To Bid or not to Bid, that is the Question: Relating Contractor Bid Decisions to Tender Design Related Attributes

Thesis report

CME2000

By

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Preface

Here I am 9 months after the start of this adventure called graduation. At the start I was motivated and afraid at the same time. Due to my time building a human powered submarine while also starting my masters I was delayed about a halve year as compared to some of my friends. I heard their stories about the adventure most of which were not at all positive. None the less I had already found a company with great supervisors and we had an idea about what we wanted to research. However diving into the existing research this subject was far from original. Thus there was my first challenge: coming up with an original, relevant research topic. By talking to people and reading endless literature I got fascinated by the bid decision and especially how the economy influenced this decision.

I am happy that this topic has continued to interest me throughout my research and I am convinced more research can be done about this subject. This interest contributed a lot to the fact that my research process overall has been steady and at times very enjoyable. However there were also times which were hard, especially during the definition phase. But with the frequent and much appreciated help of especially Bart, Menno and Inigo everything was often clarified very quickly. Of course I also want to thank Hans and Leon for their input during the official meetings, helping to bring the research to the next level.

Aside from graduating especially the last few months I have been living from one milestone to the next. National Championships gymnastics, training to become skipper in Greece this summer and moving out of my beloved student home into a new city. This combination of things I would not have been able to do without all the love of the people close to me. First of all I want to especially thank my parents not only for their financial support but for their unconditional love. Of course my sister who has always been my role model and best friend at the same time. Melchior for his believe in me, putting up with my tiredness and giving me a place to relax. Ilse for being such a good friend and study companion. Lastly, all of roommates which were great listeners and advisers throughout the process.

All that is left is for me at this point is to wish you much reading pleasure.

Anouk Slockers
21st of May 2019
Rotterdam

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Executive Summary

The construction industry has always been an important driver of the economy. An important part of the projects in this industry is commissioned by public entities. However, recently a trend can be observed in which the procurement process fails more often than before. Due to the current times of economic expansion in the Netherlands contractors are more selective in project selection. Failed procurement processes are however undesirable since the transaction costs and time invested in such a process can mount up.

Many scholars have investigated the bid decision of contractors (Bagies & Fortune, 2006; Shokri-Ghasabeh & Chileshe, 2016). Yet, in order to contribute to solving the issue mentioned above not all considerations of contractors are relevant. Therefore, this research specifically focused on those considerations, or decision attributes, that a client can influence during the tender design phase. Resulting in the following research question: "*What tender design related attributes are key decision drivers in the contractor's bid decision and how do these key decision drivers influence the bid decision in economic times of expansion for publicly procured non-residential construction projects in the Netherlands?"*

Research method

In order to answer the research question a mixed method research design has been selected. The attributes have been identified through a literature review, where after they have been validated and supplemented through empirical preliminary open interviews. After the identification of the 12 tender design related attributes, a questionnaire survey was conducted in order to collect and analyze quantitative data on the importance of the various attributes. Subsequently this was complemented by six in-depth semi-open interviews in order to investigate how the attributes influence the bid decision. Therefore the mixed research design is a complementary and sequential design with a nested relationship between the samples.

Results

The importance of the different attributes during the contractor's bid decision have been assessed in the survey on a scale from 1 (not important) to 5 (extremely important). The results of this part of the survey are illustrated in Figure A. From the top to the bottom the attributes are also ranked based on the relative importance index.

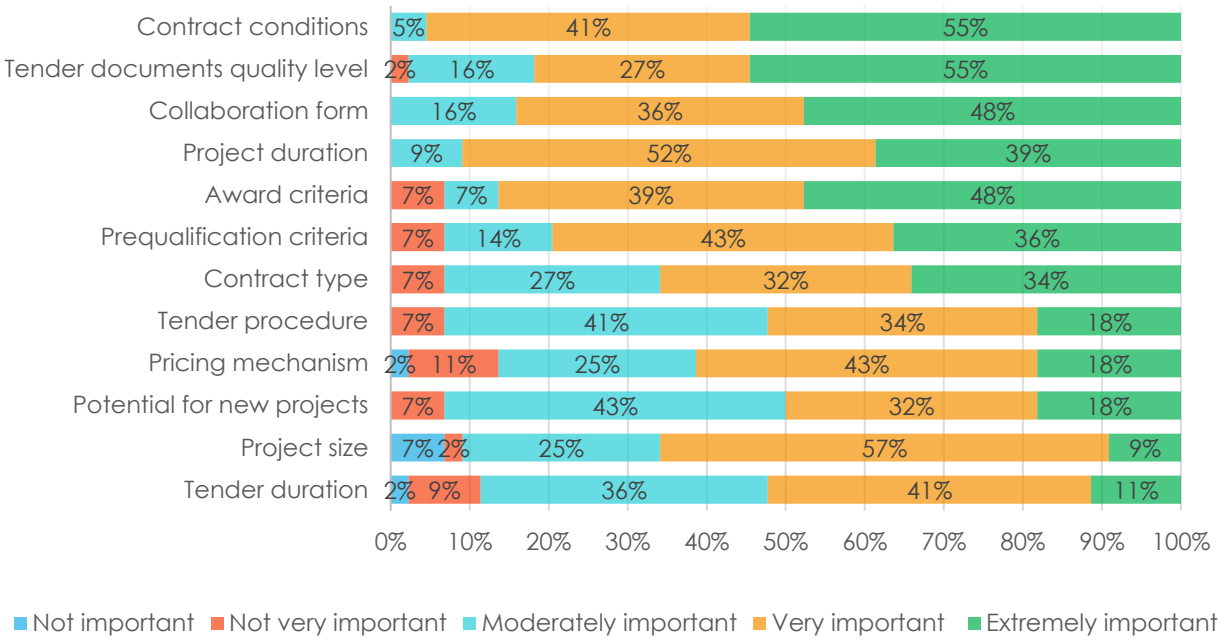


Figure A: Results importance of attributes

The in-depth interviews have resulted in several statements from the different contractors about all the attributes and how they influence their bid decision. Contract conditions are considered especially important since they can lead to high risks for the contractor. Similarly the tender documents quality level will also lead to risk if they are unclear, contradict or contains mistakes. With regard to the collaboration form it is especially important that it matches the sort of project, type of client and contract type. The project planning should be realistic in order to avoid additional risks. The award criteria should be mostly qualitative of nature and contractors should be able to distinguish themselves. The prequalification on the other hand should not be too strict in order to avoid limited competition.

The following six attributes are of significantly less importance to the contractors: contract type, tender procedure, pricing mechanism, potential for new project, project size and tender duration. Although these attributes have been rated of less importance, still the majority of the contractors considered the attributes at least moderately important in the bid decision.

Conclusions

The main conclusion of the research is that the 12 tender design related bid decision attributes are all relevant in the contractor's bid decision. With regard to the question as to how they influence the bid decision it can be concluded that project risks, project reward, tender costs and chances of winning are the main considerations of contractors to participate

in a tender or not. Each of these main considerations can be influenced by several attributes as illustrated in the final conceptual model in Figure B.

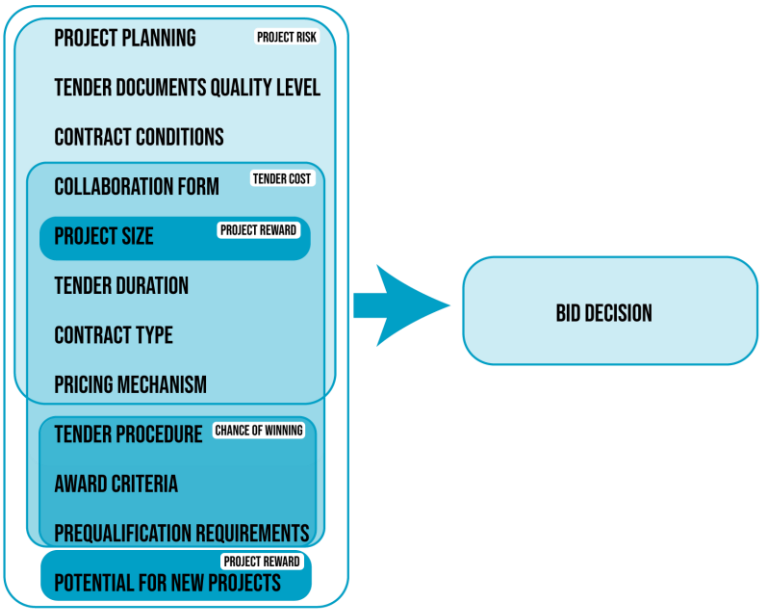


Figure B: Final conceptual model

In order for clients to utilize the conclusions of the research the 'Tender Design Test Matrix' (TDTM) has been developed. The matrix is illustrated in Figure C and should be used as follows. Firstly the client has to assess the project risk (red vertical axis) he has transferred to the client through his tender design. Subsequently depending on the economic situation, applied budget ceiling and competiveness of the contractors, the project risk will be located somewhere on the horizontal dashed line. By adjusting the attributes related to project risk as illustrated in Figure B, the client can move the project risk vertically.

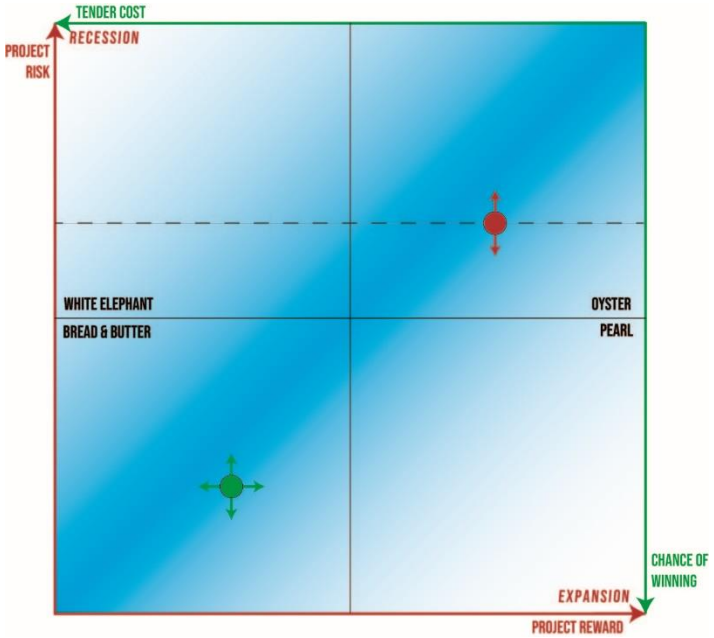


Figure C: 'Tender Design Test Matrix'

The green axes together represent the tender risk. The tender costs is illustrated on the horizontal axis and the chance of winning on the vertical axis. Similarly to the project risk, the average chance of winning and tender costs for the contractors can be assessed. For the tender risk it is possible to move in both vertical and horizontal direction by adjusting the associated attributes.

The diagonal gradient in the matrix displays the economic situation. In times of economic expansion contractors are likely to only bid on those projects located under the diagonal. Whereas during recession projects above the diagonal might also be accepted.

Discussion

Additionally to the recommendations for practice in the form of the TDTM, the following recommendations can be made with regard to recommendations for future research. Firstly this research specifically focused on the non-residential construction sector in the Netherlands, excluding infrastructure. Therefore it is recommended to conduct similar research in different countries as well as different construction sectors. Furthermore research in the field of front end risk based assessment of tender designs can contribute to the improvement of the efficiency of the public procurement.

Executive Summary (NL)

De bouwwereld is van oudsher al een belangrijke drijfveer voor de economie. Een belangrijk deel van de projecten in deze industrie komt voort uit publiek opdrachtgeverschap. Echter een trend is gaande waarin deze aanbestedingen veel vaker mislukken dan een aantal jaar gelden. Door de hoog conjunctuur in Nederland zijn aannemers veel selectiever geworden met betrekking tot het selecteren van projecten. Mislukte aanbestedingen zijn ongewenst omdat er tijd en geld in zulke processen wordt geïnvesteerd die zeker kunnen oplopen.

Veel auteurs hebben de zogenoemde 'bid decision' van aannemers onderzocht (Bagies & Fortune, 2006; Shokri-Ghasabeh & Chileshe, 2016). Maar aangezien niet alle afwegingen van een aannemer om wel of niet mee te doen aan een aanbesteding relevant zijn voor het probleem van mislukte aanbestedingen, focust dit onderzoek zich specifiek op die afwegingen, beslissingsattributen, die een opdrachtgever kan beïnvloeden tijdens het ontwerpen van de aanbesteding. De volgende onderzoeksvraag wordt dan ook beantwoord in dit onderzoek: *'Welke aanbestedingsontwerp gerelateerde attributen zijn de belangrijkste drijfveren van aannemers in het besluit om wel of niet mee te doen aan een aanbesteding en hoe beïnvloeden deze drijfveren het besluit tijdens hoog conjunctuur in publieke aanbestedingen in de utiliteitsbouw in Nederland?*

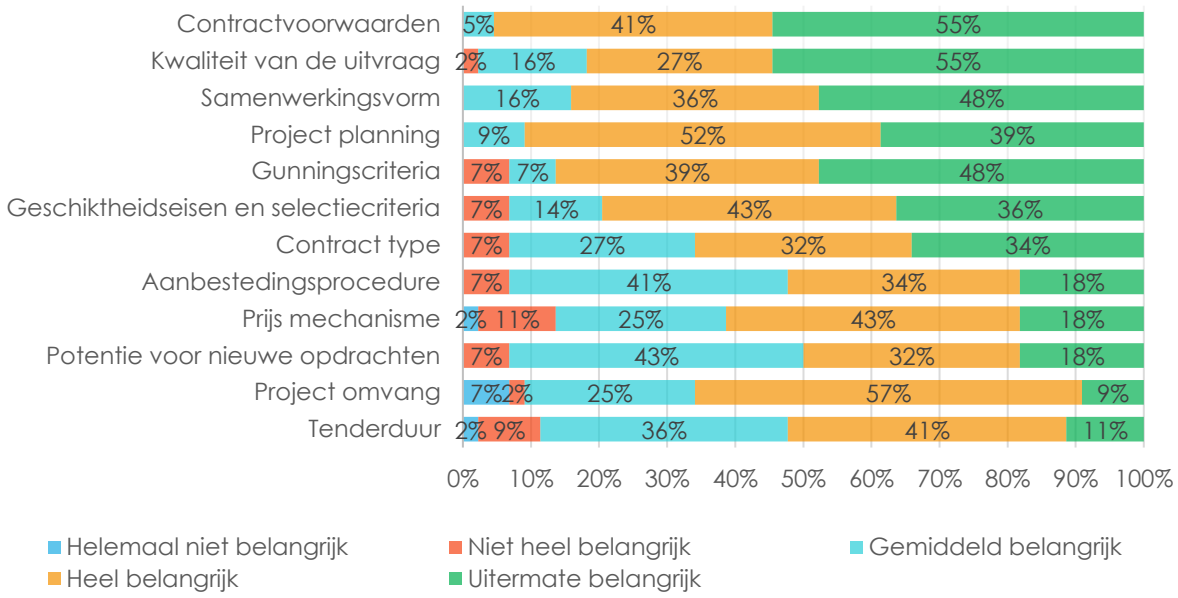
Onderzoeksmethode

Verschillende onderzoeksmethode, ook wel mixed methods, zijn gebruikt om de onderzoeksvraag te beantwoorden. De attributen zijn vastgesteld aan de hand van een literatuur onderzoek. Vervolgens zijn ze gevalideerd en aangevuld door middel van explorerende open interviews. Dit heeft geleid tot het identificatie van 12 aanbestedingsontwerp gerelateerde beslissingsattributen. Met behulp van een enquête is vervolgens geanalyseerd hoe belangrijk de verschillende attributen worden geacht in het besluit om wel of niet mee te doen aan een aanbesteding. Als laatste zijn er nog zes verdiepende semi-open interviews afgenomen om vast te stellen hoe de attributen het besluit beïnvloeden. De onderzoeksmethode is daarom een complementaire en sequentieel ontwerp met genestelde relatie tussen de respondentgroepen.

Resultaten

Het belang van de verschillende attributen in het besluit om wel of niet mee te doen zijn in de enquête gemeten op een schaal van 1 (niet belangrijk) tot 5 (uitermate belangrijk). De

resultaten van dit gedeelte van de enquête zijn weergeven in Figuur A. Van boven naar beneden zijn de attributen ook gerangschikt op basis van de ‘Relative Importance Index’.



