control and resulting decrease in customer satisfaction (Snippert et al., 2015; Dreschler, 2009). Another reason for questioning traditional approaches is the fact that these involve an additional silo, the sales and marketing silo which are for the (inexperienced with this silo) vendor to deal with (Kashiwagi et al., 2012). When overall complexity and need for collaboration in projects increase, new endeavours for procurement methods are required (National Audit Office, 2017, Construction Excellence and Pinsent Masons LLP, 2011).

A solution to these common problems is done with the early involvement of contractors where each party is merged into on single contract. After the client has identified his requirements, it is the vendor who is assumed to be the expert and identifies risks throughout the entire chain (Van de Rijt and Santema, 2013). Vendors are to look outside the silos to minimise risks from lack of coordination from the beginning to minimise unwanted performance impact. This is where BVP comes into the picture. This method was created by Dean Kashiwagi at Arizona State University and it is about selecting the Best Value vendor suitable for the job and facilitating the space required for him/her to come through and minimising the client's management and control (Kashiwagi et al., 2012). BVP first finds the best fitting vendor and creates the contract after which the environment is created for the vendor to perform at its peak. BVP is about less controlled based processes and more added value in the entire supply chain. The method has been applied in throughout many industries and has been shown substantial impact on quality and efficiency (PBSRG, 2010). BVP can decrease complexity, time and costs, avoid obstructions and increase the total value of a project (Beach et al., 2005).

Best Value is a method suited for a wide range of projects and organisations for great results (Kashiwagi et al., 2012). This does not mean however that this method is aligned with common Western way of working. Rather than changing others, the Best Value paradigm works from a standpoint to change yourself and your way of thinking. The significant difference from traditional procurement processes is that, rather than the client, the vendor is the starting point. Lack of responsibility and accountability understanding is frequently the issue of project failure (Frese, 2003). BVP creates a transparent relationship with minimised risks by making the expert vendor responsible and aligning the knowledge available in the best way to come to a win-win situation. The risks are shifted towards the vendor who is selected to be the expert, the one who can see the project from beginning to end, and is most capable of identifying, handling and thus minimising risks throughout the entire chain. This can lead to avoiding unnecessary difficulties, the work is executed in much more effective and efficient manner and the relationship will improve significantly (Dreschler, 2009).

With BVP, the contractor is in the lead during the Execution Phase instead of the client. Based upon the client's identified needs, the contractor is the one who will finally decide what will be delivered. Decision making is then shifted towards the vendor which decreases the amount of risks, especially since clients typically do so (Kashiwagi et al., 2012). Another difference between traditional procurement and BVP is the valuable preparation. Rather than trying to reduce the impact of risks in the Execution Phase with the traditional ways, Best Value tries to identify and mitigate additional work upfront (Van de Rijt and Santema, 2013).

The lack of understanding of responsibility and accountability is often one of the major factors for project failure (Van Duren, 2013). Where other methods seek security in rules and regulations, BVP appreciates expertise, accountability and transparency. It is a simpler method which allows for a higher quality and creativity and thus a better market place without losing added values by resources for frequent inspections, regulations, etc. (Kashiwagi, 2016). Though it is a simple method, leadership and involvement of workers then is of great importance since known frameworks are let go off and are replaced by common sense and logic. As Kashiwagi describes, Best Value is not merely a procurement method but an approach based upon natural law (Kashiwagi et al., 2012). Rather than changing and manipulating people one can understand the nature of transactions which then can be predicted, using expertise to a maximum, minimising risks and maximise value.

1.1.1 A shift in paradigm

It seems there is a growing need for tighter cooperation with which parties are not stopping at transaction-thinking but surpass it to focus on the goals and the role of the vendors' expertise. Merely using contracts to control each other is not effective and can be very time consuming. This can only lead to deviations, dissatisfactions and simply more work (Kashiwagi et al., 2012). Traditional way of thinking tends to focus on having the greatest profit by spending as little on suppliers, selling it for maximum price to the users and repeating this process as much as possible. These price-based environments are confrontational by nature where every party is working for themselves due to controlling, expectations, lack of performance information and other aspects from the lack of measurements (Dorée, 2004). The focus is in this way on putting once own organisation in the middle and obtaining highest profitability by using others around us. "Flow thinking" on the other hand connects the organisations within a chain to optimise and use resources completely to reduce administration and make optimum use of its potential (Van de Rijt and Santema, 2013). This enhanced focus on co-operation can significantly reduce the costs between parties as well reduction in risks. Now clients can experience that building long-term non-adversarial relationships with such thinking can enhance profitability, creativity, efficiency and the ability to lower costs (Dorée, 2004).

The Best Value (BV) approach is using expertise to reduce the owner's control, decision making and managing power. It is a way to transfer these aspects to the vendor whom then uses this responsibility to minimise potential risks with his expertise. BVP is a different method from traditional methods and inherently based upon cooperation between client and supplier. As Van de Rijt and Santema (2013), relationships between organisations are often not based upon any connection with expertise, but are just existing. BVP on the other hand describes the method where vendors are found based upon the evaluation whether their contribution to the relationship is worth investing in. Here, one might ask the very reasonable question how a client can assess if the vendor's promised expertise is to be trusted. That is what Kashiwagi says is a "shift in paradigm". (Kashiwagi et al., 2012)

In BVP, the vendor is to be made accountable for the work he is delivering. This means that only the vendors who know and can show they can make the project delivery happen are given the possibility to deliver. With concise specification from the client side, using accountability and responsibility will allow the vendor to realise and deliver to optimum expertise which reduces project control problems (Dorée, 2004). Traditional 'bureaucracy' of constant control and monitoring makes the chain very rigid and inefficient and decrease such

expertise use (Van de Rijt and Santema, 2013). With BVP, an environment is created in which the vendors can do their job at their best. Figure 3-1 explains this in a way where the construction industry structure can be defined with competition and performance. It shows that the shift in paradigm from a price-bases market, where performance can only increase by increasing efficiency, can become more effective when shifted towards a value based market where vendors are identified as the experts (Kashiwagi, 2004). The awarding on lowest price acceptance on minimum quality then shifts towards a high performance and value system where instead of the client, now the contractor is minimising the risks. This results in an environment tailored for maximising profit and diminishing the resources (Sullivan and Guo, 2009; Dorée, 2014).

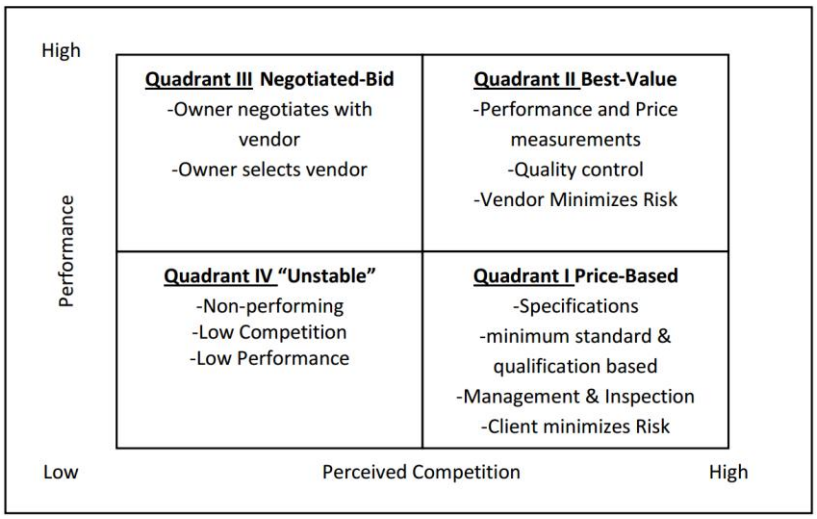

Figure 1-1: Shift in paradigm from Price-Based to a Best-Value market (Kashiwagi, 2004)

But for whom is Best Value Procurement? As Kashiwagi states, BVP is a way of creating relationships upon natural law. One can argue then that if common sense is used, BVP is applicable to the widest range of projects imaginable (Kashiwagi, 2011). Of course, it is dependent on the readiness and willingness to 'surrender' to the approach and factors such as number of vendors and the amount one can distinguish oneself for example. Per Kashiwagi (2016), BVP can enhance: "transparency, accountability, honesty, professionalism and technical skill levels, value, efficiency, effectiveness and profits" in all working environment. However, the method will not show its benefits when only loose elements are applied to a procurement. This method works best by applying all the phases of the methodology in a procurement (Rijkswaterstaat.nl, 2013a).

According to Kashiwagi (2016), the objectives of this shift in the procurement approach is to:

1. Enlarge the profit and efficiency reduce cost;
2. Increase efficiency and effectiveness of all the parties in the chain;
3. Minimise the efforts of all the parties;
4. Use expertise to a maximum and reduce management, directing and control.

The vendors are selected as expert who can plan, align, mitigate risks and perform the tasks best for the specific project. Constant examination will be replaced by transparency and assuring quality. This will help identifying and mitigating risks significantly better than traditional ways leaving the client only performing quality checks (Kashiwagi, 2011). One can say BVP' fundamentals are more like a philosophy rather than just the selection of vendors and a transaction in the procurement. It is in that sense about the contribution and increase of the value of a strong and maintained collaboration.

1.1.2 The embrace of BVP in The Netherlands

Rijkswaterstaat is an executive Dutch government agency of the Ministry of Infrastructure and Environment. Since 1798 it is responsible for the design, construction and maintenance of infrastructure in the Netherlands (Rijkswaterstaat.nl, 2013b). Rijkswaterstaat is taking care of the road and waterway network and the water systems of the nation. It is hold accountable for delivering safe traffic control, clean water and creating defence against the ocean. Annually, Rijkswaterstaat spends three to four billion euros on projects and services related to its responsibilities (Rijkswaterstaat.nl, 2013c). Large projects throughout the years has led to a great source of expertise regarding the development of the procurement systems in the agency. As of 2003, Rijkswaterstaat changed its perspective regarding the focus of its procurement emphasis. There has been an increase on emphasising balance between the performance and price, market potential, sustainability and finding the best suitable solutions as the result of an altered business plan to become a public-oriented government organisation (Van de Rijt et al., 2011). For example, the ambition was to have 90 percent of the contract created based on quality and price by 2012. On top of that, the simplification of a law that had the goal to accelerated road construction projects' lead-time, Rijkswaterstaat was focusing on developing more efficient and effective tendering procedures (Van de Rijt et al., 2011). This led to the first stages of the development of BVP in the Netherlands.

Rijkswaterstaat was, and still is too a large extent, recognised as the leading trendsetter in the Netherlands, since they identified the possibilities of BVP and had the audacity to apply the method early on. Until 2000, the construction market was mostly applying Design-Bid-Build strategies with the client mostly in the lead for the specification, qualification and the overall management. In 2002, the Dutch government installed new procurement policies because of several fraud cases. In year 2004, the first introduction was made with BVP. From 2004 until 2008 only a small number of projects implemented BVP based upon the little experience from Dutch cases and results from the US to make their own adaptation. The environment of Rijkswaterstaat's procurements forced a change and BVP could bring the success it was looking for. Throughout the implementation, the original BVP approach presented by Kashiwagi was applied as pure as possible with minor necessary changes. The focus went from Design-Bid-Build to models as Design-Build with award criteria founded in quality. (Rijkswaterstaat.nl, 2013b, 2013c; Van de Rijt et al., 2011).

The first project using BVP started in 2005 (a €700K maintenance project) with most projects until 2010 in the construction industry. The major project which is considered a milestone was the implementation of BVP in a project by Rijkswaterstaat to upgrade 16 large road bottlenecks. It is to this date the largest budget project worth 600 million euros using the method (Van de Rijt et al., 2011). By 2012, over 130 projects have implemented the approach successfully as registered. Until 2008 the projects involved in BVP were mostly construction related, but more and more the spectrum has widened to a fast amount of industries including, health, education, IT, offshore and many more with budgets ranging from hundreds to several millions. Six out of ten of the largest municipalities in the Netherlands are using BVP, indicating that the method has taken off in the country (Van de Rijt et al., 2011).

1.1.3 The embrace of BVP in Norway

The nature of the research presented in this report came about from the rise of BVP pilot projects in Norway. The Norwegian Agency of Public Management and eGovernment (Difi) is a national pioneer and has started using BVP in several pilot projects (seven registered but not all started). Difi's vision is to improve governmental administration on efficiency and renew the public sector. Its value characteristics are excellence, efficiency, user-orientation and transparency (Direktoratet for forvaltnin og IKT, 2016). BVP is perceived to overlap with these characteristics. The aim is to use the new procurement method on larger scale once successful results have been obtained with these pilots. Since Norway is in the very initial stages of

realising BVP, there is little documentation (only one translation of the Dutch method) and experience of the method in the country. There is however more information from countries other as the United States and the Netherlands. For this reason, Difi has been acquiring knowledge by hiring experts from the Netherlands and requesting students for research.

1.2 Research gap

According to the literature review carried out prior to the presented results here, little research seems to be available on the extent of practicality of the proposed theoretical process of BVP. However, the awareness of the results of BVP is increasing which has led to clients using elements of the BVP according to their specific procurement. As are result, these procurements called BV are actually hybrids with traditional traits lacking the same ideal results. This 'dilutes' the BVP's strength (Verweij and Kashiwagi, 2016). For this reason, this research's function is to analyse the presence of the theoretical process elements in real projects. It can then work as a foundation to build upon connecting theory and case experiences and assist in the implementation in Norway.

1.3 Research questions

The research presented in this report is to increase understanding of a well performed BVP procurement process and the methodology. This thesis will discuss the phases the client and its vendors go through to find the best value vendor and reap the benefits of the method. The original American way will be used for this as well as the Dutch approach, called Prestatieinkoop. The output of this study is the contract elements and success factors which are then used to analyse 11 Dutch cases by conducting interviews. This will provide an overview of elements to implement towards a successful procurement. To address this perceived knowledge gap, three research questions have been formulated:

1. What is Best Value Procurement?
2. What are the experiences from the use of BVP in Dutch projects?
3. How should BVP be conducted in the future?

1.4 Structure of report

The report is structured as follows; the following chapter discusses the applied methodology. Amongst others it will describe how the interviews were conducted to bridge theory with practice. Afterwards, Chapter 3 reasons the benefits of using BVP and the theory of the phases of the process as well as the differences between the two models. In the subsequent chapter, the findings of the case interviews will be presented and discussed after which the everything will be concluded and future research is proposed respectively in the following chapters.

2 Methodology

This thesis is the result of a scoping literature study and a case study. The study started off with a BVP seminar in Oslo, June 2016, in which Dutch experts presented the theoretical model. After this an exploratory research was started. Since BVP is investigated for its practicality, merely performing a literature study will not suffice with the nature of the introduced research questions. The second phase of the research is therefore a case study which covers the practice of the theoretical process found in the preceding phase of the research. This case study is performed to analyse the conceptual framework in environments where reality will play with it. It was completed by repetitive interviewing as this can identify outcomes which are analogous, or not, in a large portion of the cases on which then theory can be compared with. As Yin (2014) argues, when done effectively, the design of an analysis is based upon the several data sources which therefore strengthen the conducted analysis as well as validity of each of the used sources, in this case multiple interviews.

2.1 Literature study

The first part of the research is a scoping literature. Subjects such as, BVP, tendering, Rijkswaterstaat and contracting were explored by doing this quantitative study. The performed literature study was carried out to identify the core principles and steps of the BVP workings. The resulting combined literature then functions as the framework for the ideal BVP process. The literature study is performed to act as the foundation to make reliable observations during the second part of the research.

2.1.1 How was it done?

The performed literature study was to understand the core principles and steps of the BVP workings (secondary research). The kick-off was an interactive seminar on BVP delivered by experts from the Netherlands in Oslo, June 2016. This was initial source leading straight to informative literature. The literature research was carried out by searching on search engines and databases such as Oria, Scopus, TU Delft Library, Google and Google Scholar. Search words as “Best Value Procurement (Netherlands)” and “early contractor involvement” were used for this. Important documents were used for citation chaining for connecting to other documents.

2.1.2 Why this way?

Research based upon literature is an essential pillar for the understanding of and the ability of answering the research questions with the analysis of project interviews to obtain real life experiences (primary source) should give the complete picture. The objective was to observe the theoretical processes from the literature study in practice to absorb the experiences with the process' perspective and the lessons learned from acting upon these processes. Documents concerned with the background of the projects were read to understand the project's environment to the fullest.

2.2 Case study

When the necessary development of BVP has been understood, the practical side of BVP was considered as by doing a qualitative study on real projects. The documentation of chosen projects and interview with key persons of these projects was the main method to achieve information and applied insight serving as the second part of this research. Project documentation can be a very advantageous as this information is stating the outcome as it is, without any intervention from researchers. What could be a disadvantage here, though not experienced, is the prejudice or bias in the evaluation by the writers.

2.2.1 The interviews

The interviews were guided in such a manner to formulate conclusions regarding the implementation of BVP with respect to the theoretical understanding (see Appendix for the interview guide). Resulting are procurement elements both theoretically acknowledged and the ones not initially recognised but experienced to be relevant. Clients, vendors and external expert who took part of BV procurements have been approached in this manner. One could argue that such a case study is biased by nature for proving the researcher's predetermined conception of the subject from theoretical studies. However, so states Flyvbjerg (2016), the opposite is often experienced where case studies tend to falsify such predeterminations.