Figuur A: Resultaten enquête belang van attributen

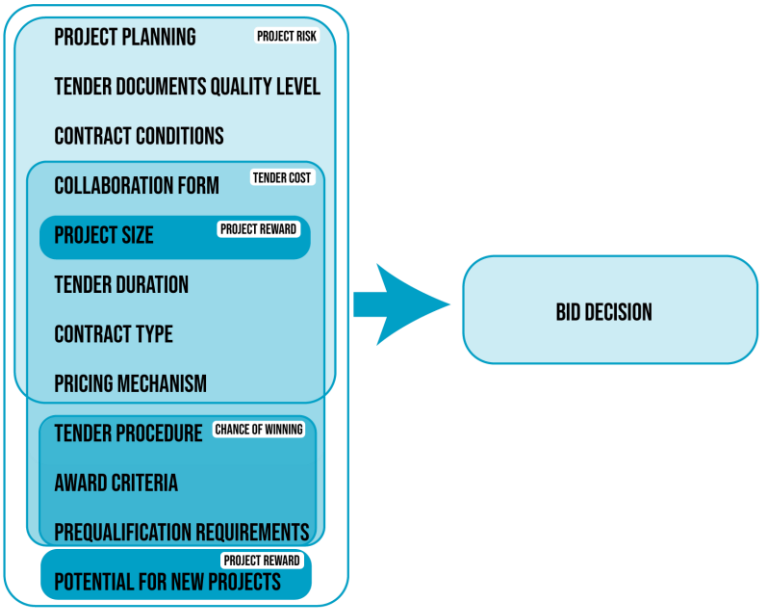
In verdiepende interviews hebben de aannemers verschillende dingen gezegd over de attributen en hoe deze attributen het besluit om mee te doen beïnvloeden. Contract voorwaarden worden erg belangrijk beschouwd voornamelijk omdat deze tot hoge risico’s kunnen leiden voor de aannemer. Vergelijkbaar zijn ook de kwaliteit van de aanbestedingsdocumenten belangrijk en onduidelijkheden, tegenstellingen of fouten kunnen voor risico’s zorgen. Met betrekking tot de samenwerkingsvorm is het vooral belangrijk dat dit past bij het soort project, opdrachtgever en het type contract. De project planning moet realistisch zijn zodat extra project risico’s worden vermeden. De gunningscriteria moeten voornamelijk kwalitatief van aard zijn zodat de aannemers zichzelf kunnen onderscheiden. De selectie criteria moeten daarnaast niet te strak gesteld worden om te voorkomen dat er te weinig competitie ontstaat.

De volgende zes attributen zijn van significant minder belang voor aannemers: contract type, tender procedure, prijs mechanisme, potentie voor nieuwe projecten, project grootte en tenderduur. Desalniettemin worden deze attributen wel meegenomen in het besluit van aannemers om wel of niet deel te nemen aan een aanbesteding.

Conclusie

De algemene conclusie van dit onderzoek is dat alle 12 geïdentificeerde beslissingsattributen invloed hebben op het besluit om wel of niet deel te nemen aan een aanbesteding. Met

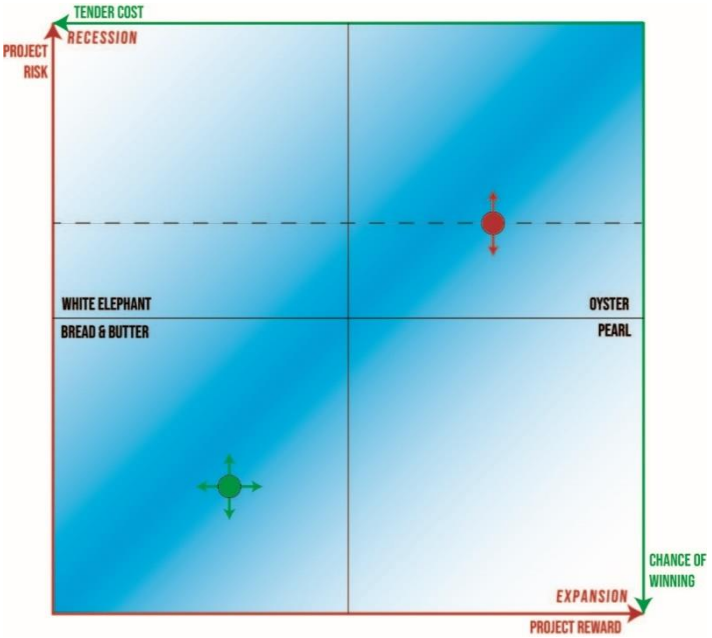
betrekking tot de vraag hoe deze attributen het besluit beïnvloeden kan de conclusie getrokken worden dat project risico, project opbrengsten, tenderkosten en win-kans de belangrijkste overwegingen zijn van aannemers in het besluit om mee te doen. Elk van deze overwegingen kan beïnvloed worden door de verschillende attributen, zoals weergeven in het uiteindelijke conceptueel model in Figuur B.



Figuur B: Uiteindelijk conceptueel model

Om het voor opdrachtgevers mogelijke te maken om de resultaten van dit onderzoek toe te kunnen passen in de praktijk is de ‘Tender Design Test Matrix’ (TDTM) ontwikkeld. De matrix is weergeven in Figuur C en moet als volgt worden toegepast. Als eerste moet de opdrachtgever vaststellen hoe groot het project risico is voor de aannemer op basis van het ontwerp van de aanbesteding. Afhankelijk van de economische situatie, eventueel een plafondbedrag en het concurrerend vermogen van de aannemers kan het project risico op de horizontale stippel lijn worden gepositioneerd. Door de project risico gerelateerde attributen aan te passen is het mogelijk om het project risico verticaal te beïnvloeden, zoals geïllustreerd in Figuur C.

De groenen assen vormen samen het tender risico. De tender kosten zijn afgebeeld op de horizontale as en de win-kans op de verticale as. De win-kans en de tender kosten kunnen net zoals het project risico vastgesteld worden aan de hand van de gerelateerde attributen. Voor de tender risico is het mogelijk om zowel verticaal als horizontaal te bewegen door aanpassingen te maken aan het aanbestedingsontwerp.



Figuur C: 'Tender Design Test Matrix'

De diagonale blauwe overgangskleur geeft de economische situatie weer. In tijden van hoog conjunctuur is de verwachting dat aannemers alleen zullen inschrijvingen op aanbestedingen onder de diagonaal. Terwijl in tijden van recessie ook projecten boven de diagonaal zullen worden geaccepteerd.

Discussie

Naast de aanbevelingen voor de praktijk in de vorm van de TDTM, kunnen er ook een aantal aanbevelingen worden gemaakt voor aanbevelingen voor toekomstig onderzoek. Ten eerste was dit onderzoek specifiek gefocust op de utiliteitssector in Nederland. Het kan interessant zijn om vergelijkbaar onderzoek uit te voeren in verschillende sectoren en landen. Daarnaast kan het waardevol zijn om meer onderzoek uit te voeren over het op basis van risico analyseren van aanbestedingsontwerpen om op deze manier de efficiëntie van publieke aanbestedingen te verbeteren.

Content

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Part I

Research Design

Quote: "Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less." – Marie Curie

1 Introduction

This chapter introduces the research problem, objective and questions. First the problem will be sketched and relevant literature will be addressed, where after the research framework is presented.

1.1 Problem statement

The construction industry has always been an important driver of the economy. In the Netherlands this industry accounted for 4.4% of the gross domestic product in 2017 (Centraal Bureau voor de Statistiek, 2018). An important part of the projects in this industry is commissioned by public entities. Moreover, public commissioning accounts for 3% of small and 11% of large contractors' order books on average in the Netherlands (Visser, 2018). However, public commission as compared to commissioning by private entities has its restrictions. European legislation states that construction projects initiated by a public entity which are above a certain threshold need to be publicly procured.

The goal of public procurement is to stimulate fair competition in the acquisition of government goods, works and services. Within the European Union, most recently, Council Directives 2014/24/EC, 2014/25/EC and 2014/23/EC have forced their member states to update their procurement legislation. Since 14% of the GDP of the European Union is allocated to projects or products which are publicly procured the effectiveness of this process is of huge importance to the European Union and its member states (European Commission, 2018). Nonetheless, the process of preparing and awarding tenders has been described as a time-consuming and costly matter in previous research (Falagario, Sciancalepore, Costantino & Pietroforte, 2012). Yet, the society has accepted this fact as long as this ensures transparency, equal treatment, open competition and sound procedural management (Hoekman, 1998).

Within the current Dutch building industry, a trend can be observed in which the procurement process fails more often than before (De Leeuw, 2018). A failed procurement process is an undesirable outcome for all involved parties, since the transaction costs and time invested in such a process can mount up. Therefore, clients want to avoid this as much as necessary (Westerduin, 2018). Reasons for why procurement processes fail can be multifold, Dutch case law has acknowledged several legitimate reasons for not awarding a tender such as mistakes in tender documents thereby excluding part of potential competition, number of competitors in the tender is lower than expected and issues regarding the budget.

Thus, one of the reasons why procurement processes fail, might be a lack of responses received on the bid, which is something that a Dutch trade journal for the construction sector, Cobouwm (Koenen, 2018), recently observed as well in the sense that tenders get fewer responses. Moreover, the few contractors that participate bid much higher than clients estimated in advance (Koenen, 2018). Analyzing TenderNed data, a platform registering all Dutch public tenders, this trend occurs mostly in non-residential buildings such as swimming pools, schools and sport facilities. The university of Groningen for example recently decided not to award a tender due to the following reason: "*The university came to the conclusion that the chosen tender design in the current market conditions did not result in sufficient competition*" (Aanbestedingsnieuws, 2018). This remark implicates that there is a relation between contractors' decision to participate in a tender (bid decision) and the tender design.

Choi (2014) explains this as follows: with a rising state of the market the availability of appropriate contractors will be limited. Thus, during times of economic expansion there is a necessity for contractors to be selective in their project selection since the order books are already filled to a high extend. For commissioning parties it is therefore particularly relevant to understand contractors' bid decisions during economic periods of expansion if they want their procurement process to be successful.

Additionally, the construction industry has experienced a shift in how projects are delivered and awarded over the last decades. At the end of the 1990s more interest was expressed to construction projects in which contractors are responsible for both the design as well as construction phases (Bleeker, 2014). This as opposed to the more traditional project delivery which is subdivided into several phases.

With regard to awarding, a shift was experienced as well. Instead of focusing on awarding based on lowest price only, quality aspects became a compulsory part of assessing tenders. Contractor workload during preparation of a bid therefore increased significantly.

Both approaches of project delivery and awarding have pros and cons. For this research a relevant downside is the higher tender costs associated with integrated project delivery and awarding based on both price and quality. The more costs a contractor has to incur during the preparation of a tender, the more relevant and complex the bid decision is.

Several authors have conducted research on the bid decision (Olatunji, Aje & Makanjuola, 2017; Shokri-Ghasabeh & Chilehe, 2016). Generally, the goal of this kind of research is to identify attributes or criteria which are important considerations during the decision of

contractors to bid. Often followed by an empirical research to rank the importance of the attributes. Several of these attributes are tender and contract related.

As input for this research 27 bid decision studies have been investigated of which eight studies were included in the literature review since they were published in the ten-year period between 2007 and 2017. Following this literature nine tender design related attributes have been selected, which subsequently have been validated by conducting five preliminary interviews with Dutch contractors. On the basis of these preliminary interviews two additional attributes have been included. All of these attributes are elements which the client can influence during tender design.

Since the existing body of knowledge is based on studies outside the Netherlands, this research contributes by conducting a bid decision research in the Netherlands. Additionally the research focuses specifically on tender design related attributes during periods of economic expansion as opposed to the more general studies currently available. Furthermore, it provides client organizations with knowledge on how tender design related attributes influence the contractor's bid decision. Clients can take this knowledge into consideration during the tender design phase, with the goal of influencing contractors bid decisions. Additionally, contractors can re-evaluate their bid decisions based on this study.

1.2 Research objective

The objective of this research is to gain insights on what tender design related attributes are key decision drivers during the bid decision of contractors and how these key decision drivers influence the bid decision. This enables clients to understand the contractor's bid decisions making it possible to anticipate on this behavior already during the tender design phase.

1.3 Research Questions

The main research question which will be answered during this research is:

What tender design related attributes are key decision drivers in the contractor's bid decision and how do these key decision drivers influence the bid decision in economic times of expansion for publicly procured non-residential construction projects in the Netherlands?

In order to answer the main research question the following sub questions are used:

1. What bid decision attributes are tender design related?
2. What tender design related attributes are key decision drivers in the contractor's bid decision?
3. How do the tender design related key decision drivers influence the contractors' bid decision?

1.4 Scope of research

As defined in the research question, this research will focus specifically on non-residential construction projects which are procured on the national or European level. Non-residential projects do not include infrastructural projects and focus merely on non-residential buildings. Furthermore, the research will be conducted in the Netherlands and will therefore only focus on the bid decision of Dutch contactors. The target group are medium to large contractors since they are mainly the entities participating in these types of tenders.

It is important to note that the bid decision only includes the decision whether or not a contractor participates in a tender. The decision as to which price contractors subsequently submit is outside the scope of the research. Similarly, if a decision to bid is made it is assumed that the goal is to win the bid. If only a bid is made to ensure a relationship, the bid decision is of a different nature and hence not in scope of this research.

Furthermore, only bid decisions made during economic times of expansion will be considered, since economic times of expansion force contractors to be more selective in their project selection and thus bid decisions. As a starting point only bid decisions made during the last two years will be assessed, particularly since the Dutch economy has faced economic times of expansion in the last two years.

1.5 Reading guide

The report is divided into four different parts. The first part is regarding the research design and includes the introduction chapter as well as a chapter in which the research method is elaborated. The second part is the theoretical exploration which subsequently include a chapter about public procurement and the bid decision. This part is concluded with the proposed conceptual model. Part three is focused on the results of the research and is divided into two chapters: one answering the first research question and the other reporting the results of the survey and interviews. The last part contains both the conclusion and discussion of this research.

2 Research Method

Now that the research questions have been identified, it is important to define how those research questions will be answered. A multitude of methods are available for doing research and depending on the objective of a study, the right one should be selected. This chapter elaborates the decision to conduct a mixed method research. The first paragraph discusses why and how the mixed methods will be applied during the research. Subsequently in paragraph 2.2, the methods used in the exploratory phase are discussed, followed by an elaboration on how the data will be gathered for the empirical part of this research. Lastly, the method used for analyzing the data will be discussed.

2.1 Mixed method

This research will apply mixed methods research in order to answer the research questions. Mixed methods as defined by Johnson and Onwuegbuzie (2004, p. 17) encompasses: "…*the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study".*

This way of doing research aims at the premises that '*the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone' (*Creswell & Plano, 2007, p. 5). The research questions consists of both "what" (quantitative) and "how" (qualitative) questions with the goal to gain understanding of which attributes are key decision drivers as well as why this is the case.

Yin (2014) has developed a useful overview of how research strategies match with different types of research questions. This overview is illustrated in Table 1. Since the research questions posed in this research are both "what" and "how" questions several strategies are available.

The 'what' questions in this research are especially focused on prevailing phenomena of relative importance and preferred levels of the decision attributes. According to Yin (2014) either survey or archival analysis would be suitable in this case. For this research, the survey strategy was selected since this is an effective tool to collect data on opinions (De Leeuw, Hox & Dillman, 2012) . Furthermore as this research focusses on the contemporary event of economic expansion the survey strategy is more suitable. Lastly, archival analysis would require that contractors report all their bid decisions which is currently not the case.

Table 1

Different research strategy options (Yin, 2014, p. 6)

Strategy	**Form of research question**	**Requires control over behavioral events?**	**Focuses on contemporary events?**
Experiment	How, why	Yes	Yes
Survey	Who, what, where, how many, how much	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes/no
History	How, why	No	No
Case study	How, why	No	Yes

The 'how' question is of explanatory nature and therefore experiment, history or case studies would all be appropriate strategies. Case studies are especially useful if contemporary phenomena are studied in which the boundaries between a phenomenon and its context are not clearly defined (Yin, 2014). The phenomenon of study is the bid decision, which is already investigated during the survey, whereas the case study complements this by taking into consideration the context it is made in. Therefore the case study method, more specifically interviews, is selected as method to answer the 'how' question.

With regard to the method of experiment, which requires control over behavioral events according to Yin (2014), the possibility to use discrete choice experiment (DCE), game theory or conjoint analysis was considered by the researcher. This type of experiment asks respondents to choose between fictive alternatives, in order to assess the importance of various attributes (Adamowicz, Louviere, & Williams, 1994). In that case stated preferences data is collected, whereas it is also possible to collect revealed preference data by collecting information on the real choices respondents have made.

Neither of this experimental methods have been selected since the attributes considered in this research are expected to display collinearity which is not allowed in a state preference approach (Adamowicz, Louviere & Williams, 1994). Whereas the revealed preference approach would require an extensive amount of data of contractors about their previously made bid decisions which is not realistic for this research.

2.1.1 Purpose

The mixed method research approach can be used for different purposes. Greene, Caracelli & Graham (1989) introduced five possible rationales to conduct mixed method research: triangulation, complementarity, initiation, development or expansion. Subsequently, many

other scholars recognized these five purposes (Johnson & Onwuegbuzie, 2004; Onwuegbuzie & Collins, 2007; Rocco, Bliss, Gallagher, Pérez & Prado, 2003). More recently Bryman (2006) identified 16 possible reasons why a research might mix quantitative and qualitative methods. The decision for using mixed method might be a combination of multiple of these reasons.

This research focusses on bid decision making in which it is valuable to enhance the quantitative part of "what" attributes are key decision drivers with qualitative results of "how" these key decision drivers influence the decision. The described rationale is called complementarity: a research which focusses on overlapping aspects of a phenomena as well as different aspects. Thus, in complementarity mixed method research a qualitative part might be complemented by or enhanced with a quantitative part on which an additional relation is tested (Greene et al., 1989). This is exactly how this research is designed.