The interviewed projects were covering both public and private procurements carried out from 2011 to 2016 in the Netherlands (see Table 2-1). BVP has originally been applied mostly in the construction industry. To analyse its diversity, the selected projects were all applying BVP in sectors ranging from construction to food delivery to security services. The examined projects were chosen based on availability and relevance. The interviews were held

with a responsible from client's side for ten out of eleven projects, with only one interview per project. They were carried out from autumn 2016 to spring 2017. The interviewees were approached individually with a semi-structured focused interview over Skype or telephone in Dutch (Yin, 2014). The interviews lasted 45 to 90 minutes while field notes were taken after which the transcribed versions were sent to the interviewees for checking. In the considered projects, the interviewees occupied positions such as (internal) BVP expert, project manager and procurement coordinator. Mainly the client's perspective has been analysed in the case study with one interview with a vendor.

Table 2-1: Information of the case study's specific projects

	Client / project name	**Project Description**	**Budget (€)**	**Project Start - Finish**	**Interviewee position**
1.	Rijkswaterstaat / Opwaardering Zuid-Willemsvaart Den Dungen - Veghel	Upgrading a canal; deepening, supporting and bridge elevations	NA	2012 - 2014	Internal BV expert
2.	Rijkswaterstaat / Knooppunt Beekbergen A1/A50	Road construction on a large junction of two high-ways	22,8M	2016 - 2017	Vendor project Manager
3.	ProRail / Meerjarenpro-gramma Geluidsanering engineering geluidsmaat-regelen	180 km of rail tracks sound remediation	5M	2016 - 2018	Tender Manager
4.	Municipality Utrecht / Wintermaatregelen haltes SUNIJ-lijn	Procurement tram materials, new stops, gritting and track adjustment	90.000	2012 - 2013	External BV expert
5.	UMC St Radboud Hospital / Onderhoudsproject I Stoombevochtiging	Replacement of hospital humidification system	160.000	2015 - 2015	External BV expert
6.	Municipality Groningen / Relining Groningen	Relining of a sewer system	NA	2013 - 2016	External BV expert
7.	IHC Merwede	Delivery of HVAC system for six vessels	21M	2013 - 2017	Internal BV expert
8.	GGz Centraal	Professional meal provision incl. logistics and ICT	2.685M / year	2012 - 2016	Purchase manager

9.	Veiligheidsregio (safety region) Friesland	Business intelligence packet for gathering security info	160.000	2016 - 2020	External BV consultant
10.	Housing cooperation Mitros / Renovatie	Renovation public buildings	18.5M	2011 – 2013	Procurement coordinator
11.	Boehringer Ingelheim	Hiring project medical specialists	1.5M / year	2010 - 2013	Head of Purchasing, BV expert

In this research, eleven projects were approached by interviewing key personal, i.e. internal and external BV experts, client project responsible such as procurement manager or department manager and one vendor project manager. The first one was a project hosted by Rijkswaterstaat. Since Rijkswaterstaat was the first entity experimenting and implementing BV in the Netherlands, and having had the largest pilot in the world, naturally was a promising source to approach at first. The interview was with an internal BV expert who offered insight to a project about upgrading of the Zuid-Willemsvaart canal in 2012 in the Netherlands. This Design-Build (DB) strategy project was a water architectural project and was not considered technically complex. The canal needed to be upgraded, deepened and supported and bridges to be elevated for larger vessel to travel on the canal. The largest challenge was the amount of dredge creation causing much traffic. Reason for applying BVP were the many project possibilities, number of vendors of all sizes and the project budget limit.

To study the perspective of a vendor using BVP the international engineering company Heijmans with Rijkswaterstaat as a frequent client was approached. The interview was completed with the project manager of a project about the upgrade of a road junction. This project was chosen since the client is Rijkswaterstaat. The information from the interview is then based upon the experience of one the largest listed engineering companies in the Netherlands with the latest application versions of BVP. This public procurement was initiated in 2016.

The third interview was conducted with a tender manager from the Dutch railway responsible ProRail who gave insight in a large soundproof upgrade project. Since the project budget was considered large for the company this specific project was chosen to see the influence of BVP in these substantial circumstances. The tender was announced in January 2016. The public procured multiyear engineering contract considers 180 kilometre of rail track sound remediation resulting from new laws. It is to be finished in 2018 and has a budget of

€5mln. The magnitude of project required more speciality from the vendors which indicated the need for a procurement process possible with BVP.

Following was a project by the municipality of Utrecht discussed with an external BV expert. The project considered the procuring of tram materials, new stops, gritting and track adjustment. The duration of the contract was 8,5 months with a budget ceiling of €90.000. This was a public procurement BVP trial on top of the remaining duration of an existing contract. BVP was chosen for trial since it was identified to be parallel to the municipality's policies. After this pilot project, the municipality performed a larger EU procurement with BVP.

A BV expert was interviewed for discussing a project by UMC St Radboud hospital in Nijmegen. The associate procurement covered the replacement of a humidification system in the air system. It was a pilot project in 2015 to understand the impact of BVP. For this reason, a controllable and relative simple project was chosen. It was a private restricted procurement with a DB strategy with a budget ceiling of €160.000.

Next, a BV advisor was interviewed about a project by municipality Groningen. For this project, relining of a sewer system was purchased in 2013 for a contract of three years. BVP was considered in-line with the interest and way of thinking of the municipality. The procedure of BV tendering is what the government aims for; making business measurable without empty promises. The procurement was public without pre-qualification and a DB strategy.

Following was a project from IHC Merwede, a designer and supplier company of vessels and equipment for the off-shore and dredging industry. The interviewee was an internal BV expert who discussed the project containing the delivery of a HVAC system for 6 vessels with a budget ceiling of €3.5mln per vessel. The procurement was conducted in 2013 with the contract lasting until 2017. The complexity was considered high since spacing of such vessels is limited with high interference of other equipment. This was the second project for IHC Merwede to use BVP.

GGZ, the Dutch Association of Mental Health and Addiction Care has applied BVP in several of their procurement. A BV expert hired by GGZ was approached for an interview. The concerning project considered the delivery of meal services across the nation. The procurement was a restricted procedure following a DB strategy. The complexity included the many types of meals for the specific needs on a large scale and many locations. Reason for GGZ to apply BVP was to improve the professionality of their procurement processes. It was challenging to define the scope and quality it needed with the required partnerships. BVP has positively shown to fulfil this need.

BVP has also been applied by Veiligheidsregio Friesland, the safety region of the Frisia province. The presented project was discussed with the client's BVP consultant. This project delivered a business intelligence pack to combine all information of the entire safety region. The procurement in 2016 was a public, non-restricted one with a budget ceiling of €160.000. The complexity involved several columns of agencies and the many representatives of stakeholders. Veiligheidsregio Friesland did not know exactly what their request was since such a system was not procured before. The introduction of BVP indicated a solution and was therefore received well.

The second last interview involved a procurement coordinator at the housing cooperation Mitros. The procurement was private, with DB plus maintenance strategy, and considered a renovation project with a budget ceiling of €18,5mln. Mitros was looking for a method to approach the market and extract expertise more effectively and decrease procurement costs. Up to this point, the company was trying to figure out everything themselves by hiring consultants and experts each making their own assumptions. This led to low satisfaction ratings by the end-users. BVP has shown to alleviate these aspects.

Lastly, the Head of Purchasing and Facilities and BV expert at Boehringer Ingelheim gave insight in a procurement project in 2010. This world-wide pharmaceutical company used BVP for this project to hire temporary medical project specialists from the Netherlands. It involved a framework contract with three parties to deliver this. Boehringer Ingelheim was struggling to find experts willing to make the effort of starting such a relationship. They realised their tender documents to be incompetent for the projects with the same practical inadequate contractors showing up repeatedly as a result. BVP has shown to solve this problem.

2.2.2 Document study

A document study was performed upfront of the interviews to gather background information for understanding the projects. These documents were examined according to the prescriptions of Weber (1990). The available documentation was of a very general nature, not providing satisfactory information for illustrating the veritable challenges of the projects. During and after the interviews, documents restricted from public access (especially tendering documents) were provided from five of the eleven projects. These were then used to continue the document study on the projects in more depth.

2.3 Limitations

The research questions were shaped in such a way that the BVP was to be understood in its completion. This naturally leads to not diving into one specific part of the BVP, but stay on a more generic level to have an overall understanding of the process. When looking at the scoping literature research and case study certain limitations where therefore to be set. To understand the BVP's process completely without diving into elemental depth, this research is limited to the process of the practice. This means that the outcome of this report will show the elements one is recommended to consider when taking part in such a procurement. The fundamental reasoning and philosophy behind the practice is therefore acknowledged and touched upon briefly but not explored thoroughly. Though an overall understanding has been obtained, discussing the projects based upon a birds-eye perspective is then restricted. More time would allow for a more thorough in-depth interpretation of the case study which is considered a limitation and is taken to be the drive for further research.

The nature of this explorative research has led the scope to be limited. Research was limited by the access to resources as well as restriction in time. Especially considering some of the discussed projects, the access to the accompanying documents was regarded as limiting. As was seen with Rijkswaterstaat and its vendors for instance, as a government agency, delivering documents with delicate project information is regarded as working in the red zone. As a result, it was challenging to fully understand the set boundaries, the scale, objectives, outcomes, and fine experiences from these projects. Five projects provided documentation restricted from public access after the interviews. The other six projects did not provide such documentation, considering the material to be too sensitive to be scrutinized by outsiders.

Until 2012, 130 BVP projects were registered in the Netherlands. In the time after, this number has grown exponentially to an amount not recorded. Yin (2014) states that a multiple case study, being two or more cases, is more suitable than a single case study which can be restricted by the vulnerability of this single one. The limited time available has resulted in the case selection of eleven projects from the registered amount. This was done according to the prescriptions of Yin (2014). Also, these interviews were not held face-to-face, which can be considered a limiting factor for sharing of information. However, with the conducted interviews and available background documentation, the outcome did result in a foundation viewed as adequate for this thesis' framework and recommendation for further research.

One could also argue the nature of the projects as a limitation. Some of the these involved projects with the client being in a position of or closely related to the Dutch

government. They were restricted with certain specific regulations which private project would not encounter. As will be discussed, it is challenging then to completely follow the BVP as a seen from the pure methodology since the client must practice certain "non-BV behaviour". One could argue then that this limits the complete understanding of BVP.

The discussion has been only validated by the studied theoretical process but has not been practiced on real projects. Actual recommendations can be argued truly valid when tested on contributing to an increase in performance when implemented on real projects. This is to say that the discussion here does not imply guaranteed success when such recommendations are applied in future existing procurement process.

3 Theoretical Background

In the Introduction, it was depicted why one might give BVP a try. But how can a client his vendors actualise it? Though the name might imply otherwise, BVP is not only about the procurement phase. It is about the complete road from preparation until execution and finishing of a project. To do this, the theoretical framework contains four phases; *the Pre-qualification, Selection, Clarification and Execution Phase* (see Figure 3-1). This chapter will discuss these phases to find the proposed ingredients for a successful phase progression.

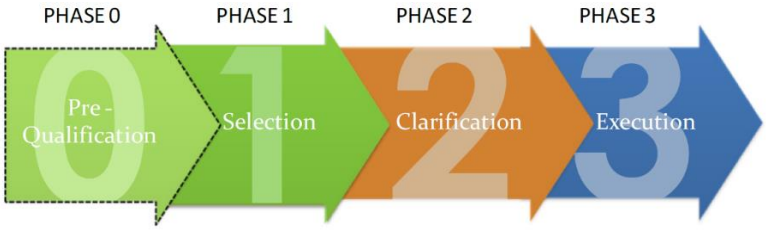

Figure 3-1: The four phases of BVP (Kashiwagi, 2016)

The selection filters applied throughout the phases are similar for the original method by Kashiwagi as well as the Dutch approach with exception for the IV, all performed in the Selection Phase. What makes BVP stand apart from other procurement methods is the way decision making and bias are traded for selecting vendors in a process based upon an automated process (Sullivan, 2011). This decision making is done with the following filters:

Selection Filter I: Project Capability;
Selection Filter II: Interview of Key Personnel;
Selection Filter III: Prioritization using all the Ratings;
Selection Filter IV: Dominance Check of Best Value Vendor.

All filters up to the final dominance check are applied to all vendors so that the best value vendor is ensured to be the best choice as a function of the desired risk mitigation, quality and price. Sullivan (2011) states, the combination of these filters will lead to the best value vendor, but merely isolating with a single filter will not work. As will be discussed, Kashiwagi proposes the option to use Past Performance Information in the Pre-qualification Phase as an actual qualification for entering the consecutive phase. Van Duren (2013) defines the proposed filters as safeguards, see Figure 3-2, which discourages opportunistic behaviour, reduces

uncertainties and bounded rationality which has efficiency, lower costs, higher satisfaction, etc. as a result (Van Duren, 2013). The nature of these filters allows clients to select the best available vendor on dominant information which is based upon simplicity and should not require specific pre-knowledge (Kashiwagi, 2016).

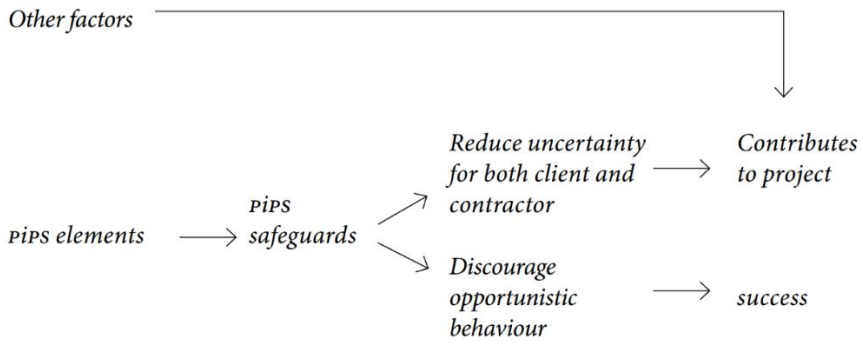

Figure 3-2: The effects of the proposed BVP filters or "safeguards" (Van Duren, 2013)

3.1 Information Measurement Theory: the foundation of BVP

The foundation on which the Best Value philosophy was developed is the so-called Information Measurement Theory (IMT) by Dean Kashiwagi. This theory revolves around the predictability of events with the information available about the event to go from low bid environment to an information environment by using performance characteristics (Kashiwagi, 2002). It states that all events' exclusive final conditions would be predictable if one has all the required information based upon initial conditions and the natural laws (Verweij and Kashiwagi, 2016). But naturally one can argue that it is virtually impossible to have all the information you require. Here, BVP is parallel to this where the time spend upfront of the procurement, predicting all possible outcomes with the Best Value vendor, is resulting in less work later. (PBSRG, 2010; Kashiwagi, 2002)

Besides actually lacking information, the other concept of IMT for predicting events is the lack of processing speed. This lack results from the idea that there is an overall lack of information about the problem to be solved with the truth being that it is not recognised in the first place. As a result, to compensate the perceived lack of information, a party might start using its expertise instead of the available information which can lead to impurities (Kashiwagi, 2016). Following traditional procurement methods, this can lead to many unnecessary problems in the execution phase. Especially in the construction industry where projects tend to be of large

nature, interpretation differences between parties can result in extensive mismatches (Van Rijt and Santema, 2013).

IMT discusses the fact that managerial and controlling aspects are an indication of unbalanced situations which only devalues the output. Mirrored by BVP, it is more effective to select the best expert to use their expertise perception and "predict the future" without having to manage and control (Verweij and Kashiwagi, 2016). Because of traditional controlling environments, involved parties are merely reactive and do not act on their responsible part. Also, it does not allow for the expertise to shine through and value to flourish fully. A proposed way to deal with this, as BVP aligns with, is to let the vendors be their own director, identify their performance measurements and recognise the best way to merge their expertise with the given problem. (Apostol, 2011)

One who adopts the IMT mind-set understands that the ability to use available expertise to fullest potential gives better results than being an expert yourself (Kashiwagi, 2016). This is in line with the mentioned 'zooming out' of specialisation silos, letting transparency rule the game, and allowing each other's' specialisation to come forth, the result of the IMT model. BVP uses this transparency to make the vendor accountable and challenge his expertise. Experts can predict future outcomes, create plans to minimise risks and delivering more effectively and efficiently (Kashiwagi, 2011).

One could argue that taking decisions implies that one does not possesses enough information to predict the outcome. The final state of the problem is already set with the given starting conditions. If one would have enough information, it is known that only one possible outcome is possible and not several ones when one is not applying. IMT, and therefore BVP, is looking for the people whose expertise is least limited by bounded rationality. In the next section, the road to creating a relationship with such an expert is explained in the phase sequence as proposed with BVP.

3.2 Phase 0 – Pre–qualification

BVP contains a great deal of preparation. Instead of calling this phase the Pre-qualification phase, Prestatieinkoop name it the 'Preparation Phase'. Kashiwagi himself finds this phase also 'phase 0' since the actual procurement process takes off in the next phase, and clients can decide to start with the next phase, the Selection Phase, right away. However, the steps to take before procurement can be very important for successful completion. A deviation from the 'BV path' will in a later stage result in great risks (Van de Rijt and Santema 2013).

Per the Dutch approach the preparation contains several steps before taking off with the actual procurement. These elements are directly in-line with Kashiwagi (2016). It includes: choosing a sponsor, selecting and educating of core team, formulating the project objective, making the planning, selecting the weighting factors, establishment of a core document or tender guidance, create a shortlist, inviting vendors and training sessions. Note, no decisions regarding the identification of the potentiality of the vendors should be completed here and all vendors who are labelled 'qualified' should pass to the next phase.

3.2.1 Choosing a sponsor

Before the procurement process can be started, it can be beneficial to have a sponsor in the organisation. This sponsor recognises that the organisation is to increase efficiency and accountability and that this can be accomplished by using BV. The sponsor should understand that BVP is not just a procurement method but a change in philosophy on which the team must build the process. He is important in this regard because he has the power to back up the BVP philosophy to convince BVP's potential. (Van de Rijt and Santema, 2013)

3.2.2 Training of core team

The so-called core team is the team which first encountering the vendors and is responsible for the delivery of the workings of the procurement. Selecting the members of this team is based upon whether they are up for challenges and implementing new ideas. As stated by Van de Rijt and Santema (2013), these members are preferably chosen based upon how comfortable they are with BVP or new way of workings in general. The team should consist out of at least four and maximum eight members which can include a visionary manager, procurement manager and a general manager. The whole effort of educating such a core team is to have a constant factor in the entire process which recognises the profitability and benefits from using the BVP (Sullivan, 2011). Kashiwagi also recommends including a visionary lawyer to minimise potential law risks during the process. After the training, the core team should be able to prove their scores and minimise the risks of the decision-making process by coming to agreement more effectively (Verweij and Kashiwagi, 2016).

3.2.3 Formulating the project objective

Naturally, it is very important to formulate the objective of a project because it states why it exists and what must be delivered at the end of the execution. Here it can be important to state that the ‘what’ is more important than the ‘how’ in the objective. This is in line of the BV philosophy that the client is not to interfere with the way of working, which is of the vendor. The degree of realization of the ‘what’ is then to judge whether the project implementation has been a success.

3.2.4 Making the procurement planning

The Pre-qualification Phase, also has the purpose to create a map for the rest of the procurement. As Van de Rijt and Santema (2013) state, the entire process of BVP should last for at least four months based upon the required time for the core elements in the phases. Explained later, the Clarification Phase is very important and should not be reduced in time. The vendor needs sufficient time to dive into the subject and explore the possibilities and involved risks.

3.2.5 Selecting the weighting factors

In the next phase, the one BV vendor is selected. Weighting factors are set up which will indicate the quality of the presented documents. There is (almost) always an upper limit for the costs. In this case, the weighting factor ‘costs’ can then be limited in its dominance and ‘quality’ to a maximum. In the end, it is about finding a vendor who is effective at doing its job and deliver peak performance and thus value (Van Duren, 2013). Prestatieinkoop indicates that in practice this usually leads to weighting of 75 per cent for the quality. More on this in section 3.3.7.

3.2.6 Establishment of a core document or tender guidance

The core document consists out of almost everything decided up to this point: the explanation of the project objectives, the scope (to the extent the client can specify this), the planning with the weighting factors as well as the project budget ceiling if applicable. It is for the vendor to think about it and decide to apply and propose what can be done with the budget. This could already act as a self-selection of potential vendors (Kashiwagi, 2016).

3.2.7 Create a shortlist

Up to this point the outlines of the process has been formalised. It is time to scout for current and potential vendors who wish to try in case the client decides to abstain from publishing publicly. With this element of this phase it is worth noting that the elimination of vendors by the client should be kept to a minimum (Van de Rijt and Santema, 2013). Pure BVP states that it is up to the potential vendor to decide whether the project is suitable or not. If vendors are not qualified or does not feel comfortable for the job, they will step away on their own terms.

3.2.8 Training sessions

Once the vendors have been invited, training sessions have the main objective to introduce the philosophy of BVP and create awareness of its culture (Van de Rijt and Santema, 2013). The vendors must have awareness about what is to come to them, what will be asked from them and why, because only then they can deliver their responses based upon the client's expectations (Van Duren, 2013). One of the key elements which is to be discussed is what the process will be consisting of, how it works, what the responsibilities are and how the vendors are measured on value. The case study indicates that this training can be an initial filter as "self-selection" can take place, leaving only the ones who view themselves qualified. As will be discussed later, unlike the Dutch, Kashiwagi (2016) seems to stress to a lesser extent the importance of having these types of meetings.

3.2.9 Past Performance Information (PPI)

Kashiwagi (2016) discusses the addition of PPI in this phase. He proposes this as an optional element used as an additional identification whether the vendors can meet the requirements through past performance on projects like the ones they are invited to. However, this is not recommended mandatory to perform in the process and, as it turns out, it depends on the project whether this is used as an initial filter to identify qualified vendors bases on work metrics such as financial information (Kashiwagi, 2016). Rijkswaterstaat (often) requests vendors to submit PPI but is not considered as a separate filter (Snippert, 2014). As the name implies, PPI is based upon past events which can function as proof of adequacy. This contrast the documents in the next phase which are a translation of expertise to the current project and not based on the past. With PPI, the vendor can distinguish himself from others and discuss

what he thinks the client considers important (Van Duren, 2013). The past performance is based upon the client's perception of the vendor on the project before the vendors have had a chance to prove themselves which, one could argue, can deviate from the BV philosophy (Van de Rijt and Santema, 2013). However, Van Duren (2013) states that using PPI will self-select vendors; ones with little experience will not apply as eagerly which can reduce transaction costs and increase the chance of finding the BV vendor. As will be seen with the interviews from Dutch projects, the governmental regulations of some clients' nature required a pre-qualification on vendors using a similar form of PPI. With the use of weighting criteria on the PPI the client can help select and reduce uncertainty and tendency to opportunistic behaviour (Van Duren, 2013).

3.3 Phase 1 – The Selection Phase

Now that the first phase has taken place and the potential vendors are lined up, it is time for the actual selection to take place. The next phase will be held only with one selected vendor, so this phase for the vendors to proof themselves. There are five ingredients in this selection including:

- The written plans including;
    - Level of Expertise (Prestatieinkoop: "Project Capability")
    - Risk Assessment document;
    - Value Added document;
- The interviews;
- The price.

Most emphasis is given to the interviews indicated by the highest weighted in the scoring. The written plans will be evaluated anonymously by the client's assessment team. After this the interviews form the next step on which a ranking of scores will be made from which the best vendor rises.

The best value vendor is selected from all competing participants based upon the highest level of their expertise and lowest cost (Van de Rijt and Santema, 2013). The concerning documents are assessed without revealing which vendor belongs to which documents to maintain objectivity always. The way the documents can stand out is by providing as dominant information as possible (Kashiwagi, 2016).

3.3.1 Level of Expertise

The Dutch translated this element of the written documents as “Project Capability” (though this can be confusing since Kashiwagi considers Level of Expertise, Risk assessment and Value added documents together to be “Project Capability”), but is similar as Kashiwagi’s Level of Expertise. This document is designed to show that the vendor can lead the project to success in a satisfactory way to make the project goals happen. Here it is important for the vendor to write ‘why’ he can do so and not ‘how’ (Van de Rijt and Santema, 2013). What should be dominant is whether the information presented is accurate, verifiable, presented in measurable values and it should create the link between the expertise with similar past projects (Kashiwagi, 2016).

The reason for not asking ‘how’ the project is solved will add the risk of the core team to judge this solution (Kashiwagi, 2011). In the next phase, the client will be presented the solutions, but even at this point he is to stay dormant when subjectivity is considered. However, the client should always be on the lookout for best value information to show the vendor can deliver. Questions to ask here can include (Van de Rijt and Santema, 2013):

- To what extent is there an explanation whether the vendor is capable of project objective realisation?
- To what extend is this explanation verified and documented in BV information?

This serves the purpose for the vendor to distinguish themselves from others with respect to their expertise and not the price. Dominant performance information should be used and not lengthy and unsupportive claims (Kashiwagi, 2016).

3.3.2 Risk Assessment Document

The risk assessment usually consists of 2 pages of concise, nontechnical and unique information. It is to show the client dominance to identify and mitigate risks for the vendors made claims (Kashiwagi et al., 2012). The vendor explains (always supported with dominant performance information):

- Why certain risks are (important) risks;
- Risk mitigation strategy and measuring;
- Why the mitigation strategy works;
- What to do in case the mitigation does not work.

It is assumed the expert does not have risks in their own field, simply because they have these under full control. For this reason, it is for the client's interest to know which factors outside the vendor's scope can cause the goals not to be realised. The document is to show to what extend the vendor is aware of this to show control over the project, protection of client and responsibility (Sullivan, 2011). The risk document does not have the purpose to attract risks. This can lead to a higher price demand since more risks implies a higher budget (Van de Rijt and Santema, 2013). So again, it is about identifying and mitigating risks outside their own scope.

3.3.3 The Value Added document

The last document considered in this phase is the Value Added document. In this document, the vendor can show extra features to improve the value of the proposed delivery and stand out from the rest by offering more value whilst not adding significant costs and scope (Snippert, 2014). Besides giving information to the client, the value added document can reduce uncertainty as well (Van Duren, 2013). For the vendor, the document is another way of stepping outside the crowd and differentiates himself from the others (Van de Rijt and Santema, 2013). This could be dealing with risks belonging to the client, performing activities outside the project scope or increasing client satisfaction. The vendor indicates what the extra costs will be in case of risks adaptation. For this reason, the Value Added documents can extent the scope of both parties in case the client benefits from it (but the document's content stays in possession of the vendor) (Kashiwagi, 2016).

Each plan is evaluated with a score from 2 to 10 in which a 2 stands for "the offer does not realise the project goals" and a 10 for "the offer will definitely realise the project goals". If the offers are similar, similar scores are to be given to get dominant scores for dominant vendors (Van de Rijt and Santema, 2013).

With these documents, the vendor is not trying to stand out by defining risk and added values. It indicates his managerial abilities to make true the claims regarding these risks and opportunities (Booij, 2013). Actual differences will be reflected in the scoring of the client's core team. Based upon the scores the vendors who pass will be invited for the interviews, the next step. From the vendor's perspective, it is important to always have the project objective in mind. With the presented performance information, they should show their capability from their own knowledge and skills perspective (Kashiwagi, 2016). With the identified risks, it is also required to describe the way of treating the risks by using SMART; Specific, Measurable,

Ambitious, Realistic. This motivates the BV vendor to take control over the project, to plan beforehand, identify, document and manage potential outside scope risks (Van de Rijt and Santema, 2013).

3.3.4 Using planning as a criterion

In previous versions of Prestatieinkoop, project planning was used as an evaluation criteria. However, practice indicates the planning of all the vendors are basically not sufficiently distinct for the client to make a right judgement. Also, the client who is not an expert, finds it difficult to evaluate these planning. The client can always request to send the planning with the other documents but are not used for evaluation. This encourages the vendor to plan in detail the required actions of all stakeholders upfront. (Van de Rijt and Santema, 2013; Kashiwagi, 2016)

3.3.5 The Interviews

The interviews are the most important filter in identifying the vendor's expertise (Kashiwagi, 2016). With the interviews the client can evaluate to which extent the vendor key personal understand the project with clear vision and demonstrates commitment and the ability to minimise risks (Snippert, 2014). Even if the plans are of high quality, it is interview which can break the initial stated dominance. These interviewees are to be the people who have the total overview of the project and are accountable for the risk identification. These interviews allow key figures from both sides to meet which can contribute to the reduction of opportunistic behaviour (Van Duren, 2013).

The difference between BVP and traditional procurement method when it comes to interviews is that the interviews are done with people who will be doing the project, not the tendering managers. This can be confusing for the vendors, but it is not the company manager who will lead the project but the project manager (Van de Rijt and Santema, 2013). This early involvement of these figures will enhance the commitment and the feeling of responsibility (Van Duren, 2013).

The interviews are a very effective way to extract the dominant information (Kashiwagi, 2016). The focus is on whether if the vendors can plan, embodies a complete project vision, can identify uncontrollable risk, with which it must become clear which vendor will be most successful for the project. It is not about the quality of the interview but rather to what extent accountability is present (Booij, 2013; Van de Rijt and Santema, 2013). To maintain maximum

objectivity on evaluating quality independent on price and giving the absolute scores, Prestatieinkoop proposes not to reveal prices even up to this point.

The vendors are to think and select which persons they send for the interviews. It can be challenging as it already asks for commitment before the project has taken off. The interviewee should be the one who is to be a key figure in the project execution. It is important for the vendors to be able to do the following for the interviews: explain the risks of the project, can give clear explanations, can give an exploded view of the project with measurable data (SMART), can give concise answers with dominant information, understands the BV method, understands the needs and concerns of the client, show responsibility (Van Duren, 2013; Van de Rijt and Santema, 2013).

3.3.6 The price

Now that the evaluation of all the documents and interviews have been completed it is time to reveal the prices. In an earlier stage the vendors were requested to make a price based upon certain goals including that;

- the initial price is not higher than the maximum budget;
- offers a minimum scope in which the project goals can be realised;
- extra opportunities which can be realised (within budget);
- contains the management needed to reach the goals without taking risks from the client. (Van de Rijt and Santema, 2013)

The price is weighted but is not presented or rated as the other elements by the core team. Kashiwagi proposes a 10% weighing factor for the price submittal since, when the vendors do not show sufficient dominant differentiation, the award will be based upon the price.

3.3.7 Prioritizing (identify the Best Value vendor)

All the scores of the vendor are prioritized objectively on several award criteria. The results are ranked in order from best to worst based upon the criteria price, document evaluation and interviews. The proposed weighting on the criteria for Kashiwagi and Prestatieinkoop respectively are as follows:

- Price 10%;
- Level of Expertise 30%;

- Price 25%;
- Quality 75% from which:
    - Level of Expertise (“project capability”) 15%;

- Risk assessment 20%;
- Value Added document 10%
- Interviews 30%. (Kashiwagi, 2016)

- Risk assessment document 20%;
- Value Added document 10%;
- The interviews 30%. (Van de Rijt and Santema, 2013)

The interviews are most important in the prioritization. This is because the interviews can deliver the most dominant information about a vendor and his proposal on the identified needs.

3.3.8 Dominance Check

Before finding the best vendor from the above prioritization, Kashiwagi's process has the so-called dominance check. The prioritized vendor is to go through this filter to guarantee the selection was built on accurate information and whether it fits the initial request for proposal. This is done to ensure the vendor is not a low performing vendor since they have the possibility to bring both parties risk and require the client to manage and control (Kashiwagi et al., 2009). Ratings from 1 to 10 are used to represent the level of the provided information supported with performance information. The reason for this filter is to find to what extent and why the best value supplier can be more expensive or cheaper than the second choice (Kashiwagi, 2016).

After prioritizing, the client's Contract Officer will contact the vendors and let them know their score. If a vendor turns out to be the best, the client will introduce the next phase to them: The Clarification Phase.

3.4 Phase 2 – The Clarification Phase

The Clarification Phase is the phase in which the dominant vendor is given time to thoroughly clarify their proposal to indicate "what is in" and "what is out". The BV vendor is to show in this phase in detail how he will perform the project with minimal risks in the most optimal way. As mentioned before, only the vendor who turns out to be the best based upon the documents, interviews and price will be taken to this phase. This phase, lasting typically six to eight weeks, can be considered the last step before implementation since the phase ends with the contract. (Kashiwagi et al., 2012; Van de Rijt and Santema, 2013; Kashiwagi, 2011)

The purpose of the Clarification Phase is not to add more negotiations but to:

- clarify the offer of the expert vendor;

- find out the offer is acceptable for the client;
- clarify the expectations and the way risks are managed;
- come to an overall agreement between the two parties (Van de Rijt and Santema, 2013; Snippert, 2014).

It is important to note that it the actual content of the proposed material is not to be changed. From now on, the vendor is only supposed to clarify and support the material which he delivered up to this point. The client is not supposed to steer the vendor to a wanted outcome. It is not a 'negotiation phase' but a clarification of the by now presented material (Kashiwagi, 2011). At this stage of the procurement it is worth mentioning again that the interactions between client and vendor are to design a win-win environment. The client should communicate to the vendor in such a way that the best environment is shaped for the expert to thrive in, and not to take him down. The client is to take one step back but still observe critically and demand elaboration but facilitate space for realising expertise. (Snippert, 2014)

The Clarification Phase is to dive into detail in the already known headlines of the realisation of the project plans, not to create extra scope. Together with that, the vendor should present the factors which might jeopardise this realisation. It is the vendor's duty to indicate their view on the plans to finish the project instead of the client demand for more and more detail (Snippert, 2014). This is done with a deepening of the risk document to clarify who is responsible for what. It might happen that there are appear risks which have not been identified before. But it should become clear that new (external) risks are to be backed up by the client and not the vendor whom then can claim a higher price. Again, BV is not about moving risks but about minimalizing them instead. (Snippert, 2014; Van de Rijt and Santema, 2013)

Now that the vendor has been found it does not imply that a 'normal' or familiar procurement method can be used in this phase. The traditional method brings along risks, lacking quality and does not cover accountability. It uses control instead of expertise to reach the project goals (Kashiwagi, 2016). Especially from this part of the procurement on, the focus should go even more to the fact that the vendor must be pro-active and take the lead of the project (Snippert, 2014). Figure 3-3 shows the schematic activities distribution between two parties. In the figure, it is apparent that the vendor is representing the project significantly more when it comes to the execution. It can also be seen that the aims, for which the best value vendor has distinguished himself from the others, is exceeding the deliverables. The writer states that the aim is what the vendor has envisioned to achieve, by assigning success factors, whilst

deliverables themselves are higher than the "what" of to be achieved (Verweij and Kashiwagi, 2016).