2.1.2 Time-orientation

Another decision which has to be made when designing a mixed method research is to decide on the time-orientation of the used methods. There are two possibilities: concurrent designs or sequential designs. When several methods are used concurrently it can also be stated that they are conducted independently and often in parallel, whereas in sequential design the output of one method will function (partly) as input for the other method (Rocco et al., 2003).

This research will firstly collect and analyze quantitative data in order to get a clear view of the importance (ranking) of the various attributes. Subsequently, based on the results of this quantitative part, multiple contractors will be selected for more in-depth qualitative research. This should help to elaborate the outcomes of the quantitative part (Creswell, Plano Clark, Gutmann & Hanson, 2003). illustrates the process of the sequential design, which the research followed, thus first quantitative (QUAN) followed by qualitative (qual) methods.

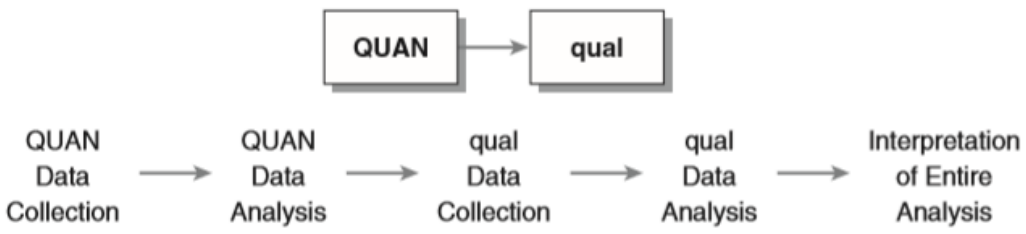

Figure 1: Sequential mixed method application (Creswell et al., 2003)

2.1.3 Sampling design

When conducting mixed method research, it is important to think about how participants are selected. Since two methods are used, a relationship can exist between the samples of the qualitative and quantitative method. Possible relationships can be identical, parallel, nested or multilevel (Onwuegbuzie & Collins, 2007).

Resulting from the previously discussed purpose and time-orientation, the nested relationship is the most logical choice. In this case the nested relationship means that the participants of the qualitative phase are selected from the sample of the quantitative phase (Onwuegbuzie & Collins, 2007). Yin (2006) also describes this way of sampling as most desirable for mixed-method research.

Population

The targeted population in this research are medium to large contractors who are operating in the non-residential building sector in the Netherlands. The size of a contractor can either be assessed by the amount of people employed or by the yearly revenue. According to data from the Central Bureau for Statistics during the last quarter of 2018, there were 180 medium sized contractors with 50 to 100 employees and 95 large contractors with more than 100 employees (Centraal Bureau voor de Statistiek, 2019). However since there was no data available of which contractors are included in this count this was not used as population.

Alternatively Bouwend Nederland, an association of undertakings for entrepreneurs in the construction industry, has an open list of their members grouped based on yearly revenue which will function as the operational population in this research. The contractors with a yearly revenue between 25 and 200 million are included in the medium sized members whereas the contractors with a revenue of more than 200 million are considered as large contractors (Bouwend Nederland, n.d.). Whereas the list for medium sized contractors included only contractors active in the residential and non-residential building industry the list of large contractors also included contractors active in the infrastructure industry. By visiting the website of each contractor it was established if they were active in the non-residential building industry and if they therefore should be included in the population of this research. This resulted in a list of 109 medium sized and 45 large contractors and the entire population will be sampled as is illustrated in Figure 2.

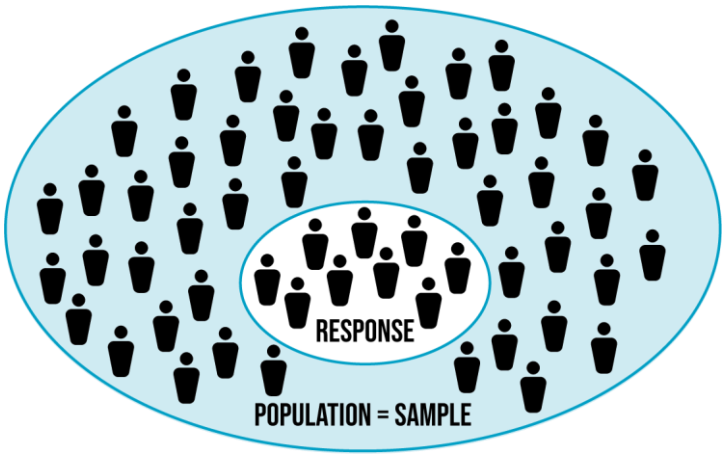

Figure 2: Relation population, sample and response

2.2 Explorative phase

An explorative phase was included in this research in order to establish the conceptual model of which tender design related attributes are key decision drivers during the bid decision of contractors. A literature review as well as explorative interviews were included in this phase.

2.2.1 Literature review

Hart (2008, p.13) defines a literature review as follows: "*The selection of available documents (both published and unpublished) on the topic, which contain information, ideas, data and evidence written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being processed".*

The goal of conducting a literature review in this research is for the researcher to acquaintance herself with the existing work on the bid decision as well as identifying and specifying the decision attributes for this research. Hypotheses on the importance of the various attributes have been made on the basis of the literature review. Furthermore, specifying the attributes to more detail with the help of literature has been used as input for the survey.

2.2.2 Explorative interviews

In order to validate and complement the selected attributes in the literature review, explorative interviews were conducted among five Dutch contractors. Furthermore, two project management consultants have been interviewed as well. Semi-structured interviews were used in which questions were asked about the attributes already identified during the

literature review as well as questions to identify additional attributes. All interviews were recorded and have been summarized, as can be found in Appendix B.

The purpose of these interviews was to investigate the bid decision making process in medium to large contractors in the Netherlands as compared to the literature, since no bid decision research has been conducted in the Netherlands before to the knowledge of the researcher. Similarly, this research focusses more specifically on those attributes which the client can influence and therefore the explorative interviews were also useful to verify, for example, which contract conditions contractors regard to be unattractive.

2.3 Empirical data gathering

This paragraph discusses which methods will be used to gather the data for both the quantitative and qualitative part of this research; respectively, by use of a questionnaire survey and in-depth interviews.

2.3.1 Questionnaire survey

During the quantitative phase, the objective is to investigate the importance of the various attributes as well as identifying which attribute levels are acceptable for and preferred by contractors. The survey is structured in two distinct parts, part one collects general information about the respondents and the contractor they work for. The second part assesses the importance of the attributes along with the preferences for the attribute levels. The survey entire survey is included in Appendix C.

Scale

Likert type scales are very frequently used scales in survey research. Originally the Likert scales lets respondents choose between five equal appearing intervals which included a neutral midpoint (Hinkin, 1998). Subsequently, also 7-point and 9-point scales have been developed to enhance the variance among the respondents. However, the reliability of the Likert scales have shown to be ideal at the 5-point level because the increase in reliability after the 5-point is only limited (Lissitz & Green, 1975; Streiner, Norman & Cairney, 2015).

Therefore, this research will use the following 5-point scale in the survey:

1	2	3	4	5
Not important	Not very important	Moderately important	Very important	Extremely important

Ensuring survey participants

How the population of this study came into being has been previously discussed paragraph 2.1.3. The entire population has been invited to participate in the survey, thus a total population sampling is utilized. A protocol was used in order to collect as many responses as possible. This protocol included the following steps:

- Email was send to the general email address of the company to acquire personal contact information of a person involved in the bid decision
- If no response was received after a week the researcher called the company to inform about the right personal contact information
- When personal contact information was received either by email response or phone call, immediately the person was contacted and asked to fill out the online survey by clicking the URL in the email
- One week before the closing of the survey all people who had not filled out the survey where send a reminder email which included the closing date

The survey is conducted at the organizational level which typically leads to a lower response rate (Cycyota & Harrison, 2006). Moreover Baruch and Holtom (2008) conducted a study on response rates of published research which suggested that a response rate between the 35-40% is average. Whereas Saunders, Lewis and Thornhill (2009) state that 30% response rate is expected for surveys.

2.3.2 In-depth interviews

After the survey has been conducted in-depth interviews will be conducted with several contractors. This paragraph elaborates on how the participants are sampled and which approach is used.

Sampling for in-depth interviews

As discussed in paragraph 2.1.3, the participants of the in-depth interviews are selected from the participants of the survey. The sampling of the participants has been done randomly. Therefore, the response of the participants during the quantitative phase will be used as an input for the in-depth interviews.

Interview approach

When conducting interviews several approaches can be utilized, for example Saunders, Lewis and Thornhill (2009) use a widely accepted categorization for interviews namely: structured, semi-structured and unstructured interviews. This categorization is related to the

level of formality used during the interviews as well as how structured the interview is. For this research semi-structured interviews have been used. This means that the list of the attributes functioned as a guide during the interview. For each attribute several possible questions were available but additional questions were also used depending on the course of the conversation. Likewise the order in which the attributes have been discussed were also determined during the interview itself. Appendix D contains the list of possible questions for each attribute.

Furthermore, the interviews have been recorded and unlike the explorative interviews, they have been verbatim transcribed. The interviews have been anonymized, however a code has been provided to the interviews to be able to recognize if the citations are from a medium or large sized contractor.

2.4 Data analysis

As discussed in the previous paragraphs, the research is a complementary sequential mixed method research in which firstly quantitative data is collected and analyzed, only where after qualitative research will be conducted in the form of in-depth interviews in order to enlarge the explanatory power of the quantitative data. With regard to the data analysis this means that two separate analysis will be conducted. Nonetheless, to conclude the research and answer the research question, the quantitative statistical result will be compared to the qualitative findings.

2.4.1 Data analysis survey results

In order to identify the importance of the key decision drivers, respondents were asked to rate the importance of the different decision attributes on a Likert type scale ranging from 1 to 5, as discussed in paragraph 2.3.1. This type of data is of ordinal level. Analyzing this type of data by using the mean, standard deviation and parametric statistic tests is generally not correct because the intervals between values cannot per definition be considered equal (Blaikie, 2003, Cohen, Manion & Morrison, 2000). Therefore, the Relative Importance Index (RII) is used instead (Shash, 1993). In comparable bid decision literature this is a common way to rank several attributes (Bageis & Fortune, 2009; Egemen & Mohamed, 2007; Wanous et al., 2000).

The RII is calculated by dividing the weighted average by the product of the total number of respondents times the highest possible level of the scale, in this case 5. The following formula is used:

$$Relative\ Importance\ Index\ (RII) = \frac{\sum W}{A * N} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5 * N}$$

In which W is the weighted average calculated by taking the product of x and n_x, which is the level of importance times the number of respondents who filled in this level of importance. A is the highest level of the importance scale and N is the total number of respondents.

Statistical analysis

Since the participants in the survey can be divided into two groups based on their yearly revenue, namely medium sized and large contractors, it is interesting to see whether or not the results of the different groups differ significantly.

In order to test whether or not there are differences in importance rating between the groups of contractors and if so if this can be generalized to the population a Mann-Whitney U test is conducted. A Mann-Whitney U test is a suitable statistic test to test for differences between groups in question with ordinal answers. This test does not assume that the answers are normally distributed which makes it a suitable test in this case.

With regard to the possible differences in preferences for attribute levels between medium and large sized contractors and to see if these differences can be generalized to the population, the non-parametric statistical test of Chi-square is performed. In this case a Chi-square is used since the answers to the preference questions are of the nominal level. The test assesses whether or not the nominal variable contractor size is related to the binominal questions of preference of the various attributes.

2.4.2 Data analysis interviews

All the conducted interviews have been verbatim transcribed and can be found in Appendix E. In order to analyze this data coding is used. Which means that various citations of the interviews are selected for each attribute which pertain the opinions of the interviewees. Subsequently for each interview the citations are coded and subsequently axial coding was used to divide the citations into different themes. Appendix F contains the coding of the interview data.

2.5 Validity

Validity can be seen as a way to assess the quality of a research (Creswell & Clark, 2011). Various differentiations and sorts of validity are used throughout academic research. This research however assesses the validity on the basis of Yin's (2014) four criteria to validity:

- Construct validity
- Internal validity
- External validity
- Reliability

In the following subparagraphs the four validity criteria will subsequently be discussed in the context of this research, any limitations related to the validity will be argued as well.

2.5.1 Construct validity

As Golafshani (2003) put it: "*the construct is the initial concept, notion, question or hypothesis that determines which data is to be gathered and how it is to be gathered".* In other words this concerns whether or not the research was operationalized correctly and by that if it really measures what the researcher attempted to measure (Cook & Campbell, 1979).

In order to assure the construct validity of this research measures have been taken. The bid decision is the construct which is investigated in this research. In order to operationalize this construct and thus find out what concepts are important in making this decision a preliminary interviews were included in this research. Prior to these interviews a literature study was conducted to identify tender design related decision attributes. The preliminary interviews were conducted in order to validate and supplement the attributes identified in the literature study. In this way the operationalization of the bid decision is based on previous research as well as empirical knowledge.

2.5.2 Internal validity

The internal validity of a research relates to whether or not a cause and effect relationship between variables can really be concluded (Creswell & Clark, 2011). Various things can occur as a threat to the internal validity. Selection bias or a mediating variable can for example be seen as possible threats.

In this research the internal validity is ought to be safeguarded by conducting open interviews during the preliminary interviews. In these open interviews participants were able to talk freely about which tender design related attributes they included in their bid decision. As a result of these interviews additional attributes have been included in the research. Furthermore, the research focuses specifically on those decision attributes which are tender design related and can be influenced by the client. Other bid decision making attributes are

outside the scope of the research. The researcher acknowledges that the different attributes possibly influence each other therefore the bid decision is related to all the different attributes.

2.5.3 External validity

With regard to the external validity of the research it is important to define to what level the results and conclusions apply to a larger population (Creswell & Clark, 2011). It is important to consider if the conclusions can be generalized to the population or maybe even to other populations as well.

In this research a total population sampling has been used and therefore no sampling errors or misrepresentations could occur with regard to the survey. Participants for the qualitative part of the research have been randomly selected and as many medium as large size contractors have been included.

2.5.4 Reliability

Joppe (2000, p. 1) defines reliability as: "*The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable."* Due to the limited size of the population it has been decided to sample the entire population. Therefore, the representation of the population is independent of the sample and only dependent on the response rate.

The reliability is also safeguarded through the use of multiple methods, thus triangulation. The results of the literature review have been validated and complemented by the preliminary interviews. Whereas the survey results have been compared to the interview results.

With regard to the reproducibility of the research the methodology functions as a guideline to how the results are generated. Existing literature has been investigated thoroughly and 27 studies have been identified by using different search phrases was well as the snowballing technique. For the analysis of the in-depth interviews a certain subjectivity will always be present. However, by reporting the transcripts of the interviews as well as the used coding this should enable other researchers to replicate the conclusions. Furthermore, to ensure the reliability prior to the survey, the survey was thoroughly checked and filled in by three professionals in the field of public procurement. Some minor changes have been made on the basis of this feedback.

Part II

Theoretical Exploration

Quote: “The secret of getting ahead is getting started.” - Mark Twain

3 Public procurement in The Netherlands

This chapter introduces the concept of public procurement in the Netherlands in more detail. The first paragraph discusses the goal of public procurement, the role of competition and the laws and regulations applicable in the Netherlands. Subsequently, the role of the client organization is elaborated, including the possibility to work with consultants. Lastly, the importance of a good procurement process is emphasized as this is shown to be linked to overall projects success.

3.1 Aim of public procurement

Public procurement as defined in the Directive 2014/24/EU is '*the acquisition by means of a public contract of works, supplies or services by one or more contracting authorities from economic operators chosen by those contracting authorities'.* Public procurement should furthermore safeguard the principles of equal treatment, non-discrimination, mutual recognition, proportionality and transparency.

Figure 3 illustrates the general procurement process and includes all the different steps in the process. The phase illustrated in yellow is more specifically the tendering process. The contractors' bid decisions are taking place after the specification step and before the selection step.

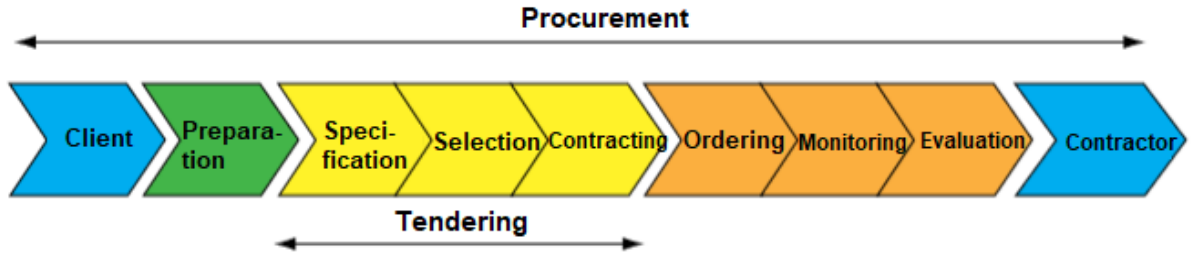

Figure 3: Procurement process for construction based on Schrijfgroep Gids Proporptionaliteit, (2013)

3.1.1 Competition in procurement

Since creating competition is one of the fundamental principles of public procurement, it is important to recognize the different sorts of competition which can eventuate from procurement. In economics generally three different types of competition are differentiated: pure, imperfect and monopoly in specific cases other forms of competition can eventuate as well such as monopsony. Pure competition is considered to be perfect competition, meaning that the following conditions have to exist (Thai, 2008):

- A market consists of many different buyers and sellers
- The products are homogenous and buyers should not prefer one buyer over another
- Sellers are free to enter or leave the market at any time
- Buyers act rationally
- Sellers and buyers both have full knowledge of the market
- Buyers select the seller based on the most advantageous offer with regard to price, quality, promptness of delivery or service.