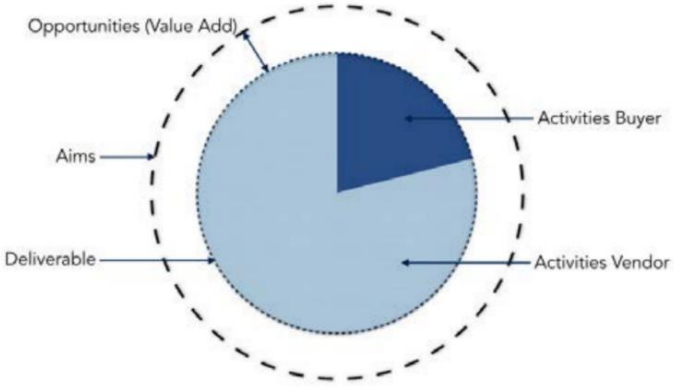

Figure 3-3: Schematic distribution activities of the two parties as well as the aims and deliverable (Verweij and Kashiwagi, 2016)

The vendor is to plan the project thoroughly and deliver the risk management plan which categorises risks not in his control. Snippert (2014) recommends for improving the procurement process to reiterate the planning sufficiently enough depending on the complexity of the project to account for the risks.

Figure 3-4 shows how traditional procurement is focused on the technical risks each party delivers whereas BVP is taking the perspective of the entire supply chain. As the figure shows, the risks are identified between the components of the process and their communications which are not in control of the vendor. It is these risks outside the control sphere which are to be described in the Risk Management document.

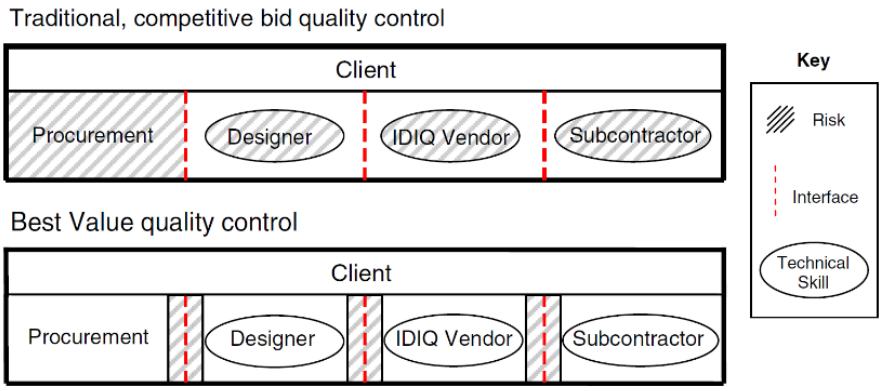

Figure 3-4: Traditional vs. Best Value quality control (Sullivan, 2011)

The possibility is there that the client already selected a vendor from the start so there is no need for a Selection Phase. In this case, the Clarification Phase can be started right away but this can bring a different interaction initially so it is important to ensure the vendor understands

the shift in paradigm and its fundamentals (Kashiwagi et al., 2012). It is especially in this phase that the foundation for a transparent environment is created in which win-win relationships are bound to grow.

The Clarification Phase exists out of the following elements:

- The Kick-off;
- The Clarification period;
- The Award Meeting.

The scope and the plans are to be demonstrated in detail as well as starting the periodic documentation and Key Performance Indicators (KPI) identification (Verweij and Kashiwagi, 2016). The determination of the KPIs are important for the weekly reporting in the next phase. This periodic document exists to show whether there are any abnormalities from the plan in the Execution Phase. KPIs only function as the performance metrics if they are used in alignment to the aim, and not "internal achievement" or governing tool (Verweij and Kashiwagi, 2016).

With the one vendor left it is time to explore the content on the technical level to make the project definite. The client sees the proposed scope for the first time as the vendor perceived. As Van de Rijt and Santema (2013) states, this phase is here for the client to challenge the presented plans and to state their concerns and their perceived risks. The vendor is then to prove that he is indeed the expert so that the client after this phase considers him to be the expert. More specifically, the following activities will be performed by the vendor with the help of the client where appropriate:

- clarifies his offer: what is included and what is not;
- expanding of KPI and in which way these are measured;
- identifies the risks and unknowns which can get the project off track;
- identifies all assumptions made in the offer including back-up plan(s);
- sets up the weekly report and potentially starts practicing;
- makes a definite and detailed planning which states both parties' tasks;
- makes sure that all parties expectations align so that everyone knows what will happen and what is expected from them. (Kashiwagi, 2016; Van de Rijt and Santema, 2013)

3.4.1 The Kick-Off

The Clarification Phase usually starts with a Kick-Off meeting. This will involve both teams from both the client and the vendor. The vendor is to present the plans which should encourage him to start coordinating in the way the execution phase will be coordinated. The client should first listen and then point out questions, flaw, concerns, etc. and then the vendor must explain how these issues are going to be solved (Kashiwagi, 2016). Here it will turn out whether the client or vendor is taking certain risks for them to solve. Snippert (2014) points out that it recommended for the vendor to hire a BV expert on their side in case of lack of clarity about what is expected exactly. The clarification period is to be understood fully before starting to reduce all kinds of mistakes which can jeopardize the process. (Snippert, 2014; Van de Rijt and Santema, 2013)

3.4.2 The Clarification Period

The Clarification Period is often experienced to be the most difficult part. It is in this phase where clients most likely feel greatest uneasiness (Snippert, 2014). Letting go of managing, directing and controlling is key here so that the vendor can do his work. It has been least successful with past projects because of the freedom and the lack of experience with this method (Van de Rijt and Santema, 2013). Kashiwagi (2016) stresses that when this period is performed correctly, the entire BV process was understood rightly. The difference with traditional procurements is that the vendor is now in full control. The expert should tell the client, the non-expert, what will happen and the client is not to request extra documents, scope, qualification, etc. (Kashiwagi, 2016).

This period lasts typically between six to eight weeks but the complexity and size of the project can influence the duration. This time is used to completely work out the plans in detail and preparations will be done for execution. Much time is spent on listening to the vendor to grasp their vision and not expressing concerns yet. The efforts made in this phase will pay off during the Execution Phase. (Snippert, 2014)

The vendor makes a risk management plan containing all the risks and the ways they will be mitigated (as mentioned in the risk document and interviews). This will be part of the constantly updated weekly report to keep the risk mitigation as high as possible. Since the technical risks can be assumed manageable by the vendor, the document is usually non-technical for the client. The vendor is responsible for the technical risks and, not as traditional methods, the risks between vendor and client. The client can set a baseline deadline for the

duration of the Clarification Period but it is up to the vendor how much time is needed. He is the one who knows what is going on and how much time and effort is needed here.

Before the final element can be performed in the Clarification Phase, the Award Meeting, there are points the vendor should have considered including:

- A detailed plan of the entire project including the most important milestones and risks;
- Has harmonised all relevant stakeholders;
- Has clarified all concerns with the responsible;
- All (non-controllable) risks have been identified and planned to manage;
- All tasks to be taken by the client have been identified incl. deadline;
- A list has been made with suggestions on how to make the project more efficient;
- Potential subcontractors have been adjusted to their needs;
- The interview reports have been analysed once again;
- All other concerns from the client have been studied with proposed mitigation. (Van de Rijt and Santema, 2013; Snippert, 2014; Kashiwagi, 2016)

The vendor is to ensure that all risks are identified. When there are risks not defined in before the factual relationship is started with the contract, the chance is high the vendor will not be able to mitigate them when they are occurring later (Zack, 2006). When the vendor has proven to be able to deliver performance and manage the risks, all filters have been successfully passed and the awarding can be done. Figure 3-5 shows the filters in a figurative manner presented by Sullivan (2011). As was discussed before, the first filter is optional based upon the nature and preferences of the project. At this point of the process, the last filter proposed by Sullivan (2011) has been passed and the client has found the best value vendor to start the relationship with.

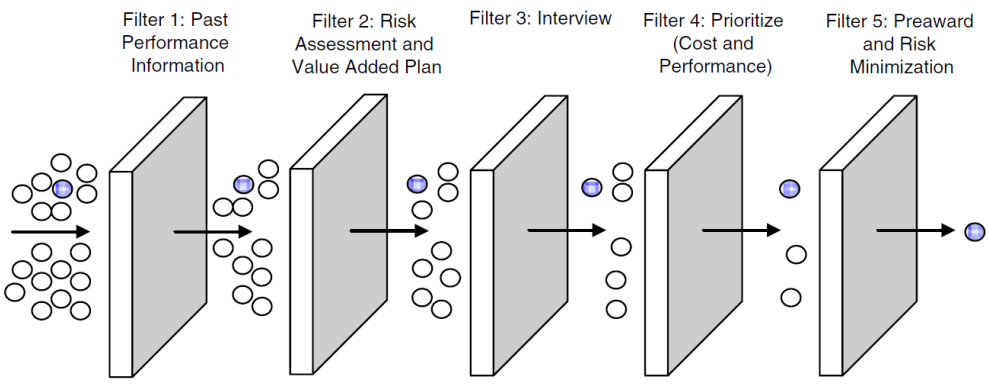

Figure 3-5: Filter of the Best Value process (Sullivan, 2011)

3.4.3 The Award Meeting

This is the final element of the Clarification Phase. At this stage, all the issues regarding risks and concerns have been resolved. It is clear how the vendor will coordinate the project, all non-controllable risks are identified and made measurable with performance indicators and all the added value have been discussed.

Some of the most important things to consider in the Clarification Phase are the following:

- No negotiation will take place about the offer;
- There is clarification about the offer and deliverables by the vendor;
- There is no negotiation about the price;
- The vendor should not take risks into the price;
- The client should stay away from managing, directing and controlling;
- Everything is documented by the vendor;
- The client buys the plan of the vendor. (Kashiwagi, 2016; Van de Rijt, 2013; Snippert, 2014).

All the tender documents used so far are the content of the contract which will determine the project deliverance. The terms of the contract however can originate from the client such as conditional procurement elements or risk allocations. These features are constructed by the client with the vendor delivering more specifics of the contract. (Witteveen and Van de Rijt, 2013)

3.5 Phase 3 – The Execution Phase

From a list of potential vendors, the client has chosen the most dominant one suitable for the project. The vendor has a complete overview of the project with a detail planning and risk analysis and is ready to start. Every risk has been analysed and a method of mitigation has been designed in case they might occur. To create transparency, performance indicators have been set up to determine the performance of both parties. The expectations are clear and the project has a solid foundation for success.

The Execution Phase is the last phase which the project actualisation is about. Also in this phase, it is important for both the client and the vendor to stick to the BVP method and maintain the main ingredients of transparency, accountability and measuring performance

(Kashiwagi, 2016). The client is not to interfere with the expert who is leading the project towards success based upon a successful pre-awarding process.

This phase is concerned mostly with the organisation of risks (Kashiwagi, 2016). An important part of this phase is therefore the Weekly Reporting. Working with these kinds of reports will stimulate the needed transparency and accountability (Van Duren, 2013). It documents the risks which have appeared during the week which is backed up with dominant and measurable information.

3.5.1 Weekly reporting

The Weekly Reporting gives the chance for the client to see the status of the project periodically. It will show the client what is threatening the realisation of the project goals, time and the budget and in what way the impact of these happenings can be lowered (Verweij and Kashiwagi, 2016). It discusses also what cause the delays in the planning. In practice it turns out that, although the vendor is responsible for the project delivery, he is not the greatest causer of risks (Van de Rijt and Santema, 2013). The weekly reports can function as a shield for him to prove that the cause of risks is elsewhere (Snippert, 2014).

The client cannot expect a vendor to possess ultimate prediction powers. In the previous phase as many scenarios as possible where thought of to fully prepare for the execution, but unforeseen problems and/or project deviations can always occur. The weekly reporting is the BV tool for the vendor to visualise and manage the impact of these problems and deviations. The goals of the weekly reports are to:

- Minimise the influence of occurring risks;
- Protect the vendor for lack of presentation of client;
- Maintain project control with the vendor;
- Identify what the basic plans and costs are to identify deviations clearly;
- To make the deviations part of the project history;
- To ensure every party is responsible his part, indicated with KPI's. (Van de Rijt and Santema, 2013)

The vendor was selected to be the best in identifying and managing risks. So, if the vendor is the source of most of the risks, something went wrong earlier in the process. As Santema and Van der Rijt (2013) state however, it turns out that the client is the most important source of unwanted events. The weekly reporting can therefore document these occurring

events. Kashiwagi (2011) states that when the risk has not happened, the risk and its mitigation strategy are added to the risk management plan.

One might think that weekly reporting might increase the bureaucracy but the opposite is true; the progress is communicated using transparency (Van Duren, 2013; Verweij and Kashiwagi, 2016). With the defined KPI's, it can give the client the present status of the developments in the project in one overview. Also, the reports are of minimum content because they are written on weekly basis, but also because they only show the present scope modifications. No risks should mean empty reports.

The client then judges the mitigation strategies of the vendor with a non-technical 'satisfaction score'. This indicates the client satisfaction level about the strategies and quality assurance (Kashiwagi, 2011). This is based upon the impact on time money and the goals and is done until the event is under control. With the satisfaction score the so called 'risk score' is made. The risk score can vary every week since new events can appear, new estimation about older events can be created or the satisfaction level can be different based upon new risk mitigation explanations (Van de Rijt and Santema, 2013).

3.5.2 Directors reporting

The director's report is a collection of the Weekly Reporting. It is for the client to have an overview of on-going projects working with the weekly updates. The top management of the client can then see clearly the risk and performance information of the projects. This then updates that part of the organisation without any filters about the current situations in the organisation, connecting the vendor(s) directly to the client's top which supports the atmosphere of transparency and minimum communication transactions. (Kashiwagi, 2016; 2013; Rijkswaterstaat, 2016)

3.6 Differences between the American and Dutch models

After the United States, the Netherlands follows with most application of BVP in public and private sectors since the year 2005 (Ang, 2011). Rijkswaterstaat is investing a great deal into professionalization of commissioning to use creativity and market potential to the fullest. Throughout the years Rijkswaterstaat has seen many changes with respect to procurement strategies and methods. There was was a high need to speed up the tendering procedures and delivering projects. The main reason for Rijkswaterstaat to use BVP is to optimise the quality and price, lower transaction costs and tedious tendering procedures in line with the demand of

project delivery. The implementation of BVP from which Prestatieinkoop was written has resulted in adaptations of the methodology with respect to the original "pure" version of Dean Kashiwagi. The differences can range from being subtle, as additional meetings, but also more apparent such as the exclusion of the dominance check. Of course, the main purpose of the methodology remained the same which is to find the best quality vendor within defined project boundaries.

Based upon the comparison of the original method by Kashiwagi (Kashiwagi, 2016) and the Dutch approach "Prestatieinkoop" (Van de Rijt and Santema, 2013), several remarks can be made concerning the main differences. The first one is already noticeable in the Pre-qualification Phase were the Dutch noticeably put emphasis on the importance of training/ consultancy sessions for the vendors. These sessions are held purely for the vendor to inquire about the BV process and its philosophy but also the clients concerns and risks. This is argued to be a very good way to level the expectations of both parties to have a good start for the procurement process (Van Duren, 2013).

It was also denoted that Kashiwagi is suggesting the possibility of using Past Performance Information (PPI), or minimum requirements, as part of the Pre-qualification Phase. Prestatieinkoop does not suggest applying PPI because it does not show enough differentiation between the vendors. Verweij and Kashiwagi (2016) argue that decisional requirements are already aimed towards a goal and might have the tendency to exclude potential vendors. Functional requirements however, will not exclude experts with respect to the project goal but only on expertise grounds. The pre-qualification should only be performed to increase the achievement of the final aim (Verweij and Kashiwagi, 2016). Also, public sector projects are working in the arena of specific tender regulations and often do not allow the use of PPI. Vendors are then pre-selected or invited if they meet the selection criteria (Van Leeuwen, 2011). The vendors will not have a distinction by using pre-qualification when ranking is concerned.

Another difference between the two methodologies is that the Dutch approach does not allow cost Value Adds in the Risk Assessment and Value added plans. Kashiwagi proposes to, instead of having Value Adds as a separate option, include discounted Value adds in the proposed plans. The Dutch law states that the proposed extra options are not allowed in the bids, but can be part of the contract (Van de Rijt et al., 2011). This is to prevent change in ranking after choosing one vendor and the included adds in the initial bid turn out to be of little value.

When it comes to the planning, older versions of Prestatieinkoop included the possibility to use this as a separate criterion in the prioritization assessment in the Selection Phase. As was

depicted from the theory as well as the interviews, the planning was merely requested from the vendors to talk about during the interviews and not as an additional assessment criterion. To state an interviewee BV advisor on this matter, in construction projects such as roads it is very hard to ask accurate schedule because of project uncertainties. As a result, the client often does not introduce the planning as a separate weighted criterion.

With the interviews as the most weighted selection criterion, it is important for the vendor to perform well. The Dutch method agrees upon the vendors can choose three of the four key members to the interview themselves, with the fourth the project manager. It was seen that by having the choice themselves, the vendors can prove better their understanding of the project.

In the Dutch approach, there was a variance with the ranking of the vendors. Instead of using one ranking team, two are used for scoring the vendor's work. This was recommended for adding extra "safeguard". However, in 2013 Rijkswaterstaat decided not to do this anymore since it only leads to more management and no significant improvement in the assessments.

Another factor on the selection team is that the original Kashiwagi's method indicates that the selection committee should use their expertise to rate the vendors' performances relative to each other. A noteworthy difference here is that the Dutch approach is to rate independently of each vendor because rating relatively is not allowed by law. The criteria are to be given in an objective manner to stay parallel with "transparency, non-discrimination, equal treatment and competitive assessment" as all as Dutch law (Van de Rijt et al. 2011).