With regard to competition in publicly procured works, services or goods Caldwell, Walker, Harland, Knight (2005) state that competition has not yet reached its potential. This is based on the statement of Hood (2000) that public entities are shifting towards more competition in order to deal more efficiently with turbulent environments. He also claims that the public entities try to achieve more competition by applying private-sector management styles.

The reason for the often limited amount of competition in public markets can be found in the conditions necessary for a perfect market as mentioned above. Generally, public markets fail to have perfect information and free entry and exit for sellers (Caldwell et al., 2005). The procurement of a construction project for example is characterized by its information asymmetry between client and contractor, better known as the principle-agent problem. Furthermore, it is very hard for new sellers to enter the market since minimum requirements are often set with regard to previous experience.

Furthermore, Erridge and Nondi (1994) concluded that competitive bidding, thus aiming to achieve pure competition, is an extreme form and an unsuited way of achieving sufficient quality levels for a fair price. Table 2 illustrates the characteristics of three general procurement models: competition, mixed and partnership.

Table 2

Procurement models and purchasing characteristics (Erridge & Nondi, 1994)

Characteristic	Competition	Mixed	Partnership
Supplier selection	Solely tendering	Tendering and negotiation	Negotiation
Length of contract	1 year or less	1–3 years	Over 3 years
Number of suppliers	5 or more	2–5	1
Contractual relations	Very formal and rigid	Fairly formal and rigid	Flexible, informal
Communications with suppliers	Very guarded and sporadic	Fairly guarded but frequent	Open and continuous
Negotiation	Win–lose	Mixed system	Win–win
Joint activities with suppliers	Little or none	Fairly extensive	Very extensive

3.1.2 Procurement laws and regulations

In order to guide the European Member States to adhere to the core principles of public procurement, namely: transparency, equal treatment, open competition and sound procedural management the European Union has defined directives that are applicable on tenders above a certain threshold. The threshold for works, supplies or services can be found in Table 3.

Table 3

Threshold for public procurement based on directive 2014/24/EU

	European threshold	National threshold
Public works contract	> € 5 548 000	€ 1 500 000 < x < € 5 548 000 or with clear cross-border interests
Public supply and service contracts awarded by central government authorities	> € 144 000	With clear cross-border interests
Public supply and service contracts awarded by sub-central contracting authorities	> € 221 000	With clear cross-border interests

In the Netherlands the European Directives have been incorporated into the Dutch Public Procurement Act: 'Aanbestedingswet 2012'. This law is supplemented by the following general administrative regulations: Works Procurement Regulations 2016 (Aanbestedingsreglement Werken 2016) and European Single Procurement Document (Uniform Europees Aanbestedingsdocument). Additionally in practice often the Proportionality Guide (Gids proportionaliteit) is used as a guideline to ensure the proportionality criteria sufficiently fulfilled.

Works Procurement Regulations 2016 provides specifically practical guidance for the tendering of works. Complementary to procurement of works above the European threshold, it is also designated as the mandatory guideline for procurement of works to be procured at the national level (PIANOo, n.d-a). Table 3 contains the threshold when national procurement is expected to be used.

The European Single Procurement Documents (ESPD) replaces the Dutch model for self-declaration of fulfilment of the exclusion and selection criteria. The ESPD provides a

standard form on European level in which contractors declare to fulfill the exclusion and selection criteria of a tender. The goal of this document is to limit the administrative burdens (PIANOo, n.d-b).

Lastly, the Proportionality Guide provides guidance in the application of the proportionality criteria. It safeguards that the requirements defined in the tender documents are proportionate to the scope and size of a work. The use is advised for European and National procurement as well as for privately negotiated procedures. Deviation from the guide is only advised with a valet motivation in the tender documents (Schrijfgroep Gids Proporptionaliteit, 2013).

3.2 Client organization

The client organization, also often referred to as the contracting authority, is the initiating party for procurement. Strategical and often political considerations lead to the decision to acquire goods, services or works through alternatives such as privatization, own production or buy on the market (Thai, 2008). This paragraph will discuss the different kind of construction clients as well as the possible role of consultants to enhance the knowledge available in the client organization.

3.2.1 Different sort of construction clients

A construction client can be defined as an individual or organization who commissions a building project (Bryant, Mackenzie & Amos, 1969). However, construction clients are of heterogeneous nature and can be divided into various typologies. In general, three different typologies are distinguished (Bang, Hermans & Simonsen, 2017).

Firstly, a differentiation between the legal status of construction clients exists. Clients which are obligated to publicly procure works are ‘bodies of governed by public law’ as stated in directive 2014/24/EU. The Dutch Public Procurement Law 2012 considers the state, provinces, municipalities, water authorities and other public law institutions to be ‘bodies governed by public law’. Furthermore, clients who construct non-residential buildings such as hospitals, schools and offices which are subsidized for 50% or more by the government also need to follow the public procurement legislation. Other (private) construction clients may also use similar tendering procedures but are not obliged to (Chao-Duivis, Koning & Ubink, 2003).

Aside from the differentiation between public and private clients it is possible to divide the clients based on the frequency they are involved in building projects. Naoum and Mustapha (1994) differentiated construction clients in “on-going”, “on-off” and “one-off clients”. On the same note Tookey, Murray, Hardcastle and Langford (2001) for example state that a gap exists between the smaller, more naïve, clients that build only occasionally and those who are larger, more experienced and build regularly. The first group of clients are called commodity spenders whereas the latter can be seen as process spenders (Cox & Townsend, 1997). For process spenders, procurement is common ground and it can be valuable to focus on a good relationship with the contractors, whereas for commodity spenders this is of less importance.

Similarly, Bang et al. (2017) refer to a Swedish research of Johansson and Svedinger (1997) which distinguish between “user-client”, “manager-client” and “seller-client”. A “user-client” develops a building and subsequently owns and uses it themselves. The “manager-client” is a more repetitive developer and often owns a portfolio of assets. Lastly the “seller-client” develops buildings with the goal to sell after completion and in this way make a profit. This last type of client is not considered relevant in this research since public entities do not act as seller-clients. As put by Bang et al. (2017) the frequency of building is thus related to the sort of client.

The last typology groups clients by the type of work they commission. Clients often commission a specific type of construction activities: “civil engineering”, “house building”, “non-residential building” or “renovation project” (Bang et al., 2017).

3.2.2 Role of consultants

Consultants can be defined as *‘an advisory service contracted for and provided to organizations by specially trained persons who assist, in an objective and independent manner, the client organization to identify management problems, analyze such problems, recommend solutions to these problems and help when requested in the implementation of solutions’* (Greiner & Metzger, 1983, p. 7). De Jong & Van Eekelen (1999) concluded that generally management consultants are busy structuring information and specifying client goals. Resulting in an advice a client was unable to develop himself in a timely manner.

Particularly the commodity spenders or so called user-clients mentioned in the previous paragraph often lack knowledge in order to develop a procurement strategy themselves. Both technical expertise as well as expertise on the procurement process is missing (Love,

Skitmore & Earl, 1998). Therefore, in practice consultants are often hired to ensure professional commissioning.

3.3 Procurement and project success

Many authors have acknowledged the fact that a fitting procurement strategy plays an important role in how successful a project ends up being (Walker & Vines, 2000). It is considered especially important to select an appropriate procurement system since this increases the probability of project success (Luu, Ng & Chen, 2005; Naoum, 1994). The opposite also seems to be true, failure to select an appropriate procurement system is seen as a primary cause for project dissatisfaction (Masterman, 1996).

Furthermore Gordon (1994) even concluded that the selection of an appropriate procurement method should reduce the construction costs by 5% on average. Evidently, it can be concluded that it is important to develop a fitting procurement strategy.

4 Bid-decision tender design related attributes

In this chapter those bid-decision attributes that are tender design related and followed from the literature review will be discussed. It is very likely that some of these attributes are interrelated, meaning that they can influence each other. Furthermore, some of the attribute levels might lead to a direct no bid decision whereas in other cases a combination of several negative related attributes levels will lead to a no bid decision.

4.1 Literature review bid decision

A literature review has been conducted which included research of eight authors who did research on the bid decision during the ten-year period between 2007 and 2017. The results of the literature review are illustrated in Table 4, only the attributes referred to by three or more authors have been included. Furthermore the attributes included based on the preliminary interviews have been included.

Table 4

Results literature review on bid decision research between 2007 and 2017

Attribute	Egemen & Mohamed (2007)	Bageis & Fortune (2009)	Cheng et al. (2011)	El-Mashaleh (2013)	Jarkas, Mubarak & Kadri (2014)	Lesniak & Plebankiewicz (2015)	Shokri-Ghasabeh & Chileshe, 2016)	Olatunji, Aje & Makanjuaola (2017)
Project size	X	X	X	X	X	X	X	X
Project planning	X	X		X	X	X	X	X
Tendering duration	X	X	X	X	X	X		X
Tender documents quality level	X	X	X	X	X		X	X
Contract type/collaboration form	X	X	X	X	X		X	
Contract conditions		X	X	X	X	X		
Contract payment terms	X	X		X	X		X	
Tendering procedure			X		X		X	
Prequalification requirements	X	X	X					X
Award criteria						X		
Potential for new projects								

In general, the goal of these researches was to either propose a model or framework for the bid decision (Cheng et al., 2011; El-Mashaleh, 2013; Lesniak & Plebankiewicz, 2015) or to identify factors that influence the bid decision to subsequently assess the importance of these factors (Bageis & Fortune, 2009; Egemen & Mohamed, 2007; Jarkas, Mubarak & Kadri; Olatunji, Aje & Makanjuaola, 2017; Shokri-Ghasabeh & Chileshe, 2016).

Egemen and Mohamed (2007) conducted their research in North Cyprus and Turkey and focused on building construction and more specifically to private building construction works due to the availability of respondents. Furthermore, they compared the scoring based on the contractor size, either medium or small. Likewise, Bageis and Fortune analyzed in more detail how different contractor characteristics influence the importance of the decision making attributes. Their research was conducted in Saudi Arabia.

Cheng et al. (2011), Jarkas, Mubarak and Kadri (2014) and Olatunji, Aje and Makanjuaola (2017) conducted their studies respectively in Vietnam, Qatar and Nigeria. In these three researches both projects from public and private clients where regarded. Additionally, Cheng et al. (2011) state specifically that only tenders based on the lowest price are investigated. Since the exploratory interviews indicated that the award criteria and their weighing is considered a decision attribute for contractors' bid decision, this research includes award criteria as an attribute.

Lastly El-Mashaleh (2013), Lesniak and Plebankiewicz (2015) and Shokri-Ghasabeh and Chileshe (2016) conducted their research in respectively Jordan, Poland and Australia. Shokri-Ghasabeh and Chileshe (2016) have conducted their work during the post financial crisis period and underline the importance of their work due to the period of economic upturn. Similarly, this research emphasizes the relevance of the contractors bid decision during good economic times. Moreover, clients need to consider the decision making of contractors in designing tenders.

As can be noted the researches included in the literature have been conducted in various countries, including some non-Western countries. Therefore the development of the institutional aspects regarding the construction industry as well as the procurement of projects might differ significantly from that of Western countries. Hence it is relevant to conduct a similar research in the Netherlands.

4.2 Defining the attributes

This paragraph will define how the previously identified attributes will be included in this research based on both the literature and explorative interviews. Note that in order to avoid confusion and to be better in line with the Dutch construction practice this research subdivides the in the literature review termed attribute 'contract type' into the attributes: "collaboration form", "contract type" and "pricing mechanism". Together with the tendering procedure these four attributes are sometimes referred to as the "project delivery method". Secondly, since "pricing mechanism" has been added as an additional attribute, the attribute "contract payment terms" is considered to be sufficiently represented by the attributes of "contract conditions" and "pricing mechanism". Lastly as elaborated in paragraph 2.2.2, the attributes "award criteria" and "potential for new projects" have been added.

4.2.1 Project size

The size of the contract can be defined by the financial value of the project or the amount of work included in the contract. All eight authors recognized project size as an important decision driver during the bid decision (Bageis & Fortune, 2009; Cheng et al., 2011; Egemen & Mohamed, 2007; El-Mashaleh, 2013; Jarkas, Mubarak & Kadri, 2014; Lesniak & Plebankiewicz, 2015; Olatunji, Aje & Makanjuola, 2017; Shokri-Ghasabeh & Chileshe, 2016).

Additionally, Wanous and Boussabaine (2000) and Lowe and Parvar (2004) concluded in their bid decision research that project size is one of the most important factors during the bid decision. Furthermore, it is noted that all project sizes can be desirable depending on the type of contractor bidding and therefore it is more about competency (Lowe & Parvar, 2004). This is in line with the result of Pekuri, Pekuri and Haapasalo (2015) that the project size should correspond to the strategically determined project size of the contractor.

Scale for project size

In order to effectively measure the size of the project, financial value will be used as proxy. The scale used to measure this will be based on the research of the 'Economisch Instituut voor de Bouw' (Hardeman, 2013). Figure 2 illustrates the percentage of procured projects in the years 2009, 2010 and 2011 belonging to the different levels of financial value.

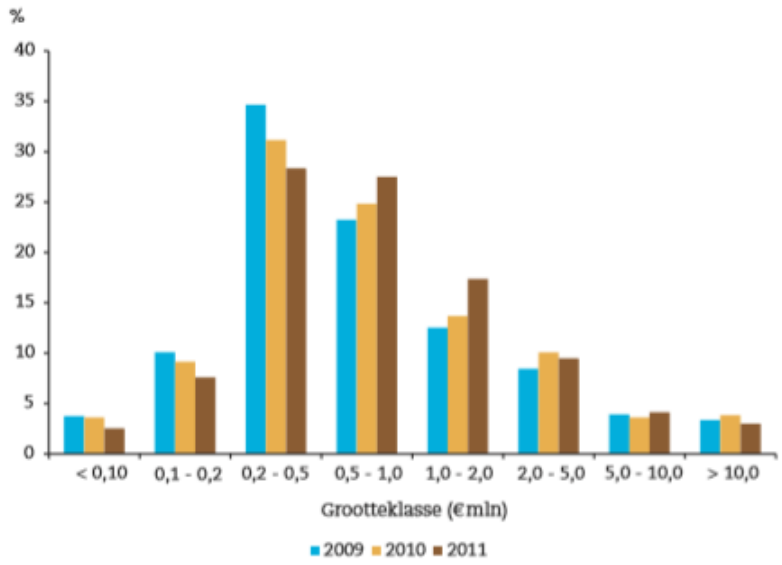

Figure 4: Project size based on financial value

There are a few side notes to the graph in Figure 4. Firstly, it includes both infrastructural projects as well as residential and non-residential projects conducted in the Netherlands. However, it is expected that this generally resembles the division of projects in the non-residential sector. Furthermore, this information is used only as an indication of the possible range of financial value of non-residential projects.

Secondly, although only 3% of the procured projects has a value of more than 10 million euros this level does account for 60% of the total building volume. Moreover, extremely large projects are often more infrastructural projects and therefore is the upper limit of 10 million euro or more considered as suitable for this research.

Following the information and the previously discussed scope of the research in paragraph 1.4, the following levels of project size will be included in the survey:

- Tenders for projects with a value of < 1.5 million euros
- Tenders for projects with a value above national threshold between 1.5 and 5.5 million euros
- Tenders for projects with a value above European threshold between 5.5 and 10 million euros
- Tenders for projects with a value above European threshold of > 10 million euros

Clustering and dividing into lots

When defining the project the client sometimes has the possibility to either cluster a project with another one, thus enlarging it, or to divide the project into lots to make the project more

accessible for smaller contractors. In doing so the client always has to consider the law and the proportionality principles. Article 1.5 paragraph 1 of the Dutch Public Procurement law states that clustering should be avoided if possible. Whenever the client still decides to cluster projects this should be motivated in the tender documents. Paragraph 3 subsequently states that a project should be divided in lots whenever this is possible. If the client does not consider this to be appropriate this should again be motived.

4.2.2 Project planning

Seven of the eight authors which were included in the literature review incorporated duration of the project as a decision attribute. Egemen and Mohamed (2007) and Olatunji, Aje and Makanjuiola (2017) described this attribute more specifically as either allowed project duration being enough or realistic proposed timescale respectively. However, since all the attributes included in this research are formulated objectively in such a way that the attribute can either contribute positively or negatively to the bid decision, the term “project planning” is chosen.

Determination of project planning

The client organization needs to determine a deadline for the project to be finished. Ideally the duration should be determined based on the projects task and how these tasks are related to each other (Nicholas & Steyn, 2012). However in practice it often occurs that there is a tight deadline for completion of the work and therefore the duration is determined by political or commercial considerations (Kumaraswamy & Chan, 1995).

Scale for project planning

With regard to the bid decision of contractors it is therefore mainly important that the set deadline by the client, matches the planning of the contractor. Or at least is considered to be reasonable. Therefore this research talks about project planning and it should be assessed whether or not this is deemed realistic by the contractors.

4.2.3 Tender documents quality level

In the literature review seven out of the eight authors included tender documents quality level, or a similar concept, as attribute during the bid decision (Bageis & Fortune, 2009; Cheng et al., 2011; Egemen & Mohamed, 2007; El-Mashaleh, 2013; Jarkas, Mubarak & Kadri, 2014; Olatunji, Aje & Makanjuola, 2017; Shokri-Ghasabeh & Chileshe, 2016).

Whereas Egemen and Mohamed (2007) talked about both the completeness of the bid documents and the rigidity of specifications, Bageis and Fortune (2009) and Shokri-

Ghasabeh and Chileshe (2016) included clarity of the work and specifications or clarity of the documents respectively. Furthermore Olatunji, Aje and Makanjuola (2017) referred to the accuracy of contract documents. However, since all of these attributes can be summarized as quality this research names this attribute the “tender documents quality level” as also specified by Jarkas, Mubarak & Kadri (2014).

The client organization draws up tender documents on the basis of which the contractor decides to participate or not. Depending on the sort client, user-client or manager-client, the quality of the documents might vary. However if these documents are unclear, contain mistakes or contradict it is harder for contractors to estimate the exact costs, time and resources necessary for the project (Boughton, 1987). In turn this will lead to more uncertainty whether or not the contractor even wants to participate (Cooke & Williams, 2009). If they do decide to bid this will subsequently lead to higher risk premiums included in the bid price (De Neufville & King, 1991).

One way for contractors to clarify the uncertainties during the pre-tender phase is to submit questions. However, if the client decides to change any important conditions, either technical or award related, an official rectification or even a new tender has to be published (PIANOo, n.d-b). Questions can often be asked during both the selection phase and the awarding phase. Furthermore, the answers will be publicly published in order to avoid competitive advantages of one party over another.

4.2.4 Tendering duration

Tendering duration is mentioned as a decision criterium for the bid decision by seven of the eight authors included in the literature review (Bageis & Fortune, 2009; Cheng et al., 2011; Egemen & Mohamed, 2007; El-Mashaleh, 2013; Jarkas, Mubarak & Kadri, 2014; Lesniak & Plebankiewicz, 2015; Olatunji, Aje & Makanjuola, 2017).

After the decision to bid is made the bid preparation includes not only determining the price, but often elaborate documents have to be drawn up too. In these documents contractors try to convince the client they are capable of successfully executing the project. The necessary time frame to prepare a bid varies according to the collaboration form, tendering procedure and awarding criteria. Generally, this tendering duration might vary between one week up to three months (Brook, 2016). If designing is for example included in the contract, often more preparation time is necessary. Similarly, if the contract is awarded only based on the lowest price less preparation time is needed.

During the preparation of the bid, estimation is one of the main tasks which has to be conducted to arrive at a realistic cost price. Following this, the margin has to be determined, which often is called the mark-up. This margin can include the overhead-cost and profit or just profit (Fayek, 1998). Assessing what maximum mark-up can be added to the cost price, while still submitting a competitive bid, is the key to winning lowest price tenders.

4.2.5 Collaboration form

Contract type is expected to play an important role in the bid decision of contractors, as was also found by six of the eight authors in the literature review (Bageis & Fortune, 2009; Cheng et al., 2011; Egemen & Mohamed, 2007; El-Mashaleh, 2013; Jarkas, Mubarak & Kadri, 2014; Shokri-Ghasabeh & Chileshe, 2016). As already explained in the introduction of this paragraph contract type is divided into the attributes: collaboration form, contract type and pricing mechanism to be more in line with Dutch practice.

It is important to define what contract type refers to since many different terms and definitions are used in literature. Gordon (1994) discusses how to select an appropriate contracting method, in which he distinguishes four parts: “scope”, “organization”, “contract” and “award”. Many other authors have conducted similar research using different terms such as “project delivery method” and “procurement system” (Al Khalil, 2002; Alhazmi & McCaffer, 2000; Mahdi & Alreshaid, 2005).

A client should select a contracting method based on its own characteristics, project characteristics and external environment (Alhazmi & McCaffer, 2000; Mahdi & Alreshaid, 2005). However, all too often a certain form is selected because a client has had experience with it in the past (Gordon, 1994).

During this research collaboration form is only referring to the scope that is included in the contract and therefore we can distinguish between the following types of contracts:

- Traditional Design-bid-build contracts (DBB)
- Early Contractor Involvment contract (ECI)
- Integrated contracts:
    - Engineering & Construct (E&C)
    - Design & Build (D&B)
    - Design, Build & Maintain (DBM)
    - Design, Build, (Finance), Maintain & Operate (DB(F)MO)

Currently, early contractor involvement in projects is gaining in popularity. During these kinds of projects the contractor is engagement already during the front-end phase in order to utilize the contractors expertise more effectively (Scheepbouwer & Humphries, 2011). These type of projects also ask for much more cooperation and relationship building between the client and contractor (Walker & Lloyd-Walker, 2012).

The organization part of a contracting method as defined by Gordon (1994) is in this research focused on the general contractor since that is the population investigated. With regard to the part which Gordon (1994) calls contract, it refers to the attribute "payment terms" (see paragraph 4.2.7) distinguishing between fixed price or reimbursable contracts. Lastly, the award part is also included as a separate attribute called "tendering procedure" which is further discussed in paragraph 4.2.8.

4.2.6 Contract type

In the Netherlands when referring to contract type the use of standard conditions is meant. In order to limit the transaction costs and thus reduce unnecessary repetitive work, standard conditions have been drawn up (Bubshait & Almohawis, 1994). In the Netherlands the most common standard conditions are the UAV 2005 or UAV-gc 2005 for integrated contracts. Internationally the FIDIC standard conditions are well known.

It is however not uncommon to adjust these standard conditions or to add clauses to them. Especially the adjustments to the standard conditions are challenging for contractors since than they need to work through all the conditions in order to assure that the chances that are included are acceptable.

4.2.7 Pricing mechanism

As Ward and Chapman (1994, p. 217) state: '*the nature and size of the contract payments is the primary means of motivating the contractor'*. The nature relates to how the cost risks are shared in the contract whereas the size directly refers to the compensation paid in exchange of the work being done. Following the literature review of bid decision literature, five of the eight scholars have included contract payment terms attribute in their research (Bageis & Fortune, 2009; Egemen & Mohamed 2007; El-Mashaleh, 2013; Jarkas, Mubarak & Kadri, 2014; Shokri-Ghasabeh & Chileshe, 2016).

Type of payment terms

With regard to the nature of the payments terms a distinction that is often made is between "fixed price", "cost plus fixed fee (CPFF)" or "incentive contracts". In a fixed price contract

participants of the tender submit a bid which includes their price estimation with a fee and risk premium included (Berends, 2000). In this way the risks are transferred to the contractor. This price estimation is based on the tender documents, hence the importance of the quality of the tender documents, as discussed in paragraph 4.2.3 as well.

The CPFF contracts are based on the principal that contractors report how much materials and labor costs they have encountered and that these costs will be reimbursed. Additionally, the contractors will be paid a fixed fee to guarantee the necessary profit for contractor (Ward & Chapman, 1994). In this type of contract, the client bears the risks and has to be able to manage this effectively. Nonetheless, this is something many construction clients are not able to do (Berends, 2000).

Lastly there is the possibility to use incentive type payment terms. Essentially, the financial risks are then divided between the client and contractor. If the actual costs are under the target costs the profit is shared whereas if they are above the target costs the additional costs are also shared (Berends, 2000). Therefore, this can work as a good incentive to stay on or under budget.

4.2.8 Tendering procedure

Following the literature review, three of the eight authors acknowledge the influence of the tendering procedure on the bid decision (Cheng et al., 2011; Jarkas, Mubarak & Kadri, 2014; Shokri-Ghasabeh & Chileshe, 2016). Tendering method is defined by Chan, Scott and Chan (2004, p. 154) as follows: *'procedures adopted for the selection of the project team and in particular the main contractor'.*

Scholars have distinguished between several tendering procedures. Zhang (2004) uses the following five tendering procedures: “open competitive tendering”; “invited tendering”; “registered lists”; “project-specific prequalification and shortlisting” and “negotiated tendering”. Another differentiation which is often made is between “open”, “selective” and “negotiated tendering” (Endut, Akintoye & Kelly, 2006).

Love, Tse and Edwards (2005) also use three different sorts of tender methods named slightly different: “single stage”, “two stage” and “negotiated tendering”. Within their research they found that depending on the project delivery method the preferred tendering procedure varied. Traditional procurement methods are generally single-stage tenders whereas the more non-traditional methods are used more in combination with the negotiated tendering procedure. Alternatively, Endut, Akintoye and Kelly (2006) concluded that in general projects

tendered via negotiated and selective tendering generally have better time and cost performance.

In the Dutch system tenders can select various tendering procedures. Unlike the tenders on the European level it is possible for tenders on the national level to use direct awarding. Which means that one or multiple parties are asked to make an offer. However, the decision to participate in such direct awarding tenders is assumed to be different from the decision to participate in the more competitive tender procures. Therefore, direct awarding will not be considered during this research. For overview, the following tendering procedures are included in this research:

- Open procedure
- Restricted procedure
- Competitive procedure with negotiation
- Competitive dialogue

4.2.9 Prequalification requirements

Prequalification of contractors as defined by Anagnostopoulos and Vavatsikos (2006, p. 333) is: '*the elimination of incompetent contractors from the bidding process according to a predetermined set of criteria'*. The set of criteria is determined by the client organization. Five of the eight authors recognized the importance of this attribute and have included it in their research (Bageis & Fortune, 2009; Cheng et al., 2011; Egemen & Mohamed, 2007; Olatunji, Aje & Makanjuola, 2017).

In the Dutch contract law there is a distinction between exclusion grounds, minimum levels of ability and selection criteria. The exclusion grounds prevent unsuitable contractors from participating in a tender. The following activities are seen as exclusion grounds (directive 2014/24/EU):

- Participation in criminal organization
- Corruption
- Fraud
- Terrorist offences or offences linked to terrorist activities
- Money laundering or terrorist financing
- Child labor and other forms of trafficking in human beings

Whereas the minimum levels of ability lay down the required capabilities of a contractor, ohte capabilities may include prove of sufficient resources and sufficient experience with similar

types of work. Moreover, minimum levels of ability can be stated with regard to the economic and financial standings of the company. Lastly, selection criteria can be applicable to reduce the number of tenders to at least five. This is only applicable during the restricted procedure.

Contractors might take this attribute into account during their bid decision since they need to sufficiently fulfil the prequalification criteria in order to be eligible to bid. In the case of the restricted procedure this can be even more important as a selection procedure of contractors takes place.

4.2.10 Contract conditions

Contracts in the construction industry establish and lay down the legal, financial and technical aspects of the project (Bubshait & Almohawis, 1994). Six out of the eight authors in the literature review of bid decision making included contract conditions into their work (Bageis & Fortune, 2009; Cheng et al., 2011; El-Mashaleh, 2013; Jarkas, Mubarak & Kadri, 2014; Lesniak & Plebankiewicz, 2015).

From a theoretical viewpoint a principal-agent relationship exists during procurement. Due to this relationship between the client and contractor trust is limited. Therefore, a contract is draw-up in which the responsibilities and liabilities are laid down. However, it is virtually impossible to make a contract complete since there are always uncertainties present. The more extensive a contract is, the more transaction costs will have to be endured.

Following the Public Procurement Law 2012 it is not allowed to negotiate the contract conditions after the contract is awarded. This would be in conflict with the fair competition principle. There can however be some points which have not be assessed in the tender documents, but still need to be put in the contract. These points mostly concern organizational matters.

Frequency of payments

Generally, the contractor is not responsible for the financing of the project and therefore it is important that there is an appropriate cash flow in such a way that the contractor does not have to invest unreasonable amounts of funding in the construction (Odeyinka & Kaka, 2005). An exception to this rule is when the contract type includes a finance part, however these type of contracts are outside the scope of this research.

Moreover, in order to have an appropriate cash flow, the frequency of the payments have to be laid down in the contract. This is most often monthly but a weekly or customized scheme on the basis of the project phases is also possible.

4.2.11 Award criteria

In the literature review only Lesniak and Plebankiewicz (2015) recognize the importance of the award criteria as they include “criteria of bid selection” as attribute in their research, see Table 4. The use of award criteria, different than price only, is relatively new development and the other bid decision literature does not included this as an attribute. Nonetheless this research does include it.

Because beside the other tender design related decisions, the client also has to determine on what criteria the tender will be awarded. Additionally, it needs to be determined how these criteria are weighted compared to each other. The Public Procurement Law 2012 article 2.114 states that projects above the European threshold must be awarded to the “economic most advantageous tenderer” (EMAT). It is illegal to award the tender only based on lowest price or lowest cost efficiency. The goal is to select the offer with the best price-quality ratio. The award criteria and their relative weights should be announced in the tender documents to ensure transparency.

4.2.12 Potential for new projects

Following the explorative interviews several of the contractors indicated that if a project can be valuable as a future reference project they are more likely to participate in the tender. It can be strategic to bid for a certain project if you know that in the future several of these projects will come to market. Likewise, projects which are appealing to the wider public and have much exposure, such as sustainable projects, also seem to positively contribute to the decision to bid. Additionally, they feel that if a relationship can be built with the client this might result in more projects in the future. Even if these future projects have to be procured again, they will know what the client is looking for thus increasing the chances of winning.

5 Conceptual model

Following the definition of the attributes in the previous chapter a conceptual model is constructed. Figure 5 illustrates this model, portraying the hypothesis that all these tender design related attributes influence the bid decision.

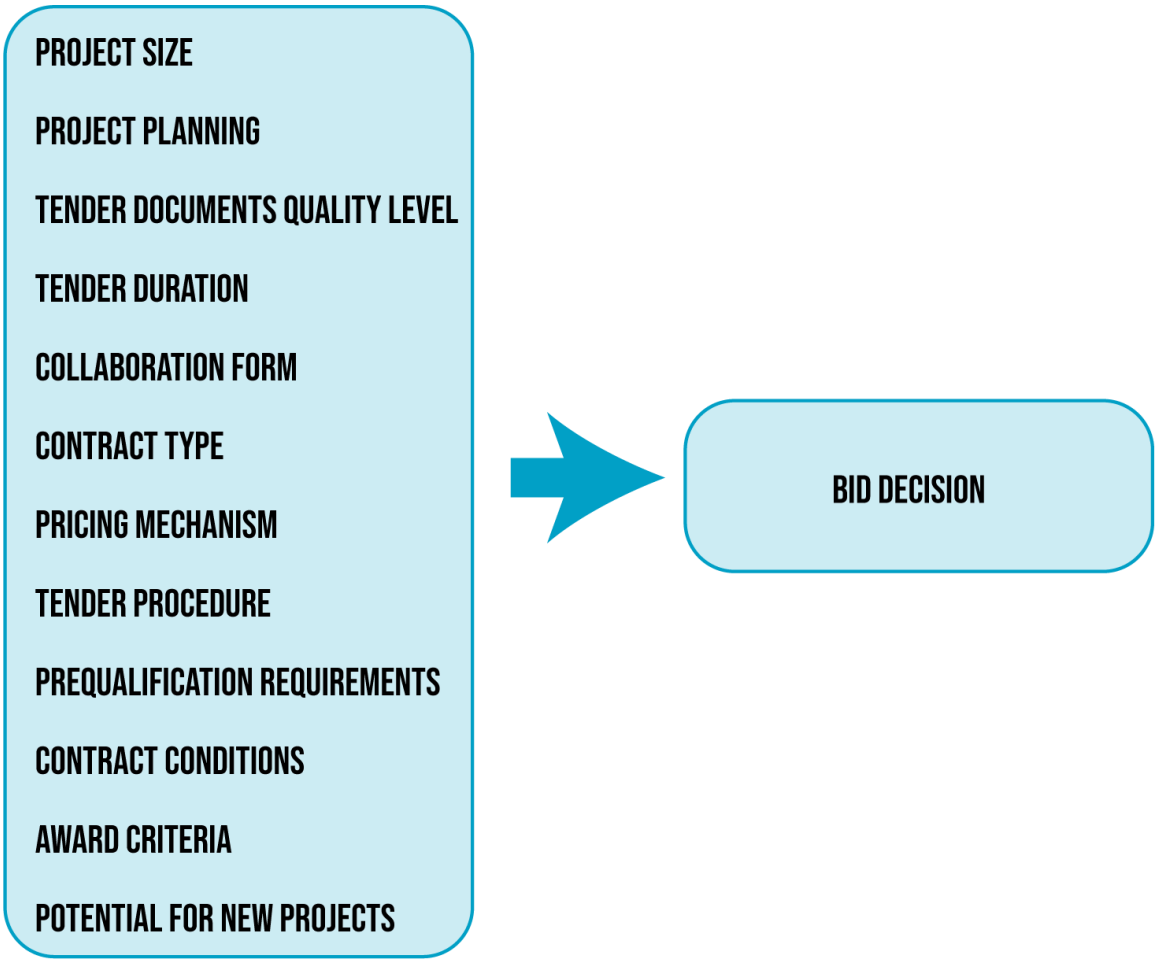

Figure 5: Conceptual model on bid decision tender design related attributes

Part III

Results

Quote: "The unexamined life is not worth living." – Socrates

6 Tender design related attributes

6.1 Bid decision attributes

As a result of the literature review, several tender design related bid decision attributes have been identified. However, the authors in the literature review did not focus solemnly on tender design related attributes. They identified all possible bid decision criteria for contractors. Some of the authors subsequently grouped these criteria. Egemen and Mohamed (2007) distinguished for example three main categories: firm related factors, project related factors and market conditions/demand & strategic considerations. Shokri-Ghasabeh and Chileshe (2016) grouped the attributes into: economic conditions, project documentation characteristics, tendering situation characteristics, project characteristics and contractor characteristics. Other authors in literature have divided the attributes in a comparable way.