As was already depicted, Kashiwagi uses the dominance check as the final filter after the Best Value vendor has been prioritized. The Dutch state that though it allows the best vendor to retrieve the maximum score not based upon minimum requirements and external references, there is on major disadvantage. The dominance check is performed based on relative comparison. The challenge then for the vendor is to figure out upfront what must be delivered to score a 10. But the client also does not know what a 10 will entail for the future project possibilities. For this reason, the Dutch model argues that this filter is not fully parallel to the BV philosophy and is left out of the equation.

Noteworthy also is the fact that European legislation does not allow public clients to have processes such as the clarification with vendors upfront of chosen the BV vendor. The laws are strict when it comes to communication before awarding (Van de Rijt and Santema, 2012). In the Netherlands, the Clarification Phase is always after awarding one vendor the spot (not yet the contract), allowing the selected best vendor to defend their proposal in-depth. At

the end of the phase, the vendor has the management plan, planning and risk management plan presented and the contract is awarded.

One final element which is not included in the original methodology is the use of a risk fund. Initially, Rijkswaterstaat began using such a fund because it was experience that vendors were lacking stimulants for controlling risk after the rewards. The amount in the fund was the predicted sum for the risk which could appear. Any risk (prevention) activities are then provided by the risk fund which are accountable for Rijkswaterstaat. As stated, the vendor obtains 25% of the remaining amount after completion of the project if applicable (Van de Rijt and Santema, 2013).

3.7 Potential circumstantial factors procurement influences

Following will be a short description of public procurements and open versus restricted procurement and their potential influence on the BVP method.

3.7.1 Public partnerships

Public procurements differ from private ones when one or more public parties such as the government is involved in the procurement. When there exists a procurement with a party from the public sector, the cooperation is called a public-private partnership. It is in such a relationship that frequently aims for features that include a sustainable character in which risks, costs and benefits are shared (Tulder, 2017). A public party has the potential to benefit greatly from such a relationship since it can attract private capital and expertise. However, according to the European Commission, public budget deficits does not allow to be the reason for public procurement. Public procurements often have high costs and longer lead times. The high costs can have high profits as a result but, on the other hand, the change of financial problems is also more apparent. The reason for a public procurement is to share risk and goods to avoid these potential downfalls and share forces instead (Tulder, 2017). Public owners can face certain limitation in their procurements due to public regulations they must comply with, both national and EU related procurement directives (Wondimu et al., 2016). When it comes to public procurement, a full open procedure for the selection of vendors is often not possible as the next section explains.

3.7.2 Open versus restricted procurement procedure

The BVP method selects the BV vendor the Selection Phase. It is in-line with the open procedure of a procurement meaning that the open procedure is best tailored for BVP (Van de Rijt and Santema, 2012). Here, the tendering is announced on which any interested vendor can apply. The client can choose to qualify vendors on certain requirements but the final awarding itself is based upon the discussed filters. The restricted procedure on the other hand is done when the selection of the vendors is completed in two phases. The tendering is announced on which each interested party can request for an invitation after which the client selects a certain number of suitable vendors (Dreschler, 2009). These vendors comply with the prerequisites which were known upfront in the tender announcement. Or, as it happens often as well, the client is inviting the vendors to write proposals (making a shortlist) who they view as qualified. After this, the actual tendering is continuing according to an open procedure. For BVP this means that before entering the Clarification Phase, the winning vendor went through a pre-qualification and the filters of the Selection Phase. (Selectie Van Private Partijen Bij Pps Bij Gebiedsontwikkeling, 2017)

Pre-qualification is therefore a filter which can be used when the client wants to select for vendors qualified for participation. As mentioned before, some projects such as restricted (European) procurements, are to use this filter to limit the number of vendors in the Selection Phase based upon the nature of the project (Kashiwagi, 2016). Especially in markets where many participants are qualified, it can be attractive also to use prequalification which limits the used resources both from client and non-winning vendors (Lædre, 2009). In an open procedure or a procedure where the client is not using a shortlist, it might be relevant to use the rating of the initial written documents as a filter in the Pre-qualification Phase or a filter for only the best vendors to go to the interviews (Van de Rijt and Santema, 2012). This can reduce the otherwise large number of time-consuming interviews in the Selection Phase. However, BVP without pre-qualification, and one can argue without the entire Pre-qualification Phase, is completely in-line with the Best Value philosophy (Van de Rijt and Santema, 2013). So, if the market and preferences allows for such a procedure, the client should avoid pre-qualification for the BVP to work most effectively.

4 Results and Discussion

The purpose of this chapter is to highlight the main findings of the performed literature research and discuss the findings from experiences from the case study. As stated in the Introduction, this research was initiated to create the understanding of the BV approach. This was done to have the foundation for further research for implementation of BVP in Norway.

4.1 What is BVP; what are the steps and the qualification criteria?

According to Kashiwagi, the BVP approach has three phase including selection, clarification and Execution Phase covering the risk mitigation management. Before the first one, there is the phase called Pre-qualification Phase for preparing the procurement such with training, identifying vendors, selecting the weighting factors, etc. The Selection Phase covers four filters for the vendor to go through to enter the next phase. These include the project capability, interviewing key personnel, prioritizing using all the ratings and, though not presented by Prestatieinkoop, the performing of a dominance check to make sure the best vender is accurately the best for the job. In the process from this phase on, the client is to presume that the vendors are the experts. It is in the Clarification Phase that the client can ask questions for the vendor to prove his or her expertise. In the Selection Phase the need for detailed decision making is left out due to the filters which should naturally show the best vendor to rise above the rest. The selection is done based upon weighted criteria: The Interviews 30%, Level of Expertise 30%, Risk Assessment 20%, Value Added Documents 10% and the Price 10% as proposed by Kashiwagi with the Dutch not focusing on the price as a criterion and reducing Level of Expertise to 15%.

With the written documents, the vendor is to show his performance which includes the level of expertise, risk assessment document (risk management plan) and value added documents. On top of that, which is weighted most important in the ratings, are the interviews. These interviews are held to ensure the vendor fully understands what is going on and what must happen in the project in a clear and dominant way. Based upon the graded criteria, the BV vendor is selected to go the next phase. In the Clarification Phase the one vendor should take the lead to make the client fully understand their proposal and proof the project's success. The client must be convinced of the vendor's delivery and the strategies by the end of the clarification. The vendor is to take the lead and show the client his expertise.

Once both parties have cleared away all unknowns and concerns and are confident all potential risks have been discussed, the contract is awarded at the end of the Clarification Phase. This should then be the best value solution for the lowest cost where the vendor is the responsible for describing risks outside his control. The vendor then shows the results of the risk mitigation with the weekly risk reporting and performance measurements in the Execution Phase as was detailed in the Clarification Phase. But have the projects from the case study experienced this in such a way?

4.1.1 The differences between the American and Dutch approach

The difference between the Dutch and the American model are not necessary apparent and can fluctuate in practice as the cases reflect. Position in the supply chain, too many applicant, regulations are examples of circumstantial factors which defined whether certain elements were applied or not. Most of the projects however do follow these differences between the models as reflected with the matrix. The projects used the Dutch theoretical process to a large extent. Emphasis on the consultancy sessions in the Pre-qualification Phase and abstaining from the PPI (in most projects), the use of planning as award criteria, dominance check as a filter but including a risk fund are all examples of the elements different to Kashiwagi's model. One can say that the origin of projects has led to this deviation of the American process, but the geographical location of the projects obviously led to using Prestatieinkoop which has been adjusted for cultural and geographic circumstances in this specific region. The perceived deviations from the theoretical processes can be argued to be the result of the limited freedom because of certain regulations for some projects. But, as the process is merely theoretical, shortcomings from proposed limitations were adjusted for without 'violating' the philosophy's fundamentals.

4.2 What are the experiences from of the case study?

The case study output was shown in Table 4-1 which displays to what extent the proposed elements were performed in their procurement. The eleven projects applied most the elements in their procurement process. One could argue then the value of the entire process is found in applying all the proposed elements, but some remarks can be made regarding the projects.

4.2.1 The case study output

After analysing the theoretical process of both Kashiwagi and the Dutch Prestatieinkoop, several elements have been selected for the case study. This selection consists hard elements because of their measurability. These elements are considered most important for the study and are used to approach the projects to analyse the extent of practical use. The output is listed in Table 4-1 with the Appendix showing the accompanying interview guide. In the matrix, the project order of appearance is according to the number of applied elements indicated with a 'X'. The findings will be discussed in section 4.3.

4.2.2 The practice of the theoretical process

Judging the overall BV element use in the matrix, the interviewees concluded that the level of applying the elements of the theoretical BV procedure was high. All four phases have been proven their importance with each their filters and success elements. Following will be the discussion of these individual elements.

A **sponsor** is an entity that recognises the need for increasing efficiency and accountability and the overlap with BVP. The interviewees reflected this by stating the involvement of a sponsor to give important support, especially when it came to the prevention of the tendency to fall back to traditional methods. The position ranged from facility manager to department directors to an external company, or even a medical director from high to low level of involvement. The benefit of such sponsor is the support for the project and opportunity given to perform/try-out the BVP method. Especially when such an entity is from a function higher in hierarchy than the project the support can be more sustainable and influential. One could argue that the expert can pursue such a role as sponsor as part of his purpose.

A **BV expert** is to ensure the quality of the BVP execution and generate transparency throughout the procurement. Reasons for using BVP in the projects were almost always tailored towards the need to understand the methodology to approach the market more effective and subtract expertise better than previously done. In most of the projects an external expert was hired by the client throughout all phases to ensure these intentions of BVP were developed. One vendor did the same to ensure mutual understanding and equal value extraction on both sides. Without practical experience, a tendering process is most likely to follow old patterns since BVP is let go off traditional structures. Especially in pilot projects a BV expert is crucial to ensure full benefits from the entire implementation. The disadvantage is that such an expert is costly to hire.

Table 4-1: The matrix showing the applied BVP elements in the projects

Included Elements	1	2	3	4	5	6	7	8	9	10	11
Pre-Qualification Phase											
Choosing a sponsor	X	X		X	X	X	X	X		X	X
Involvement of (an external) BV expert	X	X	X (both parties)	X	X	X	X	X		X	X
Selection & educating core team	X	X	X	X	X	X	X	X	X	X	X
Pre-qualification of vendors	X	X	X	On invite	X	X			X		X
Training sessions for the vendors	X	X	X	X	X	X	X	X			X
Core document /Request for Proposal	X	X	X	X	X (15%)		X		X		X
Open budget (with ceiling)	X (X)	X (X)	X (X)	X (X)	X (-)	X (X)	X	X (X)	X (X)	X (X)	X (X)
Selection Phase											
Time-plan as a prioritization assessment		X		X	X						
Award criteria in prioritization assessment:											
▪ Past performance information / Level of expertise	▪ 15%	▪ -	▪ 10%	▪ 10%	▪ 5%	▪ 20 %	N/A	▪ 15%	▪ 15%	▪ 15%	N/A
▪ Risk assessment documents	▪ 20%	▪ 15%	▪ 20%	▪ 20%	▪ -	▪ 25 % (with VA)		▪ 20%	▪ 20%	▪ 20%	
▪ Value added documents	▪ 10%	▪ 15%	▪ 15%	▪ 30%	▪ 29%	▪ - %		▪ 10%	▪ 10%	▪ 15%	
▪ Interviews	▪ 30%	▪ 20%	▪ 30%	▪ 20%	▪ 35%	▪ 30 %		▪ 30%	▪ 30%	▪ 30%	
▪ Price	▪ 25%	▪ 20%	▪ 25%	▪ 5 %	▪ 10%	▪ 25 %		▪ 25%	▪ 25%	▪ 20%	
▪ Time-plan, in case answered “Yes”	▪ -	▪ 30%	▪ -	▪ -	▪ -	▪ -		▪ -	▪ -	▪ -	

Short listing		X		X	X		X				
Interviews with key personnel	X	X	X	X	X	X	X	X	X	X	X
Prioritization / dominance check				X	X					X	
Multiple grading groups	X										
Clarification Phase											
Kick-off meeting	X	X	X	X	X	X	X	X	X	X	
Risk management plan	X	X	X	X	X	X	X	X	X	X	X
Detailed plan/ Scope document	X	X	X	X	X	X	X	X	X	X	X
Elaboration of involvement subcontractors	X	X	X	X	X			X			
Reassessment of interviews		X	X		X						
Usage of Key Performance Indicators (KPI)	Low	X	X	X	X	X	X	X	X	X	
Dominance check	X	X	X								
Vendor involved in framing of contract	X	X	Limited	X	Limited	X	X	X		X	
Owner financially responsible for ALL controllable risks		X	X	X		X	X	X	X		
Risk contingency fund	X		X					X	X	X	
Execution Phase											
Weekly reporting	X	Monthly	X					X	X	X	Temp
Satisfaction measurements / Performance evaluation	Quarter	X	X	X		X			X		
Directors reporting	X		X			X			X		

1. Upgrading Canal Rijkswaterstaat
2. Mitros housing corporation
3. Highway junction Rijkswaterstaat
4. GGz Utrecht
5. IHC Merwede
6. Municipality Utrecht
7. Boehringer Ingelheim
8. NIC Friesland safety region
9. ProRail Soundproofing rail
10. Municipality Groningen
11. UMC St Radboud hospital

A **core team** was **selected and educated** in all the projects. The core team is the constant factor in the process to deliver the procurement effectively throughout the phases. The roles of the core teams in the projects can be considered parallel to the theory with each very diverse functional background. Often this diversity was to ensure objectivity since core team members can be blinded by their expertise and interest in the vendor's plans. Also, a shift in paradigm can bring difficulty with acceptance of new thinking patterns. One client recommended to formally capture the tasks, power and responsibilities of each team in a short contract to give the constructive cooperation more status and prevent conflicts of tasks in a later stage. Another interviewee indicated they are trying to have the same core team in every BV procurement. It is experienced almost every time that it can take a lot of time and other resources to educate a different set of people for every project. However, members' personal expertise was resulting in subjective judgements rather than objective ones when familiarity with the process is starting to build up. It appears important to gather new members each time to ensure fair procurements.

The theoretical distinguished optional element originally proposed by Kashiwagi but not by the Dutch is the option to use of pre-qualification in the form of PPI. Some projects used a similar form of Kashiwagi's PPI to screen for viable vendors or whether the vendors are viable when applying themselves. As mentioned before, this element is not mandatory and it depends on the nature of the project whether to use it or not. It has been found that the market sector and the nature of the project (influencing the budget, complexity, etc.) as well as experience with BVP, made the use of **pre-qualification** vary. Several projects were deliberately pre-qualifying, with one using it for rating, based upon a desk research, others on previous relationships or strictly on invitation only. Reasons for the projects on the private market to use such criteria were to limit the number of applications, being uncomfortable with announcing publicly, or, for the projects with restricted procedure, the qualification was the result of the restricted (EU) regulations from their governmental nature. The use of pre-qualification has benefits including limiting tenders and thus processing resources for both the client and

vendors. On the other hand, pre-qualifying might eliminate potential valuable vendors upfront of the actual existing filters. One can argue also that leaving out pre-qualification is in line with the BV philosophy since the client intervening with their limited expertise. On the other hand, if a vendor has little experience he might not apply as eagerly with such a screening element (reducing transaction costs and increasing efficiency). The decision making of the client reduces then as PPI shows the performance level the vendor is able/willing to stand for as represented in this past documentation. Most of the projects using it were part of a market which is under close collaboration or part of the Dutch government. The procurement must then be changed which can be argued to be an incomplete BVP procedure.

The **training sessions´** objective is to introduce vendors to the philosophy of the BVP, its process and create awareness of expectations. Most of the projects actively involved the vendors in such training. The reception of the BV methodology was varying as resistance can always be experienced with the implementation of a new way of thinking. Vendors stated that these sessions gave a good insight of the client's perspective and the expectations from both parties. Some vendors deselected themselves after this introduction, whilst the majority realised the possibility for them to bring forth their expertise. Clients considered these sessions important for creating the awareness of the aspiring transparent culture. It should be considered important to define a universal BV vision to ensure awareness of the fundamentals of transparency and accountability. Emphasis and attention should be given on the importance and how to prove one's abilities by showing dominant information.

A **core document** is made for the vendors to build their proposals. It entails everything the client knows at this stage; objectives, scope, planning, weighting criteria, etc. as far as this is possible and within BV boundaries. Some projects such as governmental projects have tighter regulations to follow which made this document less flexible. For other projects, BVP was already at this stage giving the benefit of letting the vendor identify and decide on the needs since some clients even had trouble with defining the project's need in the first place.

The price is one of the weighting factors in the selection. Most procurements had an **open budget with ceiling** for the vendors to present their material with added values excluded. This gives the vendors the freedom to give their best expertise to price ratio. The one client without had an open budget short of ceiling. Open budget with ceiling enhances the freedom for the vendor to apply his expertise best fitted for the job with an incentive to stay within boundaries.

The **MEAT** element indicates the use of rating the Project Capability, Risk Assessment and Value Added documents, interviews and price. The overall weighting was constant with

some projects deviations from theory based upon experience or tighter organisational regulations. Some clients evaluated the Risk Assessment and Value Added document combined (RAVA). This is in line with previous versions of Kashiwagi's filter. Clients did so for convenience or the procedure led the team to it for effectiveness. From a birds-eye perspective, combining these two documents can be argued of small impact. One client applied his own weighting: 100% on all documents, three vendors were shortlisted after which the interviews weighted 50% and the documents back to 50%. Another client stepped away from the prescribed weighting such as interviews with 29% and price with 35%. Their argument was based on the rigidity of the specialised arena and the middle position of chain they are operating in. The remaining clients were applying the theoretical values as discussed before. It seems that the weightings of these criteria can vary without losing the value of the prioritisation assessment if prioritization is done independent of each vendor. However, if there are no strong reasons for doing so, it is best to stick to the theory.