The literature review included eight different studies conducted in 10 years, between 2007 and 2017. Resulting from these eight studies, 406 attributes were mentioned in total. Some of these attributes are however similar or overlapping. Moreover, several of these attributes were discarded as not important by the authors; leading to a total of 182 attributes which were considered important.

6.2 Tender design related bid decision attributes

Since this research is focused solely on those attributes that the client organization can influence, namely the tender design related attributes, the first research question to be answered is: *"What bid decision attributes are tender design related?"*

As already discussed in paragraph 1.1, an attribute is tender design related when a client can directly control the attribute and when it is related to the tender design phase. Attributes which are for example related to the contractor's strategy of availability cannot be influenced by the client and will therefore not be included in this research.

From the 402 attributes, 93 have been identified as tender design related. By eliminating the attributes which refer to similar criteria, 21 distinctive tender design related attributes remain. In table 1 in Appendix A an overview of these 21 attributes can be found.

From the 21 tender design related attributes only those attributes that were mentioned by three or more authors in the literature review have been selected for the research. Furthermore, some of the 21 tender design related attributes are overlapping with other attributes and are therefore not included separately. An example of such overlap is the attribute: “time penalty for non-timely completion” which can be considered as a contract condition. Lastly, there were two attributes which the client can influence, but which were not related to the tender design, namely: “identity of the designer” and “identity of consultant/supervisor”.
In conclusion, nine tender design related attributes remained based on the literature review.

Additionally, preliminary interviews were conducted to validate these attributes as well as to complement them if necessary. The interviews confirmed that all the attributes identified during the literature review are relevant during the bid decision. Furthermore, six potential additional attributes were identified. However, only those attributes mentioned by several interviewees, and without overlap with the other attributes have been included.

Table 2 in Appendix B gives an overview of the potential attributes and how often these were mentioned during the interviews. Only those attributes that were mentioned more than three times have been considered to be additional attributes. Eliminating “ceiling price” and “tender costs” as attributes. Additionally, “tender costs” is considered to be an indirect parameter which is determined by the combination of the other attributes.

With regard to the attributes which are mentioned more than three times, “technical risks and uncertainties” has not been included as an attribute since these risks are often a result of low quality tender documents, thus again an indirect parameter. With regard to the potential attribute “attitude of client”, i.e. one’s impression of a client, it was also decided not to include this since it is very difficult to assess at the pre-tender phase as well as a very subjective attribute.
Therefore, from the six potential additional attributes only “award criteria” and “potential for new projects” have been added as attributes.

As already described in paragraph 4.2, a discrepancy appeared to exist between some terms used in different international literature studies and the Dutch practice. Therefore, minor changes in terms of name have been made to the attributes as compared to how they were identified in literature.

7 Key bid decision attributes

In this chapter the results concerning the second and third research question are presented. Firstly, the general descriptive statistics of the survey will be discussed in paragraph 7.1. The subsequent paragraph discusses the relative importance index. For each tender design related attribute, as identified in the previous chapter, the results of the survey regarding importance and preferences will be discussed in paragraph 7.3. Followed by results obtained through the interview as to how the attributes influence the bid decision in the same paragraph. Lastly, results of the interviews which are not linked to a specific attribute will be discussed.

7.1 Descriptive statistics

The survey included several general questions about the identity of the contractors. This paragraph discusses the results of these descriptive statistics.

7.1.1 Response rate survey

The population existed of 154 contractors of which 45 were described as large and the other 109 were described as medium. The overall response rate is 28.6% with 44 respondents. The response rate of large contractors was significantly higher with 37.7% than the rate of the medium contractors which was 24.8%.

7.1.2 Contractors' size

The population of this study includes both medium and large contractors. The differentiation is based on the yearly revenue of the contractors. Contractors with an annual turnover between 25 million and 200 million are addressed as medium sized contractors. Whereas contractors with an annual turnover of more than 200 million euros are considered to be large. Table 5 presents the number and percentage of the participating contractors based on their annual turnover.

Table 5
Contractors' size based on annual turnover

Contactors' size (€/year)	Number	Percentage (%)
Medium (between 25 and 200 million)	27	61.3
Large (> 200 million)	17	38.6
Total	44	100

An important notion is that the division in contractors' size is based on the assessment of turnover on the highest aggregation level of the organization, often a holding company.

Nevertheless, multiple sub companies of large holdings are included in the population, since often these companies are independently operating and can therefore differentiation between how the bid decision is made can exist.

7.1.3 Role respondents

The respondents were asked what kind of role they fulfill at the contractor's firm. Only employees who are at some level involved or responsible for the bid decision have been targeted. No specific title has been targeted since every company arranges their decision making processes differently as well as the fact that different titles are used for a similar role. The answers of respondents with regard to what role title they have could be divided in five different roles: director, tender manager, project manager, plan development manager and commercial manager as illustrated in Figure 6.

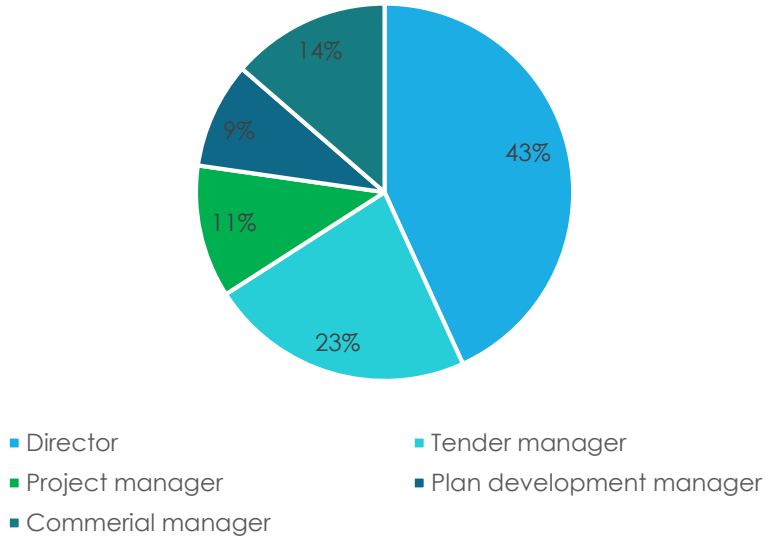

Figure 6: Function of respondents

A Chi-Square test has been conducted to investigate whether there is a difference between the different contractor size groups and the role respondents fulfilled at their company. However, no significant difference exists. In both groups most responses were derived from directors followed by tender managers.

7.1.4 Geographical operation area

Each contractor was asked to select the provinces in which they operate in The Netherlands. Figure 7 illustrates how many contractors are active in each of the Dutch provinces. As could be expected, contractors are particularly active in the 'Randstad' as well as Brabant. Whereas in

the more remote areas such as Zeeland, Groningen and Limburg significantly less contractors who participated in this research are active.

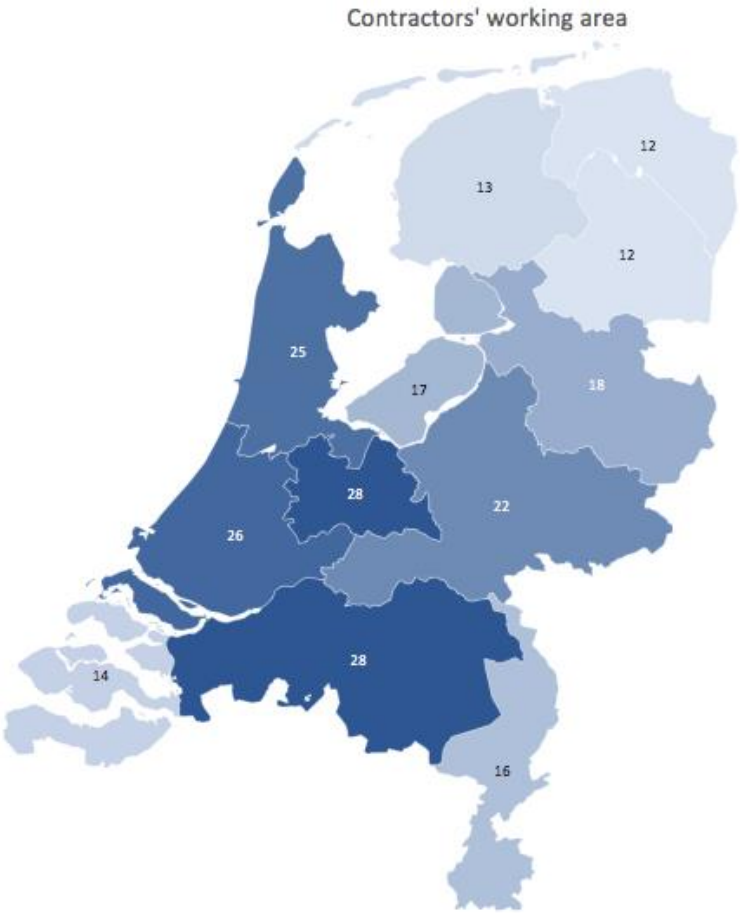

Figure 7: Contractors' (respondents) working area

7.1.5 Standardization bid decision

In the survey the respondents were asked whether or not they used a standardized decision making process to come to a bid decision. The results of this question can be found in Figure 8. The majority of the respondents do not utilize a standardized bid decision making format.

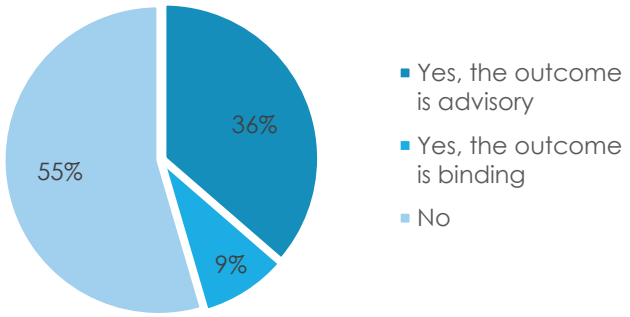

Figure 8: Standardization with regard to bid decision making format

7.1.6 Lead time bid decision process

In order to investigate in what time span contractors decide whether or not to bid, a question was asked in the survey. Figure 9 illustrates how long contractors generally need to come to the bid decision. As can be seen the majority of the contractors make this decision in less than 4 days. Another large proportion needs no longer than 7 days.

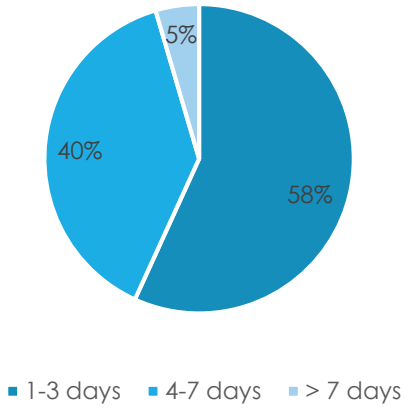

Figure 9: Time to come to a bid decision

7.2 Relative importance of attributes

As discussed in paragraph 2.4.1 the relative importance index is used to assess the importance of the different attributes. Below Table 6 portrays the relative importance indexes for the different attributes, for the total sample as well as the different contractor sizes; medium and large).

Table 6

Relative importance indexes and rankings of total sample, medium contractors in the sample and large contractors in the sample

	Total	Ranking	Medium	Ranking	Large	Ranking
Contract conditions	90,00	1	87,69	1	94,12	1
Tender documents quality level	86,82	2	84,62	3	90,59	2
Collaboration form	86,36	3	86,15	2	88,24	3
Project planning	85,91	4	84,62	4	88,24	4
Award criteria	85,45	5	84,62	5	85,88	5
Prequalification requirements	81,82	6	83,85	6	77,65	7
Contract type	78,64	7	75,38	7	84,71	6
Tendering procedure	72,73	8	75,38	8	68,24	11
Pricing mechanism	72,73	9	70,77	11	74,12	9
Potential for new projects	72,27	10	75,38	9	68,24	12
Project size	71,82	11	73,08	10	70,00	10

Tender duration	70,00	12	67,69	12	75,29	8

** Note attributes with similar relative importance indexes have been ranked subsequently*

7.2.1 Differentiation between contractor sizes groups

Among other researchers Bageis and Fortune (2009) have found that the importance of attributes differ depending on contractor size. Table 2 also displays that the RII differs between medium and large sized contractors. In order to test whether or not this difference in importance rating between the groups of contractors can be generalized to the population a Mann-Whitney U test has been conducted. However, none of the attributes differ significantly (α-0.05) between the groups. With regard to the differentiation between groups of contractors and their preferences a Chi-square test has been conducted. The results will be discussed per attribute and can additionally be found in Appendix G.

7.3 Importance and preferences attributes

In this paragraph the results of the survey, both importance and preferences, will be discussed. As well as the results of the interviews which are specifically linked to one of the attributes. To give an overview Figure 10 illustrates the percentage of respondents that scored the different importance levels for each attribute.

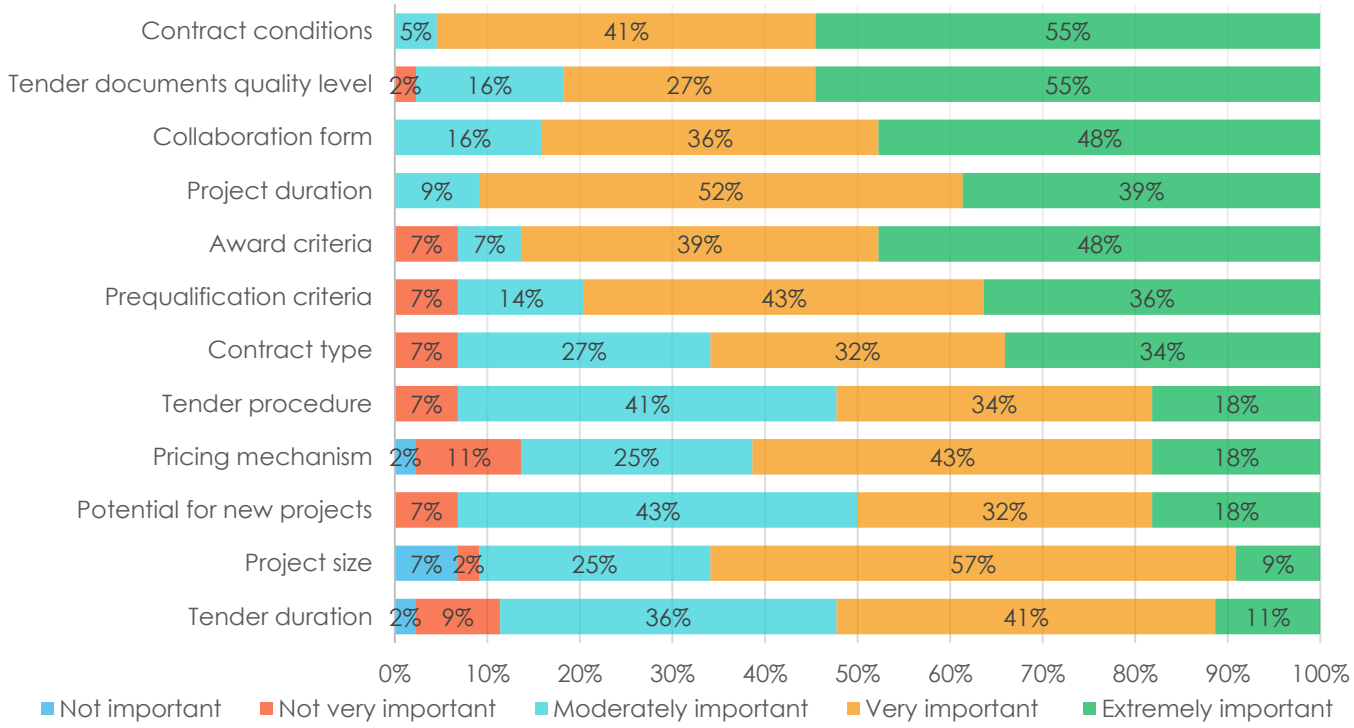

Figure 10: Importance scoring of attributes in survey

7.3.1 Project size

Survey results

The importance of project size during the bid decision is rated by the majority of the contractors (57%) as very important. Several respondents have also rated them as moderately important (25%). Furthermore, the spread of the importance ratings is striking, since a few contractors considered it to be not important whereas a few others rated it as extremely important. Figures 1 in Appendix F illustrate the results of the survey regarding this attribute.