As described before, it is possible for clients to use a **time-plan in the prioritization**. Most the projects stated that requesting a time-plan for prioritizing usually does not show enough differentiation. One client used it to ensure that critical subcontractors would fit in the time-plan of the client's construction planning (the client was a vendor himself). Others were either including the time-plan within the project capability document or were using it separately to encourage future thinking without weighting them. From the standpoint that clients are not the expert, they are not able to judge whether the proposed time-plans are right or not. As the projects mirrored, vendors most likely deliver time-plans very similar based upon the project description. It was therefore experienced redundant to use the time-plan as a criterion. However, the vendors can be requested to deliver it purely for information and discussion in the interviews and elaboration in the Clarification Phase.

Short listing can be an additional filter to the MEAT documents and interviews. In the Selection Phase, clients applied it for limiting the vendors upfront in the beginning, after the rating, or in the consecutive phase. The four projects applying it did so for limiting the costs and time intensive interviews. Considering the potential number of vendors in a procurement, interviews can consume a considerably amount of time. One client applied short listing after two vendors were already filtered from the interviews which increased their efficiency in the Clarification Phase. BVP is designed to use objectivity to naturally make way for the best vendor the filters as proposed. One can argue that to use such short listing, an additional filter, the client can be stepping away from the objective BV philosophy. Objectivity and transparency

are then scratched if not at stake. It can, however, limit process costs for both the client and vendor as the clients who applied short-listing agreed.

Interviews with key personnel are considered the most important filter for identifying the vendor's expertise. It is to grasp whether the responsible truly understands the project and the claims made in the documents. This is an important step for the vendor to show accountability, explain the risks, and give clear explanations with dominant information and understanding of the method. Hence, all projects implemented this filter. Though the interviews are time-consuming and costly, it is outweighed by the importance of the filter. One client requested the most important subcontractors to be present in the interview as well. It was done to 'reveal' whether the claims of the vendor regarding the purchase are true and if he himself is not just purchasing for lowest price rather than value. The offshore sector of this procurement can be considered highly technical and complex. The client's client considered their delivery of high quality as a result. It was challenging for the vendors to deliver their interviews in SMART. Vendors were very new to this way of procuring so clients screened for the dominant and clear information. Often the winning vendor did perform the best regarding SMART but more so with dominant information, thus proving the value and reward of these aspects.

A **dominance check** at the end of the Selection Phase can be used to guarantee best value. It was only applied in three project. This was done to ensure prioritization of the best value vendor at the lowest cost. The other clients thought it to be redundant or not in-line with the BV philosophy and realised success without. Kashiwagi proposes the dominance check in the Selection Phase to guarantee best value vendor selection. The Dutch however, do not include it in the method. It is argued that the dominance check cause a deviation from the BV philosophy since the vendors are ranked relative to each other. The client does not know upfront what a score of "10" implies and the vendor not what to deliver to obtain this score. This is also echoed by the interviewees. Though the best vendor will get the best score, scoring vendors without fully understanding one's own preferences regarding the project solution (or not trying to stick with BV), was not considered BV. One can argue that objectivity has a chance of being breached when such additional filter is applied. Experience tells that applying the other filters and sticking with the remaining elements as much as possible whilst abstaining from the dominance check will result in the best vendor solution.

In the project of Rijkswaterstaat, **two core teams** were used for rating the vendors and come to an objective consensus. Until the concerning project, Rijkswaterstaat did so to cover the extensive requirements of being a public owner. Hereafter, however, it was reduced to one since it only led to additional managerial complications.

The **kick-off meeting** is the start of the important and possibly intense Clarification Phase with the winning vendor. This meeting is held to ensure clarity of the aim of this phase and responsibilities of both parties, especially the vendor's leading role. Only one case did not apply it, no Clarification Phase at all for that matter, indicating the usefulness of this element.

In the Clarification Phase, the vendor is to plan the project thoroughly and deliver a **risk management plan**. It categorises risks outside his sphere of control in full detail. This builds on the risk assessment document which was considered in the rating in the Selection Phase. Naturally, this has led all clients to use it. Some have experienced it challenging to identify where the line of risk responsibility was. However, based upon the fundamentals of BVP, opportunism is bound to diminish and risks definition are not used for one's own good. As one expert mentioned, vendors do not define risks when within the sphere of influence. With the assigned accountability, the otherwise opportunistic behaviour will then be limited.

The vendor is to work out his scope in completion presented in the **scope document**. This shows the project plan in full detail covering what is included and what is not. To reach the aim for largest goals with minimum scope in a limited time-span, the client must not let go off the BVP philosophy. It can be concerning for the client to interfere but has valuable rewards not to do so. All aspects of the projects are to be discussed to obtain largest goals within minimum scope. Since this phase is short, only the aspects which are of importance can be discussed. As previously experienced by a client, this phase can lead to heated moments since the time pressure can put all concerns and potential frustrations on the table. However, if this is the case, the two parties have most likely not been listening to each other and a healthy BV relationship should be re-defined.

In five projects, **elaboration of the subcontractors** was requested in either the interview or in the Clarification Phase. This because the project was considered either complex and/or high in risk. As mentioned before, one client also interviewed the most important subcontractors to verify the BV claims of the vendor. Elaboration of the subcontractor can be a good way to understand the relationship with the vendor and their involvement in the vendor's processes. This could however be an elaborate and resource demanding process.

Only in three procurements the vendors proactively **reassessed the conducted interviews**. Most clients did not specifically prescribe to do this but vendors took the opportunity to reinforce their claims. The vendors considered revaluation valuable to guarantee the clients' concerns and needs were covered.

KPI's function as the performance metrics used to indicate alignment to the project goal. This gives the client the present status of the developments in the project in an overview.

Most projects used KPI's which were often based upon plausible scenarios created by the vendor. These were then used for the periodic reporting in the Execution Phase. It was experienced that when the vendor defines the KPI's rather than the client, experience is used in a more 'BV manner' as vendors can create more enhanced KPI's. On the aspect of performances measuring, reality showed that the client rather than the vendor often must improve.

A **dominance check** in the Clarification Phase was applied by three projects. The interviewees who answered here with "Yes" did so to acknowledge the reassessment of the documents on dominant information. However, this did not imply a check such as the one Kashiwagi proposed in the Selection Phase with prescribed weighting criteria. It was purely a reassessment of the documentation regarding dominant information. It must be noted that the three projects which applied this check in this phase did not do so in the Selection Phase, and vice versa for the others. One can argue that at this stage the vendor is already filtered to be highest value. To have an additional filter it can deviate from the BVP definition of objectivity and introduce more subjectivity instead. However, these clients considered it important to guarantee all aspects were covered. And as one client mentioned that not only in this part of the procurement dominant information should be assessed, but should be a constant factor throughout the interaction process.

The indication to what extent the **vendor is involved in framing of contract** can suggest the workings of BVP. The projects which did not allow the vendor to write the contract were doing so because of limitations. This was the outcome of lawful regulations or was limited in their processes as the case being in the middle of the supply chain making virtually impossible for the vendor to contribute on this element. The ones involving the vendor were doing so to the degree they completely wrote it with merely standard client conditions, with one client using the vendor's contract entirely. The frameworks in which the companies work will have procedures for general purchasing conditions or proposed risk allocation. For this reason, it can be virtually impossible for the vendor to write the (complete) contract. However, the vendor contributes to the content of the contract with the presented documents up to this point. This contribution is determined from the tender documents including the risk assessment and value added documents, the interviews and other proposals made during the Clarification Phase. But, as in the projects here, the contract terms initiated from the client for most projects. One can argue that it might not desirable to let the vendor write the contract. The factual parts might go well, but the vendor should then also perform the contract management in the Execution Phase. This could be unknown grounds for a vendor to work with and introduce unnecessary

pressure. But with the one project where the client used the vendor's contract, some projects allow for such management.

In the projects where the client was not **financially responsible for all controllable risks**, it was assumed that the risks within the sphere of influence should not be regarded as risks. Expertise means that a risk is not a risk if it is manageable by expertise, so argues BVP. The Clarification Phase is used to define risks and its mitigation strategies. This was often considered a grey area since a risk can be defined outside one's control while it is not. When used properly however, BVP should diminish opportunistic behaviour as such with accountability is taking its place.

Five projects introduced a **risk contingency fund**. This was built as a percentage of the budget ceiling to absorb unforeseen circumstances. These were mostly related to constructional risks which are predicted not likely to occur. Examples were given such as archaeological value or presence of buried WWII explosives. Such a fund can be valuable for construction projects where unusual risk can happen like these, but in projects such as food delivery one could argue it to be redundant.

Weekly reporting gives the chance to the client to perceive the status of the project periodically with dominant information. It is a tool for the vendors to show how they minimise and manage the impact of deviations from the project scope on a weekly basis. The projects which used it backed up the argument saying the project progress is communicated with transparency. Especially for large companies, this reporting was regarded a must. Two projects practiced this reporting in the Clarification Phase. They experienced benefits from this practice by a smooth transition to the Execution Phase. However, others considered weekly reporting redundant by not giving much value besides the already existing updates. It was in that sense experienced dogmatic rather than pragmatic. Weekly reporting can be useless in certain projects and considered giving more work. However, it can create confidence for the client when other communication channels are low. After all an empty weekly reporting indicates a stable progression.

Satisfaction/ performance measurements indicate the client's quality satisfaction of the contractor's progress and risk control performance. This is to minimise impact on time and scope. Six projects used this of which several without applying it on the weekly reporting as suggested in theory. These measurement ratings can be very helpful in projects where clear overview is not apparent such as large companies. But as encountered by several projects, sometimes the relationship is such that impressions of both sides are shared continuously eliminating the need for such measurements.

Directors reporting are the collection of weekly reporting for the client's management to have an overview of ongoing projects. As indicated in four projects, this is convenient for larger companies having multiple BVP projects in progress. It creates transparency with minimum communication transactions. It can however be useless for single BVP projects. In that case, it will only contribute to more bureaucracy without adding value to any of the parties.

4.3 How should BVP be conducted in the future?

The interviewees indicated in their discussion the importance of the already discussed elements. But besides these elements the interviewees indicated several factors which are not necessarily written down in the theoretical framework. Yet these were flagged as important to include for future work along with the awareness of perceived limitations of the methodology.

A recurring message covered the importance of the pre-award period, including, and arguably especially, the preparation. "The start is so much more important than the tail". The client is to come with a realistic budget which the vendor can propose for. It is then important to understand the market the client identifies his needs. Otherwise the vendor can never truly create realistic proposals. The tendering guidelines for the procurement are to be written in the most realistic manner. These aspects of clarity in this initial contact to the market from the client's side are to claim transparency and success later on.

The Clarification Phase is the most important phase when building a BV relationship is concerned. It is therefore important to adhere to the methodology. The contract has not been awarded yet so the contractor is not to assume the project is in his hands already. This period is not designed so he is able to start the job already. On the other side the client is to stick to the 'let-go' objective role. Experience tells that clients can have the tendency to start proposing solutions, measures, etc. One BV expert indicated the client's core team tendency to interfere with the perception of their normal job. They would perform their rating with their personal background information from experience. This contradicts the essence of the Clarification Phase. However, it is vital to draw clear lines. One BV expert past project involved a client who allowed a vendor to deviate from the proposed plan in the Clarification Phase which led to a significant project overrun in a later stage. So, it is an important factor to keep each other sharp of the philosophy all times and not fall back and claim traditional roles, especially in the early stage in the Clarification Phase.

Trust is a very important basis on which a good BVP relationship is to be built upon. Here the interviewees mentioned to always include discussion moments in meetings which are

focused on how the meeting went. Focusing merely on the process was not considered enough. Success is concerned with transparency, group dynamics and the behaviour of both parties. Only when openness is present, trust can be established. Asking each other whether they think the other party is contributing enough, and building upon that, can enhance the atmosphere of openness and honesty for such a relationship to thrive.

BVP requires a multidisciplinary approach. The client is to profile for the BV vendor and to deliver an effective work environment for the vendor to work in. To follow a project manager's words, it is after all the vendor who chooses the client to work for, not the other way around. The client is therefore to not limit their willingness in the selection with a limited organisational approach. BVP goes through the hierarchy of a company. Perhaps therefore the Netherlands is one of the first countries to receive BVP as their hierarchy seems to be not valued as much as innovation reached as a team even throughout predefined roles.

Another factor mentioned several times was the importance of a visionary manager. Such a person is the constant factor in the process who understands the possibilities of BVP. All levels of project hierarchy and management can be included in a procurement process. Therefore, a visionary is important to include to maintain coherency within such possible diverse endeavour. A visionary can entail a sponsor, but a sponsor can be limited to just financial support and not the desired group dynamic support.

4.3.1 What are perceived limitations of using BVP?

A reoccurring aspect discussed by the interviewees was the soft side in the procurement process. According to them, the original methodology does not describe the human soft aspects sufficiently. As a result, the cases were experiencing some pitfalls from both sides. The vendor was often behaving conservative "this is what I do" instead of being determined to improve the decision-making process. The client's pitfalls were either retreating to traditional governing behaviour or the opposite to turn away from the project too much and let the supplier solve the job. To abstain from the soft elements in such a procurement it is plausible to lose the we-frame. Each party should realise what he can contribute to the process. There should be a continuous effort to enhance the perception of human behaviour and facilitate for dialogue. This must be done in the entire procurement including, and perhaps especially, in the Execution Phase. It was experienced that in this phase it can be very tempting to fall back to traditional methodologies. Building a tender relationship requires constant feedback loops, from beginning to end. This

entail continuous communication, transparency, treating the oppositional and managing risks by the most capable party.

As a BV expert interviewee discussed, the vendor should be challenged to enhance their designs by including life cycle costs (LCC) in the procurement. The client can request for maintenance and material delivery throughout the life-span of the delivered design and not merely a single delivery of a good. One can argue that this can lead to enhanced solutions since the vendor must design for effectiveness and durability of the project. The vendor is then not just considering the client's needs but all potential stakeholders. By bringing back such impact analysis will enhance the idea that BVP is about learning so to perceive a project as a static event will prevent such learning. To envision a project as a process however, not a project with beginning and end, will enhance learning experience. So, the client and not only the vendors, is encouraged to have a chain working point of view to attract long-term analysis and learning cycle back into projects. Involving the entire life cycle in the process has shown to result in better quality, higher efficiency, lower price and higher end-user's satisfaction.

BVP methodology seems to be grounded on the client's position to be the last of the supply chain. As mentioned before, one projects involved a client (an integration expert) who is a vendor himself. The corresponding interviewee has given the remark towards the methodology regarding the position of the client. Theory seems to be simplified in this regard and does not describe a client which is a contractor himself. However, BVP is in principle designed for all levels in the supply chain as the theory does not specify otherwise either. Reason for not specifically implementing such client's position in the methodology is that it could introduce certain obstructions (and perhaps lower its image). If a client is depending on a client himself whether a project becomes reality, the efforts made in the BV procurement could stop when transferred to the client's client. Also, when a client is in the middle of an intensive BVP relationship building process and the client's client abruptly stops the tender request, all effort can go to waste, so experience tells also. The interviewee also indicated the influence of his position on the Clarification Phase. It is in this phase where the client is to let go off governing behaviour which can be difficult when having restrictions by his client himself. On top of that, a limited time frame from the outside can be very intense and introduce unnecessary pressure. One could raise the question whether a procurement is still BVP if a client who is in the middle of a supply chain purchases according to BVP but his client does not. However, when the client's client is made aware of the client's procurement method, BVP has shown to substantially improve collaborations and achieve higher performance still. BVP cannot alter the position in the supply chain but the result can still be guaranteed.

5 Conclusion

The identified research gap has led to the materials presented in this report. The Dutch BVP theoretical model was analysed whilst comparing with the original version by Kashiwagi. What can be concluded?

5.1 What is Best Value Procurement?

The research question "What is Best Value Procurement" cannot be answered by just stating the steps as proposed in the models. Although the method consists of the Pre-qualification, Selection, Clarification and Execution Phases in a systematic manner, users of the method must be aware that BV is not just a vendor selection method. Rather, it is a way of working towards building a solid relationship throughout all the phases of a project including, and one might argue especially, the execution. One can focus only on the Selection Phase to find the best vendor, but it is vital to realise the underlying philosophy characterising a "letting-go" behaviour so that the vendor's expertise is truly flourishing throughout all the phases. BVP cares for the improvement of quality of the project and increases efficiency and expediency throughout the entire chain.

The methodology distinguishes itself from traditional procurement methods on several aspects. The anonymity and objectivity of the vendor selection diminishes long processes of relationship building and performance measuring. The client's decision making is minimised so that the contractor is encouraged to differentiate himself from others by offering proposals with dominant information. The responsibilities of project risks are optimally allocated with the vendor fully responsible during the Execution Phase. BVP is based on the vendor who is the expert and can therefore identify and manage risks best. As a result, the client has more room for focusing on project essentials rather than managerial responsibilities. The vendor then has the space and resources to increase value by delivering more quality, innovation and customer satisfaction and reduce costs and time.

The nature of the discussed methodology adaptations is either circumstantiality such as regulations or because of experience such as in the case with the use of planning as an award criterion. This adaptation is also reflected by the projects which concludes that BVP does not have only one strict way of applying it. In many projects in the Netherlands there has been many deviations from the original model. A good example is the largest pilot which recognised eleven significant differences at an early stage whilst it was very successful in its achievement.

5.2 What are the experiences from the use of BVP in Dutch projects?

The origin of BVP lies in the construction sector and mostly of governmental nature. The pilot projects and early adaptations in Netherlands were within this sector. One could question then the applicability of BVP in sectors not of this nature. The case study involved eleven projects ranging from food delivery to security service to housing renovation. With their success, BVP has demonstrated adaptability to a wide range of sectors both in private and public procurements. It has shown to improve use of expertise and risk management and increase value whilst lowering costs. Though the use of elements varied somewhat as the matrix indicated, the interviewees have indicated the importance of applying the fundamentals of the methodology; transparency and accountability. Without reproducing traditional patterns, clients have been able to access the market faster and obtain value from expertise more effectively with these fundamentals including the Information Measurement Theory.

Reoccurring reasons for the projects to use BVP was to extract expertise from the market in a more effective manner. The clients experienced their internal processes not parallel to external contractors to yield the best value. With the help of BVP this has pointedly improved by emphasising the pre-award phase. The management capacity is especially occurring in this phase and less in the execution. The client is to specify functional needs in the tender document but should abstain from specifying other specific plans and tools. As a result, much more space was created for creativity and optimal use of expertise. Expertise extraction was therefore considerable more apparent with more valuable solutions and collaboration for less costs and time.

From the conducted case study, it can be concluded that the projects do follow the matrix. But the nature of the environment the procurement is conducted in has influence on the number of used elements. One can state then that if the benefits of BV are reaped, there will exist different forms of the BVP method because of environmental or circumstantial factors. The selection filters are necessary but not all elements have to be ranked as equal importance. A project cannot function without a core team or the MEAT criteria for example but can still reach success without applying weekly reporting. Though it can be determined that the more a project stays in-line with the philosophy by applying the method's steps as accurately as possible, success will be more apparent because of the developed method. But whatsoever the extent a project applies the method, the main philosophy of non-control is and should be at the core of the client. The proposed models can indeed be deviated from to some extent for adjusting to the ways of specific projects if the BV paradigm stays present without the client

making decisions. However, if one claims to be applying BV methodologies without following (fully) a prescription, the chance of creating hybrids and possible associated pitfalls cannot be disregarded. But, a project can be considered BV with promising outputs when applying the methodology as indicated by the case study.

The BVP is a proposed methodology as well as a philosophy. As especially Kashiwagi discusses, it is important to recognise the fundamentals of the philosophy for the elements to have results. The Dutch seem to typify BVP more as a roadmap with elements in each phase. Here it is important to emphasise that one cannot claim the individual elements to be BVP. The essence of the BVP method is the sequence of the elements. It is noteworthy to underscore the definition of BVP as a methodology; a means to an end. It is a tool to come more fluently to expertise absorption; it is not the end itself. As an interviewee stated, it does not bring solutions to all problems but the way they are treated is more mature. One should keep the essentials in consideration by remaining pragmatic and not fail to recognise real problems because of dogmatism. A client must still study its environment and the BVP required adaptation to it.

5.3 How should BVP conducted in the future?

The application of the proposed theoretical elements with its filters at its core have shown to indeed contribute to founding a strong relationship with the best value vendor. The elements are a path-way for tailoring expertise in such a way where the vendor can confidently take control, mitigate risks without opportunistic behaviour and deliver better quality to price balance. Reduction of uncertainty and increase of cooperation are the result. Especially after applying BVP in several projects and establishing routines, the clients are very content with the methodology. Because of the adaptation possibilities, the BVP potentials are promising in new projects in new environments. As mentioned, the Norwegian governmental agency Difi is now in the initial phase of starting the process of realising BVP in several pilots. As the case study has indicated, the sequence of the (most essential) elements has led to desired project outcomes as discussed. Future applications are therefore recommended to follow the same trend until further improvements can be acknowledged. The level of success will depend on the level of adaptation of the BV method according to the environment these (pilot) projects will be working in.

This research functions as a stepping stone toward a further in-depth study of BVP so that future projects can benefit from it. Although the obtained results are from a limited number of projects, it has given insights as aimed for. It can be expected that when a case study is

applied on an enlarged number of projects, comparable results will be attained. However, several recommendations can be made for future studies to enhance the understanding of these findings.

6 Future research

In the presented research here, only hard elements were considered because of their measurability. Soft elements were not discussed. Focusing on the proposed procedures too much one might forget the importance of soft skills. Even though the project process was considered successful, behaviour and group dynamics were not necessarily transparent and accountable. Future studies are then recommended to enlarge the perspective by analysing the importance and impact of soft elements in these types of procurements.

The case study involved eleven projects, examining mainly the client's perspective by conducting one interview per project. For future work to be more representative, it is recommended to increase the scope of the case study. By enlarging the number of projects, the complete underlying spectrum of elements will solidify the presented findings. Though the case study interviewed BV experts which have the overview of both parties, future studies should consider analysing both parties separately with perhaps multiple key persons.

As discussed, the theoretical model does not teach BVP tailored specifically for clients in a different position other than the end of a supply chain. The vendor might then not be as free resulting in limitations of the methodology. This increase of complexity of performance measurements can result in significant method adaptations. The given theoretical models might therefore be of too modest or utopian nature. Future research is invited to analyse the BVP as a function of positions along the entire supply chain to proof full adaptability.

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Best Value Procurement - The Practical Approach In The Netherlands

Abstract

Traditional procurement methods leave much room for improving risk management and value creation. However, Best Value Procurement (BVP) is designed to increase project value by mitigating risks and increasing the transparency by underscoring the pre-award phase. This shift in paradigm is reached by following a sequence of elements with the principles of transparency, performance information measuring and contractor clarification.

The BVP philosophy is developed in the USA. Following is the Netherlands which has practiced it in many projects. Suggested is to follow firmly the method for obtaining the enhanced yields. However, little research has been done on the alignment of the practice with the original philosophy. The purpose of this paper is to fill part of this knowledge gap by identifying process elements from the theoretical versions and examine the extent of practice in real projects. The findings form the foundation for recommending elements to be used in practice.

The chosen approach for this research was a literature study and an eleven-project case study. The case study was carried out by conducting interviews with key persons including clients, vendors and involved experts in a range of market sectors.

The findings show that the proposed core elements of the theoretical processes are indeed in-line with most of the practiced processes in the cases. As reflected by the case study, using the BVP principles and the elements sequentially has secured use of expertise. Consequently, an increase in quality and transparency whilst decreasing price of projects were achieved.

Keywords: Best Value Procurement; BVP; The Netherlands; BVP elements; Procurement methods

1. Introduction

With traditional ways of project procurements (typically characterised by sequential phases), the involved parties are often working in their own specialised silos. As a result, the ones at the end of the sequence of project phases is to manage all the errors made up to that point. In each phase, unnecessary errors can be made. In addition to this silo-thinking, it can also decrease customer satisfaction[1,2]. When overall complexity and need for collaboration in projects increase, new endeavours for procurement methods are required [3,4].

A solution to these common problems is solved with the early involvement of contractors where the parties are merged into one single contract. After the client has identified his needs to be satisfied, it is the vendor who is required to be the expert and identifies risks throughout the entire chain[5]. Vendors are to look outside their silos to coordinate from the start by identifying and minimising the impact of risks. This is where Best Value Procurement (BVP) is rooted. This method was created by Dean Kashiwagi at Arizona State University and it is about selecting the best vendor suitable for the job after the client has identified the needs and facilitating the space required for him to come through and minimising the client's management and control[6]. BVP is about less and management and more added value throughout the entire supply chain. The method has been applied throughout many industries and has been shown a substantial impact on quality and efficiency[7]. It has proven to be one of the few methods to both contribute to the client's as well as the vendor's benefit[8].

BVP can create a transparent relationship with minimised risks by making the expert vendor responsible. It aligns available knowledge in the best way to come to a win-win situation. Project risks are with the client but its management and control are shifted towards the vendor who is selected to be the expert. He is the one who can

see the project from beginning to end and is most capable of identifying these risks, handling and minimising them throughout the entire chain. This can lead avoiding unnecessary difficulties. The work is executed in much more effective and efficient manner and the project's relationship will improve significantly.[1]

After the client has identified his need, the BVP theory states that the contractor takes over and is in the lead during the Execution Phase. The contractor is the one who will finally decide what will be delivered. This lowers decision making and decreases the risk level, especially when the client would make these[6]. Rather than trying to reduce the impact of risks in the Execution Phase with the traditional ways, BVP enables to identify and mitigate additional work upfront[5].

According to the explorative study carried out prior to the presented results here, little research seems to be available on the extent of the practicality of the proposed theoretical. Also, it cannot be ignored to state that BVP can claim to be the elixir to every procurement problems. The awareness of its results, however, is increasing. This has led to clients using (elements of) the BVP according to their specific procurement. The Netherlands has applied most BVP after the United States since 2005 with 130 registered projects until 2012 and has been exploded since[9,10]. As are result, these procurements called Best Value (BV) are actually hybrids with traditional elements and do not have the same ideal results. This can 'dilute' the proposed theoretical process[11]. Considering the number of projects, not much data has reached academia so the need for practical documentation can be considered high. For this reason, this research's function is to analyse the presence of the theoretical process elements in real projects. To address this perceived knowledge gap, the following research questions have been acted upon:

- What is Best Value Procurement?
- What are the experiences from the use of BVP in Dutch projects?

This paper focuses on identifying the process elements of the BVP. This is done by first presenting theory after which the methodology describes how this is used for finding the implementation of the elements. The case findings are then discussed based upon the proposed theoretical processes elements on which the research questions are revisited.

2. Methodology

The research reported upon in this paper was initiated by, firstly, a scoping literature study according to Arksey and O'Malley (2005) and, secondly, a case study was carried out by conducting interviews and a document study.

The performed literature study was carried out to identify the core principles and steps of the BVP workings. The research was carried out by searching on search engines and databases such as Oria, Scopus, TU Delft Library, Google and Google Scholar. Search words as "Best Value Procurement (Netherlands)" and "early contractor involvement" were used. Important documents were used for citation chaining for connecting to other documents.

Eleven projects were examined according to the prescriptions of Yin (2014). The projects were both public and private procurement projects carried out from 2011 to 2016 in the Netherlands, all applying BVP in sectors ranging from construction to food delivery. The projects examined were chosen based on availability and relevance.

A document study was performed upfront of the interviews to gather background information for understanding the projects. The documents identified were of a very general nature, not providing satisfactory information for illustrating the veritable challenges of the projects. During and after the interviews, documents restricted from public access (especially tendering documents) were provided from five of the projects. The other six projects did not provide such documentation, considering the material to be too sensitive to be scrutinised by outsiders. All documents were examined according to the prescriptions of Weber (1990).

The interviews were held with a responsible from client's side for ten out of eleven projects. Only one interview per project was carried out. They were carried out from autumn 2016 to spring 2017. The interviewees were approached individually with a semi-structured focused interview over Skype or telephone in Dutch[13]. The interviews lasted 45 to 90 minutes. Field notes were taken after which the transcribed versions were sent to the interviewees for checking. In the considered projects, the interviewees occupied positions such as (internal) BVP expert, project manager and procurement coordinator. Mainly the client's perspective has been analysed.

The nature of this explorative research has led the scope to be limited. Until 2012, 130 BVP projects were registered. In the time after, this number has grown exponentially. Also, the interviews were not held face-to-face, which can be considered a limiting factor for the sharing of information.

3. Theory

The lack of understanding of responsibility and accountability is often one of the major factors for project failure[15]. Where other methods seek security in rules and regulations, BVP appreciates the expertise, accountability

and transparency. It allows for higher creativity and quality resulting in a better market place without losing added values by resources for frequent inspections, regulations, etc.[16]. By using the vendor's expertise, the project is reduced in complexity, duration and cost while increasing the quality[17]. Though it is a simple method, leadership and involvement of workers then is of great importance since known frameworks are let go off and are replaced common sense and logic at its core. As Kashiwagi puts it, BVP is not merely a procurement method but an approach based upon natural law[6]. Rather than changing and manipulating people, one can understand the nature of transactions which then can be anticipated on using expertise to a maximum, with minimising risks and maximise value as a result.

To answer "What is Best Value Procurement?" one should address the foundation on which the BV philosophy was developed; the Information Measurement Theory (IMT). It revolves around the predictability of events with the information available about the event to go from low bid environment to an information environment by using performance characteristics[18]. It states that all events' exclusive final conditions would be predictable if one has all the required information based on initial conditions and the natural laws[11]. Here, BVP is parallel to where the time spend upfront of the Execution Phase is used for the vendor to identify their performance measurements, predict all possible outcomes and recognise the best way to merge their expertise with the given problem[19].

The theoretical framework of BVP contains four phases; *the Pre-qualification, Selection, Clarification and Execution Phase.* Decision making and bias are traded for selecting vendors in a process which is based upon an automated process. This results in more effectiveness and efficiency for the client decision making process[8]. This is done with the following filters applied to all vendors in the Selection Phase to find the best value one based upon performance information: Selection Filter I: *Project capability*; Selection Filter II: *Interview of key personnel*; Selection Filter III: *Prioritization using all the ratings*; Selection Filter IV: *Dominance check of the best value vendor*. The nature of these filters allows clients to select the best expertise vendor based upon dominant information; simple and without requiring expert knowledge[16]. They are based on transparency appreciating all expertise. But, especially in markets where many participants are qualified, prequalification can be attractive to use which limits the used resources both from client and non-qualified vendors[20]. Van de Rijt and Santema (2013) argue that a deviation from the use of these filters in the BVP 'path' can in a later stage result in greater risks.

With the capability documents, including the risks assessment and value added document, the vendor is not trying to stand out by defining risk and added values but indicates his abilities to realise the claims regarding these risks and opportunities[21]. This separates the high from the low performing vendors who have the possibility to bring both parties risk and can require old patterns of managing and controlling[22]. Much emphasis is put on risk identification in the Clarification Phase where the one selected vendor is elaborating his plans. Because, when there are undefined risks in this essential phase before the contract, the chance is high the vendor will not be able to mitigate them when they are occurring later[23].

Tender criteria other than price have been in the spotlights in the Dutch construction industry for long and have been proliferating to other industries. Rijkswaterstaat, which is part of the Dutch Ministry of Infrastructure and Environment, has used most economically advantageous tender (MEAT) more and more and has been an early user of BVP. An infrastructure project of €600M by Rijkswaterstaat was the largest BVP pilot to date introducing several adaptations on the original methodology. Since, BVP has shown to enable vendors to differentiate from their competitors and guarantee value to the owner.[10,24]

Rijkswaterstaat has been able to let go off control over the vendor's scope, risk management and contract administration. It has lowered the construction costs for Rijkswaterstaat by 50% and condensed the project average completion time with 25% whilst still maintaining EU requirements[10]. Since the introduction of BVP in the Netherlands, the interest in BVP is spreading and many companies have been applying the method including several large municipalities. In the US, BVP has shown to increase the delivery with factor tenfold, decrease the finish time and deliver on budget of 98 percent of 480 cases while lowering the client's managerial input by 80 to 90 percent[25]. BVP has enabled projects to stand out from competitors, delivering higher value for money while appreciating the fundamentals of transparency and objectivity.

4. Findings and discussion

The case study result is shown in Table 1 displaying the use of the proposed theoretical elements, based on the original method by Kashiwagi and the Dutch "Prestatieinkoop". It indicates that the eleven projects applied most of the elements in their procurement process. One could argue then the value of the entire process is found in applying all the proposed elements, but some remarks can be made.

"Hard elements" have been chosen from the theory since they can be measured with more certainty than soft elements. However, that does not imply that soft elements are separated from the ones in the matrix since soft elements follow, and can be built upon, these measured elements. Also, it can be argued that some of the elements

are not specifically BVP. Here it must be noted that the findings show the overall use of the elements and the sequence of use in the consecutive phases.

The element 'MEAT' in the Selection Phase indicates the use of the proposed documents including the level of expertise, risk assessment and added value documents as well as price and the interviews, indicated separately, for identifying the BV vendor. The rating of these documents is based upon weighting criteria depending on the project.