With regard to project size respondents were asked what financial size of the projects they preferred. Overall tenders on the National level (value project between 1.5 and 5.5 million euros) and European level(value of project between 5.5 and 10 million euros) are the most popular and preferred by roughly 50% of the respondents. Very large projects with a value of more than 10 million euros are subsequently the most preferred project size wise.

The results show that small projects with a value of less than 1.5 million are not interesting for the large contractors as none of the 27 large contractors preferred this project size. Whereas on the other hand very large projects is the most preferred project size for the large contractors. In the case of the medium sized contractors, 63% prefers tenders on the National level as compared to 56% on the European level.

In order to see if this difference in preference between medium and large sized contractors can be generalized to the population, the non-parametric statistical test of Chi-square was performed. On the basis of this test it can indeed be concluded that small project sizes (<1.5 million euros) are more preferred by medium sized contractors whereas large project (>10 million euros) are more preferred by large sized contractors.

Interview results

The bid decision of contractors is influenced by the size of the project in the sense that their overhead costs need to be covered. One of the contractors stated it as follows: '*the size of your overhead determines what size projects you take on, you have to cover that'.* The overhead is in turn paid by the profit earned in projects. The profit, and thus bid price, is however always established as a percentage of the revenue of a project. A larger project will therefore result in more profit. Hence, larger contractors are aiming to work on larger projects as well. One of the interviewed large contractors stated that: '*if we participate in smaller projects we try to organize it as lean as possible'.*

Another observation which was mentioned by four of the six interviewees is that it is important to have a diverse portfolio; not only diverse in size but also type. With larger and more complex projects often more risks are associated. As one of the contractors put it: '*those projects are the pearls, but you can only have so many of those'.*

7.3.2 Project planning

Survey results

Regarding the importance of the proposed project planning by the client, the opinions of the respondents of the survey are less scattered. 52% of the contractors value this attribute very important whereas another 39% assess it to be extremely important. A few others share the opinion that it is of moderate importance. Figures 2 in Appendix F illustrate the results of the survey regarding this attribute.

Contractors were asked on the basis of what criteria they primarily evaluate the project planning as proposed by the client. Respondents could select one or more of the following planning criteria: starting date, completion date, lead time, phasing of project, planning current orders, assessment periods.

As can be expected, planning of the current orders is regarded important by almost every contractor, namely 95% of the respondents. Furthermore, starting date followed by completion date, with respectively 82% and 59%, seem to be essential criteria on the basis of which the contractor assess the planning of the project. Lead time is important for 43% of the respondents, whereas the other two criteria of phasing and assessment periods are important to much fewer contractors.

Interview results

Various contractors came with various reasons why planning is considered during the bid decision have come forward during the interviews. One of the statements was: '*the tail of the project is relevant, can we deliver? Especially in this period, is it possible to have everything purchased and delivered'.* Aside for the question if it is possible to get the supplies from the market, three of the six contractors also considered if they have sufficient workforce available in the period of the project, thus '*it is crucial to know if we have the capacity'.*

Furthermore, it was implicated by several of the contractors that a client's planning and demands regarding the planning or lack thereof, could lead to risks. For example, with a tight

planning one of the contracts said the following: '*in the worst case we can calculate the late delivery fines'*.

Additionally, two of the six contractors explicitly stated that they preferred the situation where they could either make their own planning or that clients would at least take the feedback of the contractors into consideration. As one of the contractors clearly stated: *'I like it when the project planning is left to the organization that knows what he is getting started on and subsequently live up to it'.*

7.3.3 Tender duration

Survey results

The importance of tender duration during the bid decision making is mainly rated as both moderately important as well as very important by respectively 36% and 41% of the respondents. Like project size, the rating of this attribute is however scattered and both extremes of the scales have been filled in. Nonetheless, as followed from the RII, in this research this attribute is seen as least important to both medium sized contractors as well as large sized contractors, in short for the entire sample. Figures 3 in Appendix F illustrate the results of the survey regarding this attribute.

The majority of the respondents (77%) prefer to have somewhere between 5 to 10 weeks time to prepare their bid. Only a small percentage of the respondents can make it work in 4 weeks or less, with the bare minimum of 2 weeks. On the other end of the spectrum some contractors prefer to have more than 10 weeks, of these contractors the majority is large contractors.

Interview results

Regarding the tender duration half of the interviewees mentioned that most of all it is important that '*the tender duration has to match the requests'* as formulated by one of the contractors. Which means that an integrated project delivery method desires a longer tender period than a traditional project. Furthermore, during this period of economic expansion it can be the case that there are insufficient resources in the tender department to tender for all the desired projects, therefore choices have to be made. For example, one of the contractors simply explained the following: '*we have a planning for the calculation department, sometimes there is just no room left and they need sufficient time'.*

7.3.4 Tender documents quality level

Survey results

The importance of the quality of the tender documents is evident in this sample since 55% of the respondents rated this attribute as extremely important. Especially large contractors acknowledged this importance since 65% of the large contractors rated this attributes as extremely important and no large contractors rated it lower than moderately important. Figures 4 in Appendix F illustrate the results of the survey regarding this attribute.

In the assessment of the quality of the tender documents, “completeness of the documents” is regarded especially important by 84% of the contractors. This is followed by “consistency within the documents” by 57% of the respondents. Larger contractors seem to value consistency more than the medium sized contractors. The other way around, more medium sized contractors assess structure to be important as compared to the larger contractors. The preferred level of detail is furthermore considered important by roughly half of the respondents.

Interview results

The quality of tender documents is regarded especially important in more traditional projects, which are awarded primarily on price. Because as one of the contractors stated: *‘If the quality of the tender documents is limited, then you don’t know in which way you’ll be assessed, how they will compare the tenders, what the starting points are and if you want to be on the lower side you have the risk of not including many things a client is expecting’.*

Additionally, the quality of the documents leads to risks. One of the examples of the contractors was: *´the BIM does not match the drawings and the BIM does certainly not match the reality, that’s were a lot of risk are formed’.* These kinds of risks are often not as much a no go but contractor will probably at a risk premium. Lastly two of the contractors acknowledged the difference in the type of client who is procuring one of them stated for example: ‘*We know what is coming and those clients often don’t. Often it are clients who only do this once, especially in renovation’.* The other concluded that most of the clients are professional.

7.3.5 Collaboration form

Survey results

Regarding the importance of the collaboration form utilized in a tender, the contractors were mainly in agreement as 84% of the respondents either rated it as very important or extremely important. Therefore, it is also no surprise that this attribute scores high on the relative importance index. Large contractors score it as fairly more important than medium sized

contractors. However, this difference cannot be generalized to the population as followed from the Mann-Whitney U test. Figures 5 in Appendix F illustrate the results of the survey regarding this attribute.

A very clear preference exists among contractors to collaborate on the basis of Early Contractor Involvement (ECI) since 96% of the respondents prefer this form. For the integrated approaches, “Design & Build” is preferred by 59% followed by “Engineering & Construct” by 50% and “Design, Build & Maintain” is only preferred by 32%. Lastly, “DB(F)MO” contracts are preferred by fairly no contractors at all. With regard to the traditional way of collaborating only 23% of the contractors in this sample still prefer this.

Interview results

The majority of the contractors have emphasized the importance of a match between the collaboration form, type of project and type of contract. Moreover, the same contractors also shared their opinion that it is often valuable to involve contractors early on in the process: *‘in the end money is always the decisive factor, so it is interesting to sit at the table as early as possible’.* This has to do with the fact that contractors have knowledge of the construction phase and the market: *‘contractors can help to timely identify possible problems of a design decision, this does however require a different collaboration form’.*

Additionally, one of the contractors justly noted that: ‘*if a client should have used early contractor involvement as collaboration form but instead they procured it traditionally, we’ll have to go through an entire process again, making it more expensive’.* Furthermore, it is important to take into consideration that certain collaboration forms ask more tender effort from contractors than others resulting in more tender costs as was mentioned by three contractors. Which subsequently might be a reason not to bid.

7.3.6 Contract type

Survey results

There can be seen a disagreement in the importance of the contract type. Whereas a majority of the large contractors (53%) rate it as very important and another 35% as extremely important, medium sized contractors views are more scattered on this. 35% of the medium sized contractors consider it extremely important and equally as many rate it moderately important. The other medium sized contractors views are split between not very important (12%) and very important (19%). Figures 6 in Appendix F illustrate the results of the survey regarding this attribute.

Of the available standard contract types in the Netherlands: UAV 2012, UAV-gc 2005 and several international contracts, it is clear that contractors do not like to use the international contracts. Only 2% of the respondents prefers these types of contracts. In contrast, contractors do prefer using UAV 2012 since 86% of the respondents prefers this contract type. The UAV-gc for integrated collaboration forms is also accepted widely by 59% of the respondents. Alternatively, project specific contracts can be drawn up, however this is only preferred by 25% of the respondents.

Interview results

The results regarding contract type are mostly related to whether or not standard conditions are used and if many deviations are specified from these conditions. Of the three contractors that mentioned that deviations to standard conditions lead to risks, thus risk premiums, one had a very clear opinion: '*Sometimes the list with deviations on the UAV are more extensive than the UAV itself. If you choose to do that then you know per definition that you introduce one thing: very high risks and one fuzzy contract'.*

An important observation with regard to type of contract is that all interviewees use the typology of contract type and collaboration form interchangeably. Thus, when speaking of integrated collaboration forms such as design and build many of the interviewees talked about UAV-gc type of contracts.

7.3.7 Pricing mechanism

Survey results

The importance rating of the attribute price mechanism seems to follow the nominal distribution in which most respondents (43%) rate this attribute as very important. Slightly more respondents rate this as moderately important (25%) as compared to extremely important (18%). In general, large contractors rate this attribute higher than medium sized contractors. However, this difference cannot be generalized to the population as followed from the Mann-Whitney U test. Figures 7 in Appendix F illustrate the results of the survey regarding this attribute.

Of the price mechanisms proposed to the contractors, 59% preferred to work with a lump sum price mechanism. The other two variants of being paid cost plus fixed fee and lump sum in combination with an incentive fee seem less popular since only respectively 36% and 32% of the contractors preferred this type of pricing mechanism.

Interview results

Three of the interviewees acknowledged that the lump sum price mechanism is somewhat inefficient in projects where there still is going to be a design or engineering effort after the procurement process. This is illustrated by the following citation: '*If a client is procuring based on a preliminary design, what is than the relevance of making various contractors calculate the costs of that design while knowing that many changes will be follow?'.* Moreover, the interviewees did not elaborate too much about this attribute.

7.3.8 Tendering procedure

Survey results

The importance level of the utilized tendering procedure is generally only considered moderately important (41%). Although quite some contractors have rated it as very important (34%) as well as some who rated it extremely important (18%). Between large and medium sized contractors no significant differences exist confirmed by the Mann-Whitney U test. Figures 8 in Appendix F illustrate the results of the survey regarding this attribute.

From the survey it followed that of the different tendering procedures available for procurement the "restricted procedure" is preferred by the majority of the contractors namely 82%. Additionally, the competitive dialogue is also quite popular since 57% of the contractors also prefer this procedure. On the contrary, the "competitive procedure with negotiation" which is quite similar to the competitive dialogue is only preferred by 5% of the contractors. Lastly, the open procedure is only supported by 16% of the contractors.

Interview results

A particularly important finding relating to the tendering procedure is that the number of competitors influences the bid decision. Five of the interviewees clearly stated that during a tender with a selection phase it is desirable to select a maximum of three participants in order to have a realistic chance of winning. One of the contractors was very clear on this consideration: *'Three is fine, are there more than three, you can look for another victim'.* Other contractors were a little more moderate about this: '*Three is realistic, five is a lot, everything above five is absurd'* or '*we prefer three however that does not mean that we won't do five but your chances of winning are smaller'.*

Procedure wise it was furthermore very evident that the open procedure is a unpopular procedure since an unlimited number of competitors can participate. Five out of the six interviewees explicitly stated to avoid these kind of procedures, for example: '*If you participate*

in a an open tender procedure you have no idea what your chances of winning are and how many competitors you will have'.

7.3.9 Prequalification requirements

Survey results

The majority of the respondents either rated the importance of the prequalification requirements as either very important (43%) or extremely important (36%). Not all contractors agree with this importance and several of them have rated it as either moderately important (14%) or as not very important (7%). Between large and medium sized contractors no significant differences exist. Figures 9 in Appendix F illustrate the results of the survey regarding this attribute.

In order to assess whether or not the contractors currently consider the prequalification requirements proportionate to the procured tender, the respondents were asked to state the percentage of tenders they feel require disproportionate minimal levels of ability and selection criteria.

Figure 11 illustrate the results of this question. As can be seen in the graph the responses differ substantially between the contractors. However, the general trend is that selection criteria are considered disproportionate more frequently than the minimal level of ability. Furthermore, there does not seem to be an evident difference between medium and large sized contractors.

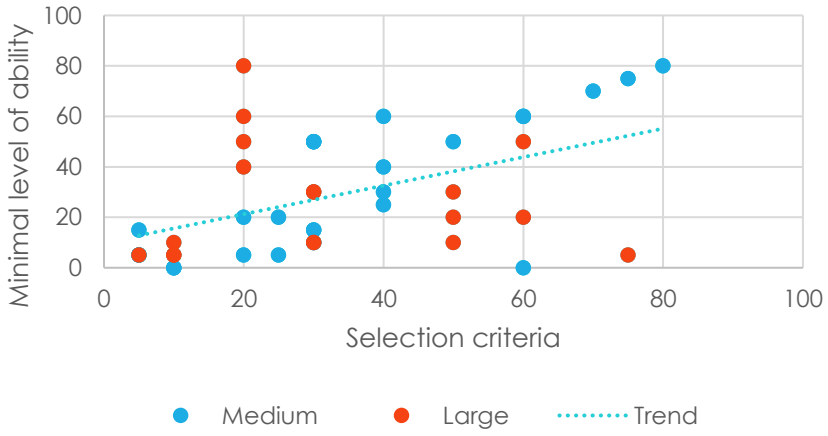

Figure 11: Percentage of tenders with disproportionate requirements during the selection phase

Interview results

The majority of the interviewees stated that in order to decide to participate in a tender they have to at least fulfill the prequalification requirements sufficiently. '*Prequalification requirements is just yes or no, do we fulfill them or not, but in the end we assess the end result: is the project of interest to the company'* three others provided statements similar to this one.

Another critical note which half of the interviewed contractors pointed out is that the required references during the prequalification phase sometimes tend to be very specific. As one of the contractors stated: *'if I can show a project of similar multiplicity, type and size, what's the difference'.* This is important to contractors in the regard that one of the pillars of public procurement, fair competition, might be jeopardized expressed by one of the contractors as follows: '*The use of specific selection criteria to either favor certain contractors or explicitly exclude others, will reduce the chances of winning for the other contractors.'.*

7.3.10 Award criteria

Survey results

Award criteria score quite high on importance, 48% of the respondents consider it to be extremely important whereas another 39% of the respondents rate it as very important. Furthermore, an equal amount of contractors consider this attribute to be not very important or moderately important. Overall the large sized contractors do rate this criteria as more important, this can however not be generalized to the population. Figures 10 in Appendix F illustrate the results of the survey regarding this attribute.

During the tender design phase, the client decides which award criteria are used and how they are weighted. A clear preference concerning these award criteria and their weighting emerged from the survey. Contractors like to be assessed primarily on the basis of quality related criteria with a small proportion of the price, since 82% of the respondents express their preference. Whereas awarding based on "price primarily", "quality only" or by use of the ""best value procurement method" all together is preferred by less than one-third of the respondents.

The proposed quality award criteria in the survey were: "project organization composition", "planning", "building logistics", "risk management" and "cooperation and coordination". The contractors were asked to select those criteria on the basis of which they can differentiate themselves from the rest, i.e. their competitors. Especially "cooperation and coordination" is considered as a desirable quality criterion, since it is preferred by 84%. The other four award criteria are furthermore all considered as desirable by more than 50% of the contractors in the sample.

Interview results

In line with the survey results best value for money principles with a significant part of quality aspects were mentioned as desirable by four out of the six interviewees. As stated by one of the

contractors: '*Quality that is where it is possible be distinctive.'* One of the other interviewees likes the principle that tenders should not only be awarded based on the lowest price but: '*the way in which quality is assessed can be quite tricky'.* As supported by one of the other contractors: *'you are never sure if they really assess the quality based on the quality only or if they have the price already in mind affecting their assessment'.*

Two of the interviewees would like to see more innovative and distinctive criteria; '*A lot of clients ask for example how is your project organization structured, this is similar for every contractor, or how will you make sure you will finish within planning. It is impossible to write a distinctive story about these criteria'.* If a contractor can distinguish himself through the award criteria he will assess his chances of winning to be higher. As a solution one of the contractors proposes to include risk assessment and management as a possible criterium.