Table 1**.** The matrix presenting the presence of the BVP elements in the cases

Included Elements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Pre-Qualification Phase											
Choosing a sponsor	X	X		X	X	X	X	X		X	X
Involvement of an (external) BV expert	X	X	X	X	X	X	X	X		X	X
Selection & educating core team	X	X	X	X	X	X	X	X	X	X	X
Pre-qualification of vendors	X	Invite	X	Invite	X	X			X		Invite
Training sessions for the vendors	X	X	X	X	X	X	X	X			X
Core document /Request for Proposal	X	X	X	X	X		X		X		X
Open budget w/ ceiling	X	X	X	X		X	X	X	X	X	X
Selection Phase											
MEAT	X	X	X	X	X	X	X	X	X	X	X
Time-plan as a prioritization assessment		X		X	X						
Short listing		X		X	X		X				
Interviews with key personnel	X	X	X	X	X	X	X	X	X	X	X
Prioritization / dominance check				X	X					X	
Multiple grading groups	X										
Clarification Phase											
Kick-off meeting	X	X	X	X	X	X	X	X	X	X	
Risk management plan	X	X	X	X	X	X	X	X	X	X	X
Detailed plan / Scope document	X	X	X	X	X	X	X	X	X	X	X
Elaboration of subcontractors	X	X	X	X	X			X			
Reassessment of interviews		X	X		X						
Usage of Key Performance Indicators	Low	X	X	X	X	X	X	X	X	X	
Dominance check	X	X	X								
Vendor involved in framing of contract	X	X	Lim	X	Lim	X	X	X		X	
Owner financially responsible for all controllable risks		X	X	X		X	X	X	X		
Risk contingency fund	X		X					X	X	X	
Execution Phase											
Weekly reporting	X	Month	X					X	X	X	Temp
Satisfaction /performance measurements	X	X	X	X		X	X		X		
Directors reporting	X		X			X			X		

1. Upgrading Canal Rijkswaterstaat
2. Mitros housing corporation
3. Highway junction Rijkswaterstaat
4. GGz Utrecht
5. IHC Merwede
6. Municipality Utrecht
7. Boehringer Ingelheim
8. NIC Friesland safety region
9. ProRail
10. Municipality Groningen
11. UMC St Radboud hospital

A **sponsor** is an entity that recognises the need for increasing efficiency and accountability and the overlap with BVP. The interviews reflected this by stating the involvement of a sponsor to give important support; especially when it came to the prevention of the tendency to fall back to traditional methods. The position ranged from facility manager to department directors to an external company, from high to low level of involvement. The benefit of such sponsor is the support for the project and opportunity given to perform/try-out the BVP method. One could argue that the expert pursues such a role as part of his purpose.

A **BV expert** is to ensure the quality of the BVP execution and generate transparency throughout the procurement. Reasons for using BVP in the cases were almost always tailored towards the need to approach the market more effective and subtract expertise better to improve value for decreasing costs. In the majority of the projects an (external) expert was hired by the client throughout all phases to ensure these intentions of BVP were as developed. Without practical experience, a tendering process is most likely to follow old patterns since BVP is let go off traditional structures. Especially in pilot projects a BV expert is crucial to ensure full benefits from the entire implementation. The disadvantage is that such an expert is costly to hire.

With the help of an expert, a **core team** was **selected and educated** in all the projects. The core team is the constant factor in the process to deliver agreements effectively throughout the phases. The roles of the core teams

can be considered parallel to the theory with very diverse internal backgrounds. Often this was done to ensure objectivity. Experience shows that a shift in paradigm can bring difficulty with acceptance of new thinking patterns.

It has been found that the market sector and the nature of the project, influencing the budget, complexity, etc., as well as experience with BVP made the use of **pre-qualification** vary. Several projects were deliberately pre-qualifying, with one using it for rating, based upon a desk research, others on previous relationships or strictly on invitation only. Reasons for the projects on the private market to use such criteria were to limit the number of applications, being uncomfortable with announcing publicly, or, for the projects with restricted procedure, the qualification was the result of the restricted (EU) regulations from the governmental nature. The use of pre-qualification has benefits including limiting tenders and thus processing resources for both the client and vendors. On the other hand, pre-qualifying might eliminate potential valuable vendors upfront of the actual existing filters.

The **training sessions´** objective is to introduce vendors to the philosophy of the BVP, its process and create awareness of expectations. Most the projects actively involved the vendors in such training. The reception of the BV methodology was varying as resistance can always be experienced with the implementation of a new way of thinking. Some vendors deselected themselves, whilst the majority realised the possibility for them to enhance their proposals. These sessions were considered important for creating the awareness of the aspiring transparent culture.

A **core document** is made for the vendors to build their proposals. It entails everything the client knows at this stage; objectives, scope, planning, weighting criteria, etc. as far as this is possible. Some projects such as governmental projects have tighter regulations to follow which made this document less flexible. For other projects, BVP was already at this point giving the benefit of letting the vendor decide since some clients had trouble with defining the project's need in the first place.

The price is one of the weighting factors in the selection. Most procurements had an **open budget with ceiling** for the vendors to present their material with added values excluded. This gives the vendors the freedom to give their best expertise to price ratio. The one vendor without had an open budget minus ceiling.

The **MEAT** element indicates the use of weighting the documents, interviews and price with certain percentages. The overall weighting was constant with some cases deviations from theory based upon experience or organisational regulations. Prioritization however should to be performed independent of each other for preserving objectivity.

Most the projects stated that requesting a **time-plan for prioritizing the vendors** usually does not show enough differentiation. One project used it to ensure that critical subcontractors would fit in the time-plan of the client's construction planning since the project was in the middle of the supply chain. Others were either involving the time-plan within the project capability document or were using it separately to encourage future thinking.

Short listing can be considered to be an additional filter. In the Selection Phase, this was most often used for limiting the vendors upfront in the beginning, after the requests, or in the consecutive phase. The four projects applying it did so for limiting the costs and time intensive interviews. One client applied short listing after two vendors were already filtered from the interviews which increased their efficiency in the Clarification Phase. BVP is designed to use objectivity to naturally make way for the best vendor the filters as proposed. One can argue that to use short listing, an additional filter, of the vendors the client is stepping away from the tendency of the objective BV philosophy. It can, however, limit process costs for both the client and vendor.

Interviews with key personnel are considered the most important filter for identifying the vendor's expertise. It is to grasp whether the responsible truly understands the project and the claims made in the documents. This is an important step for the vendor to show accountability, explain the risks, and give clear explanations with dominant information and understanding of the method. Hence, all projects implemented this filter. Though the interviews are time-consuming and costly, it is outweighed by the importance of the filter.

A **dominance check** at the end of the Selection Phase can be used to guarantee best value. It was only applied in three projects. This was done to ensure prioritization of the best value vendor at the lowest cost. The rest thought it to be redundant or not in-line with the BV philosophy and realised success without.

In the project of Rijkswaterstaat, **two core teams** were used for rating the vendors and come to an objective consensus. Until this project, Rijkswaterstaat did so to cover the extensive requirements of being a public owner. Hereafter, however, it was reduced to one since it only led to additional managerial complications.

The **kick-off meeting** is the start of the important possible intense Clarification Phase involving the client and the winning vendor. This meeting is to ensure the aim of this phase and responsibilities of both parties, especially the vendor's leading role. Only one case did not apply it, no Clarification Phase for that matter, indicating the usefulness of this element.

In the Clarification Phase, the vendor is to plan the project thoroughly and deliver a **risk management plan**. It categorises risks outside his sphere of control. This builds on the risk assessment document which was considered

in the rating in the Selection Phase. Naturally, this has led all clients to use it. Some have experienced it challenging to identify where the line of risk responsibility was.

The vendor is to work out his scope in completion presented in the **scope document**. This shows the project plan in full detail covering what is included and what is not. To reach the aim for largest goals with minimum scope in a limited time-span the BVP philosophy must not let go off, especially by the client. It can be concerning for the client to interfere but has valuable rewards not to do so, so the case study reflect.

In five of the projects, **elaboration of the subcontractors** was requested in either the interview or in the Clarification Phase because the project was considered either complex and/or high risk involved. In one of the projects, the client also interviewed the most important subcontractors to verify the BV claims of the actual vendor.

Only in three procurements the vendors proactively **reassessed the conducted interviews**. The experts considered this to be valuable to ensure the clients' concerns and needs were covered.

KPI's function as the performance metrics used to indicate alignment to the aim. This gives the client the present status of the developments in the project in one go. Most projects used KPI's, often based upon plausible scenarios created by the vendor, for the periodic reporting in the Execution Phase. It was experienced that when the vendor defines the KPI's rather than the client, it is more in-line with BVP's fundamentals as he can come with more enhanced versions based upon experience. Reality shows that the client often must improve rather than the vendor on measuring.

A **dominance check** in the Clarification Phase was applied by three projects. One can argue that at this stage the vendor is already filtered to be highest value. To have an additional filter it can deviate from the BVP path and introduce more subjectivity. However, some considered it important to guarantee all aspects were covered.

The indication to what extent the **vendor is involved in framing of contract** can suggest the workings of BVP. The projects not allowing the vendor to write the contract were doing so because of limitations. This was the result of lawful regulations or was limited in their processes as the case being in the middle of the supply chain. There it was virtually impossible for the vendor to contribute. The ones involving the vendor were doing so to the degree they completely wrote it with merely standard client conditions, with one client using the vendor's contract entirely.

In the projects where the client was not **financially responsible for all controllable risks**, it was based on the fact that the risks within the sphere of influence should not be regarded as risks. Expertise means that a risk is not a risk if it is manageable by expertise, so argues BVP. The Clarification Phase is used to define risks and its mitigation strategies. This was often considered a grey area; a risk can be defined outside one's control while it is not.

The **risk contingency fund** was used in five projects. This was a percentage of the budget ceiling to absorb unforeseen circumstances. These were mostly related to constructional risks which are predicted not likely to occur such as special ground compositions.

Weekly reporting gives the chance to the client to see the status of the project with dominant information periodically. It is a BVP tool for the vendors to show how they minimise and manage the impact of deviations from the project scope. The projects which used it backed up the argument saying the project progress is communicated with transparency. Especially for large companies, this reporting was regarded a must. However, it was often considered redundant not giving much value besides the already existing updates. It was in that sense experienced as dogmatic rather than pragmatic.

Satisfaction/ performance measurements indicate the quality of the vendor's execution. Some projects used this without applying it on the weekly reporting as suggested because it was considered standard. Rating of the execution performance was only done in three projects.

Directors reporting are the collection of weekly reporting for the client's management to have an overview of ongoing projects. As indicated by four projects, this is convenient for larger companies having multiple BVP projects in progress. It creates transparency with minimum communication transactions but is not useful for single BVP projects.

5. Conclusion

This paper set out to answer what Best Value Procurement is and wat the experiences from the use of BVP in Dutch projects are. Even though the projects were Dutch, the experiences are transferrable to other contexts.

BVP is not merely a methodology but a shift in paradigm, a philosophy based upon transparency and accountability. It is therefore not limited to a single procurement method. However, the theoretical model suggests four phases in which the best value vendor is selected with sequential filters including project capability, interviews, prioritization using all the ratings and a dominance check. These are used to create a win-win relationship founded in transparency and accountability. BVP has been applied in the Netherlands with exponential growth having led to hybrid versions of the methodology. The case study gave insight regarding the

implementation of proposed BVP theoretical elements. The projects experienced BVP as positive as reflected with the use of most elements. It showed that the nature of the project led to deviations from the proposed elements. However, it can be concluded that key elements such as weighting documents (MEAT), interviews, clarification period, are of importance.

The claims of BVP's transferability to virtually all project sectors are corresponding with the range of sectors of projects. It has shown to improve use of expertise and risk management and increase value whilst lowering costs. As illustrated in Table 1, though use of elements varied, the interviewees have indicated the importance of applying the fundamentals of the methodology; transparency and accountability. Without reproducing traditional patterns, clients have been able to access the market faster and obtain value from expertise more effectively. The vendors took this freedom and responsibility to higher the satisfaction of the end users.

In this research, only hard elements were considered for of their measurability. Soft elements were not discussed. The case study involved eleven projects, examining mainly the client's perspective by conducting one interview per projects. For future work to be more representative, it is recommended to increase the scope. By enlarging the number of projects, the complete underlying spectrum of elements will solidify the presented findings.

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Appendix

NTNU
Norwegian University of Science and Technology

Interview guide for the use of Best Value Procurement

My name is Arnoud Storteboom and am in the final year of my master program Project Management at NTNU university of Trondheim. I am currently working on my thesis in which I aim to answer the following questions regarding Best Value Procurement:

1. What is Best Value Procurement?
   - What are the steps and factors involved for the evaluation and qualification?
   - What is the difference between BVP within in the Netherlands and Dean Kashiwagi's "pure" approach?

2. What are the experiences from the use of BVP in Dutch projects?
   - What have been the success factors of the procurement?
   - What are the perceived limitations of using BVP?

3. How is BVP to be conducted in the future?
   - What elements should be implemented?
   - Other recommendations

On behalf of Difi, the Norwegian Agency for Public Management and Government, I am doing research on BVP so that several large pilots across Norway can successfully apply BVP. The reason for me to explore what Dutch projects have done is because the successful implementation of BVP which can form a knowledge bridge with Norway. As a result, the Netherlands can benefit from this by the creation of an international vendor market and increase of European public tendering.

With this interview, I hope the research will be founded with not only theory but with real life experiences as well. The first part of the interview questions discusses assessment of the elements of the procurement with a matrix. The included elements which can be used in the

Best Value Procurement are answered with either ‘Yes’ or ‘No’ dependent whether it has been used or not. These elements are based upon the procurement method (see also Figure 1) by founder Dean Kashiwagi and the Dutch method ‘Prestatieinkoop’ within the phases 0 – 3. Also associated follow-up question directly linked to these elements are given after the table consequently. As a result, the level of implementation of the ‘pure’ procurement method will hopefully be indicated after finishing this interview.

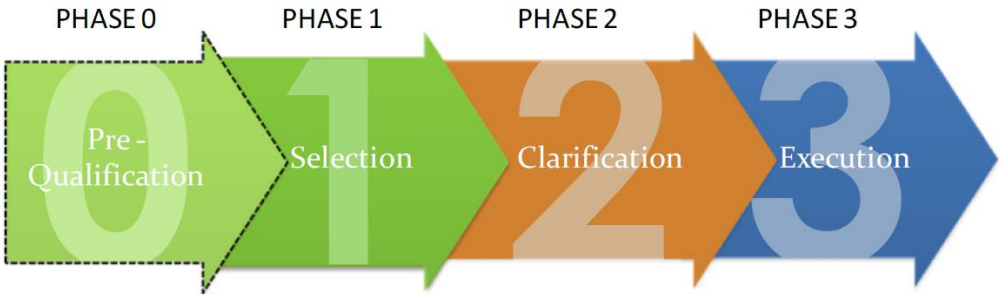

Figure 1: Four phases of BVP (2016 Best Value Approach, Dean Kashiwagi)

The interview is expected to not take longer than one hour in which I will make notes and record the audio of the interview if agreed upon. A summary of the interaction will be sent after the interview and in addition the thesis after completion if desired.

Questions

Interviewee

Name:

Position:

General information about the project

What was the size and complexity of the project?

How would you describe the project?

Why was it decided to use Best Value Procurement on this project?

Yes/No question about included Best Value Procurement elements in the project

Elements BVP	Yes/No
Pre-Qualification Phase	
Choosing a sponsor[1]	
Selection & educating core team[2]	
Involvement of an external BV expert[3]	
Pre-qualification of vendors[4]	
Training sessions for the vendors[5]	
Core document /Request for Proposal	
Open budget	
Selection Phase	
Time-plan as a prioritization assessment[6]	
Award criteria in prioritization assessment[7]: ▪ Past performance information / Level of expertise ▪ Risk assessment documents ▪ Value added documents[8] ▪ Interviews ▪ Price ▪ (Time-plan, in case answered Yes)	▪ % ▪ % ▪ % ▪ % ▪ % ▪ %
Short listing	
Interviews with key personnel[9]	
Prioritization / dominance check[10]	
Multiple grading groups	
Clarification Phase[11]	
Kick-off meeting	
Risk management plan	
Detailed plan / Scope document	
Elaboration of involvement subcontractors	
Reassessment of interviews[12]	
Usage Performance Indicators (KPI)	
Dominance check	

Vendor involved in framing of contract[13,14]	
Owner financially responsible for ALL controllable risks[15]	
Risk contingency fund[16]	
Execution Phase	
Weekly reporting	
Satisfaction measurements / Performance evaluation	
Directors reporting	

What is Best Value Procurement?

1. If Yes, what was the sponsor's position?

2. What was the role of the core team?

3. If answered YES, how much was the expert involved. In case answered NO, what made you not hire them?

4. If Yes, what pre-qualification criteria were used?

5. If Yes, how was the reception of BVP?

6. If Yes, what made you use it?

7. Have other selection criteria been used other than the ones listed below? (If so,) What have been the weighting criteria?

8. Was the price of the added value included in the total price?

9. Did all vendors go for the interview? Did the vendors present the plans, costs and risks SMART?

10. If Yes;

- What weighting factors have been used?
- Has this been done to ensure prioritization of the best value vendor at the lowest cost?
- Was the information dominant (unquestionable, verifiable, accurate, measured with numbers). Was this verified?

11. What was the length of this period?

12. Are the interviews assessed by the vendors to make sure the client's concerns are taken care of?

13. Which parts of the contract is expected that the supplier will be responsible for? Would you say that the vendor has high or low degree of participation in the formulation of the contract?

14. Have you chosen to follow standard conditions for the contract or did you use a custom

contract? Why?

15. If No, what kind of risks were excluded in the financial responsibility? Why were these risks within the responsibility of the supplier?

16. What were the incentives for the fund?

Other

Which procurement procedure has been used: open (without selection) / restricted (incl. pre-qualification), negotiated procedure without prior publication, competitive procedure with negotiation, competitive dialogue, innovation partnership or tender competition?

What type of contract has been used (fixed sum, unit pricing, cost plus, etc.)?

What strategy was used: Design-Build or Design-Bid-Build?

Was it a quantity or functionality based strategy?

What are the experiences from the use of BVP in Dutch projects?

What positive experiences do you have form the use of BVP?

What negative experiences do you have form the use of BVP?

What are considered to be the success factors?

What were the pitfalls if any?

How is BVP to be conducted in the future?

Is there something you are planning to do different in the future/ what have you been doing differently since?

Is there something others should do different in the future?

Are there any elements that are not mentioned here that you believe are essential in a Best Value project?

Were there elements considered redundant? If so, which ones and why?