7.3.11 Contract conditions

Survey results

As was concluded in paragraph 7.2, in this research "contract conditions" are considered to be the most crucial criterion on the basis of which a contractor decides to participate in a tender or not. This importance is clearly evident in the ratings given to this attribute. All large contractors assessed it as either very important (29%) or as extremely important (71%). The medium sized contractors are equally split at 46% each between very important and extremely important. Figures 11 in Appendix F illustrate the results of the survey regarding this attribute.

The survey question on contract conditions was specifically structured in such a way to assess which contract conditions contractors find unattractive and thus subsequently might lead to a no bid decision. Of the proposed negative conditions "unlimited liability" and the "transfer of uncontrollable risks from client to contractor" are seen as conditions which refrain contractors from making an offer for 80% and 77% percent of the respondents respectively. Additionally, various other conditions will lead to a no bid decision for more than 50% of the contractors, namely: "high penalty clauses" (64%), "giving up retention right" (59%) and "liability for indirect damages" (57%).

Furthermore, 45% of the contractors consider a no bid decision when there are multiple deviations of the general conditions. "Double collateral" and "taking over design responsibility", although still considered as unattractive by 34% and 36% of respondents respectively, are less outspoken than the other conditions. Lastly, "coordination duty" was included as a possible answer, however contractors do not consider this as a reason not to bid.

Interview results

The interviewees did not elaborate too much about the importance of the contract conditions, the importance of the attribute can be found in the fact that some contract conditions can lead to serious risks for the contractor. To the question why the contract conditions were important one of the interviewees answered: '*The importance of contract conditions in the bid decision are mostly related to risks that the client transfers to us.'.*

Likewise, three of the other interviewees identified that the risks are crucial to the bid decision and that most risks result from the contract conditions. An important side note is that the attribute contract type is partly overlapping with contract conditions, since standard conditions and possibly deviations are part of the contract conditions.

7.3.12 Potential for new projects

Survey results

Potential of new projects is one of the lower rated attributes. Overall 43% of the respondents rate this criterion as moderately important. Another 32% considered it to be very important. Slightly more medium sized contractors as compared to large sized do consider this attribute as extremely important. Furthermore, some large contractors even rated this attribute as not very important. The differences between the medium and large contractor ratings can however not be generalized to the population. Figures 12 in Appendix F illustrate the results of the survey regarding this attribute.

Potential for new projects can originate from several different aspects. In the survey it was assessed if contractors decided to participate in a tender due to one of the following reasons: "project with high reference value", "good for image" and "establishing a relation with the commissioning client". Especially projects with a high reference value and with potential to establish a relationship with a commissioning client seem to be reasons to participate in a tender since respectively 73% and 84% of the contractors could relate to this. On the other hand, participating in a tender to principally establish a good image is only supported by 36% of the contractors.

Interview results

With regard to future projects three contractors clearly stated the importance of winning projects with high reference value. One of the interviewees even stated this was the only reason he still participates in tenders currently: *'I participate in publicly procured projects because they are*

interesting for building my references or to stay in the picture of the client, but currently it is not because I need the production'. Another contractor added to this: *'Currently references have an expiration date therefore the moment that a gap seems to occur, we are more tempted to choose that type of project'.*

7.4 General interview results

All the conducted interviews are transcribed and the transcripts can found in Appendix E and can be requested from Delft University of Technology or from the researcher directly. The coding of the interview transcripts are included in Appendix H. In addition to the results per attribute the interviews also gave other interesting results. This paragraph will discuss these more general or overlapping results.

7.4.1 General considerations

During the interviews several of the contractors summarized on the basis of what reasons they decide to bid or not. An interviewee of one of the large contractors for example said the following: *'At the start we basically say: what type of client is it, what is the possible revenue, what are the chances of a follow up project and how can we differentiate ourselves, do we have a team available and to what extent is our necessary revenue already accomplished? Because if this is not yet accomplished you will be more willing to take risks.'.* Thus, although many of the attributes contribute to the decision to participate or not in principle this was where this contractor based its decisions on.

Similarly, another contractor stated: *'We utilize a go/no go form in which we assess what the chances are that we win the tender and how much costs are associated with this'.* Another contractor summarized his decision by assessing the risk of a project and if there was sufficient capacity. More specifically, another contractor assesses three aspects: type of tender, project size and the client in order to decide how interesting the tender is, how they want to precede and how much time will be invested.

7.4.2 Budget

In a rising economy it is important to evaluate the budget of a project prior to putting the project on the market, since market prices of materials, parts and labor rise quickly. As one of the contractors assessed: *'What you notice is that only one or sometimes even zero parties participate due to an insufficient budget'.* Two contractors agree by noting that if the image of what a client wants is too far off from his budget they will not participate. Figure 12 illustrates the budget buildup of a client, left is the perfect situation and right includes transaction of

procurement. The possible profit of a contractor is thus reduced by the added transaction costs. If the price the client is willing to pay is too close to the costs a contractor might not participate. As mentioned by two contractors, early contractor involvement could help to assess early on if the design fits the budget and if not, what changes could lead to efficient savings.

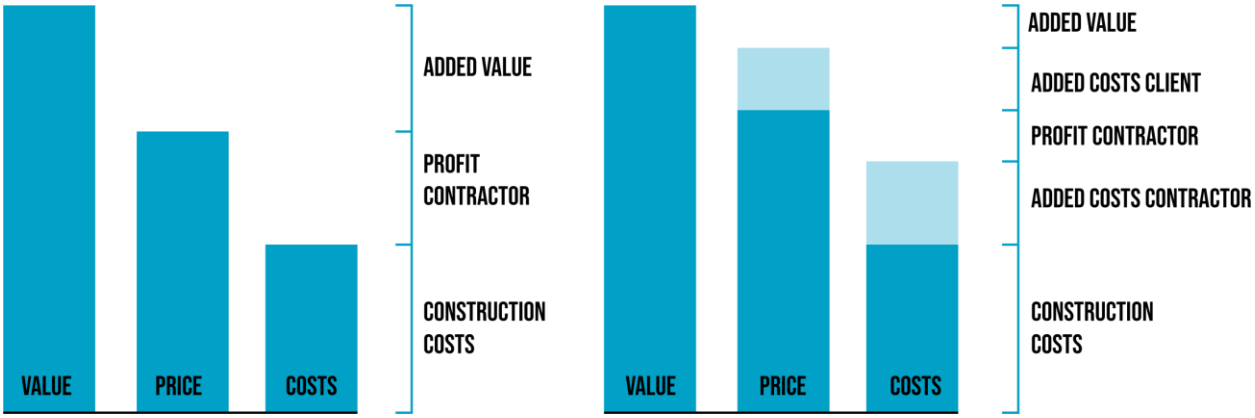

Figure 12: Illustration of budget buildup

7.4.3 Risks

Risk is inevitably mentioned in every interview. Many considerations are related to various sorts of risks. An example that risk is an important consideration during the bid decision is given by one of the contractors: '*… eventually the tender failed because everyone agreed that the conditions were too risky and the tender too large'.* One contractor even stated that even if they already decided to participate they sometimes reconsider if they feel that risks are increasing and getting too high.

With regard to the risk a contractor is willing to take there are two considerations as followed from the interviews: '*We first assess the risk profile of the entire project, should we go for it? Thereafter the project specific risks are assessed because you might want to include this in your price'. This* was also supported by one of the contractors who noted that if a risk is transferred which he cannot manage, a risk premium is added to the price.

Part IV

Conclusion and Discussion

Quote: "The significant problems we have cannot be solved at the same level of thinking with which we created them." – Albert Einstein

8 Conclusion

To conclude this research, this chapter will bundle the results discussed in the previous chapter and thereby answer the research question: "*What tender design related attributes are key decision drivers in the contractor's bid decision and how do these key decision drivers influence the bid decision in economic times of expansion for publicly procured non-residential construction projects in the Netherlands"?* This chapter is divided into two paragraphs, the first paragraph answers the first part of the research question as to which attributes are key decision drivers. The second paragraph elaborates the conclusions which can be drawn with regard to how these attributes influence the contractor bid decision.

8.1 Importance of tender design related attributes

The research focused specifically on those attributes that a client can influence during the tender design phase. As result of a thorough literature review and additional preliminary interviews twelve tender design related attributes have been included in this research. The importance of each attribute has been assessed in a survey for medium and large contractors.

Overall it can be concluded that contractors consider contract conditions as the most important attribute as can be seen in Table 7. Subsequently the tender documents quality level is ranked second most important. This is supported by the results from the interviews in which it was concluded that contractor conditions as well as tender documents are the most important sources of project risks. Paragraph 8.2 will elaborate more on the influence of risk on the bid decision.

Table 7

Ranking of relative importance indexes attributes

	Total	Ranking
Contract conditions	90,00	1
Tender documents quality level	86,82	2
Collaboration form	86,36	3
Project planning	85,91	4
Award criteria	85,45	5
Prequalification requirements	81,82	6
Contract type	78,64	7
Tendering procedure	72,73	8
Pricing mechanism	72,73	9
Potential for new projects	72,27	10
Project size	71,82	11
Tender duration	70,00	12

Collaboration form was ranked third most important. The most important conclusion from the interviews with regard to collaboration form is that the collaboration form and contract type should match the sort of project. In practice practically none of the contractors differentiates between the collaboration form and contract type. These two concepts are talked about interchangeably and the assumption is that with the use of integrated collaboration forms, integrated contract types (UAV-gc in the Netherlands) are used. Therefore, the combination of these two attributes will be referred to as the project delivery method.

The attribute project planning was assessed as fourth most important attribute. Following from the interviews the importance of this attribute was not found in whether or not the client had included a realistic planning but to a much larger extent whether or not the contractor had sufficient capacity during the duration of the project.

With regard to award and prequalification criteria, the award criteria were regarded of higher importance. This is supported by the interviews in which it became clear that if a contractor does not fulfill the prequalification requirements he will most probably not participate. Therefore, it is important for a client to consciously establish these requirements and to make sure they are not too specific in order to assure sufficient competition. On the other hand, based on awarding criteria contractors determine if they can be distinctive and thus if they have a chance of winning. Furthermore, many of the contractors prefer a high weighing of the qualitative best value for money criteria.

The remaining criteria are of significant less importance in the bid decision, however still considered by the majority of the contractors. Tendering procedure as well as pricing mechanism again have to be in line with the project delivery method. It is not interesting to use a competitive dialogue with a traditional collaboration form. With regard to pricing mechanism it followed from the interviews that not much variety is present, but that it can be interesting to experiment with this, especially if early contractor involvement is chosen.

Potential for new projects is considered by contractors during the bid decision, however it does not overrule the notion when a tender has too many negative aspects. With regard to project size it followed that depending on the contractor’s size they will select projects in a size range that will at least contribute sufficiently to cover the overhead. Lastly, tender duration is of less importance because the contractor does not per definition use the entire tender duration.

Actually, depending on the project scope a contractor determines how much time they want to invest in the tender.

An important notion with regard to the importance of each attribute is that if a client defines an attribute in such a way that it is considered extremely negative by the contractor a direct no bid decision might follow. Examples of attributes designs which have extremely negative impact on the contractors are: unlimited liabilities in the contract conditions, inviting more than five participants for the award phase in the tender procedure or prequalification requirements which cannot be fulfilled.

Following the paragraphs above it can be concluded that all the tender design related attributes identified in this research are relevant decision criteria in the contractor's bid decision. However a difference exists between the level of importance. The six attributes which are ranked the most important are: contract conditions, tender documents quality level, project planning, award criteria and prequalification requirements.

8.2 Influence on bid decision

With regard to the question of how the various key decision drivers influence the bid decision of contractors particularly the interviews provided valuable insights into the decision making. The overall conclusion is that all the attributes contribute to the risk associated to a project or tender. Tender risk for a contractor can be found in the fact that they invest time and resources by

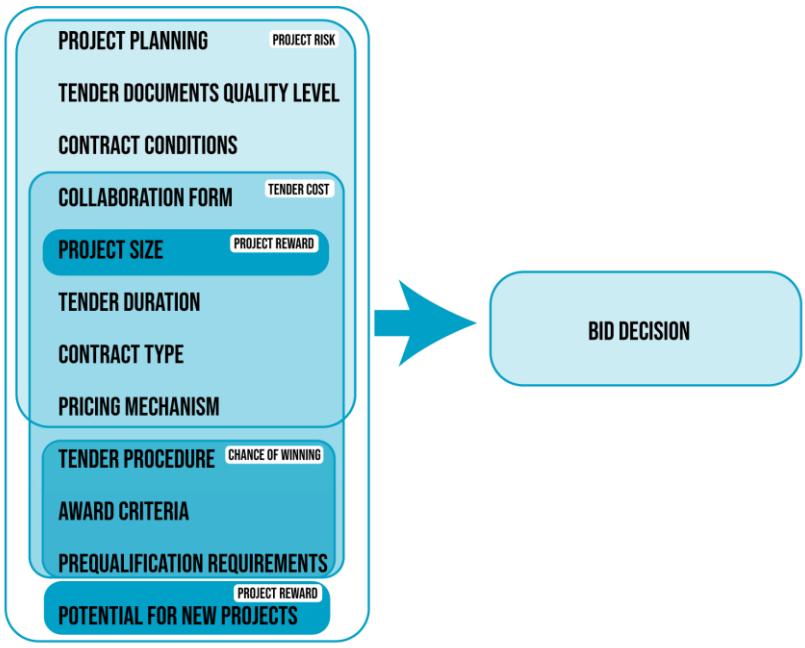

Figure 13: Conceptual model on the basis of conclusion

preparing a tender although it is uncertain if they will actually be awarded the contract. Whereas the project risks are related to uncertainties in the project which can have a negative effect if insufficient reward is available. How each of these risks is impacted by various attributes will be discussed in the next two subparagraphs and is illustrated in the adjusted conceptual model in **Figure 13**.

8.2.1 Tender costs

Firstly, the magnitude of the necessary investment, often referred to as tender cost, relates among other attributes to the project delivery method (thus collaboration form and contract type) selected by the client. It can be concluded that tenders with an integrated approach, thus which include design efforts, generally require a higher investment than the more traditional projects. Contractors consider this acceptable as long as the project is suitable for an integrated approach and the requested effort of contractors during the tender phase is limited as much as possible.

Furthermore following the results in the previous chapter it can be concluded that the fixed price pricing mechanism requires more effort thus tender costs for the contractor. Therefore influence the selected pricing mechanism the tender costs. Likewise are the tender costs also related to the tender duration. A short period for the tender requires more manpower which is not as efficient.

Another important notion with regard to the magnitude of the necessary investment in a tender is that the investment should be regarded relative to the financial project size. For a large or complex project, thus a more expensive project, a contractor will be more willing to invest more than for a small, simple project since the revenue will be smaller as well. Thus, tender costs should be regarded in relations to the (financial) project size.

Lastly, tender procedure, prequalification requirements and award criteria all influence the tender costs. The tender procedure determines for example if a dialogue is included in the tender which subsequently requires more effort of the contractor. The prequalification requirements might increase the tender costs if a lot documents and/or reference projects are required to participate in the selection phase of a tender. With regard to the award criteria it is especially important to limit the effort required to prepare a bid.

8.2.2 Chance of winning

The anticipated chance to win the tender on the other hand, is primarily dependent on the tender procedure and more specifically to how many participants take part in the actual tender phase, hence after prequalification. Almost all the interviewed contractors indicated to have a strong preference for tenders with a maximum of three competitors, some the contractors even declared not to compete if more than three participants were selected. This should be placed in the context of the current economic conditions and abundance of possible projects to work on. None the less the prequalification requirements can also influence the chance of winning for a contractor because if a contractor does not comply with the minimal levels of ability his chances of winning are equal to zero. Thus if prequalification requirements are defined too strict there might be a lot of contractors making a no bid decision based on these requirements. Additionally the award criteria can influence the chance of winning because contractors can distinguish themselves better depending on the award criteria.

8.2.3 Project risks

Project risks are important for contractors because if they fail to assess and manage these risks this will reduce or even take up their profit margin and in an extreme case this can result in bankruptcy. Several of the tender design related attributes relate to the project risks a contractor endures. The overall project risk profile is assessed and on the basis of this profile, and the tender risk profile, a contractor decides to bid or not. Subsequently, specific risks might be included in the tender price as risk premiums. Risk premiums will especially be included if the contractor is not able to manage the risk. Therefore, it is important for clients to consciously decide during the tender design phase which risks they want to transfer to contractors.

Firstly the tender documents quality level is an attribute which can contribute to risks for the contractor. Depending on the project delivery method the tender documents might include a design. On the basis of which contractors subsequently develop a cost price. If this design is unclear, contradicts or contains mistakes variation in the tenders will develop.

Secondly, contract conditions are often used to transfer risks. In the Netherlands generally the standard conditions, UAV or UAV-gc, are used by clients. However more often than not many deviations are included with these standard conditions. Contractors assess whether or not they think the conditions are acceptable. Specific conditions or a combination of conditions which lead to severe risks while therefore influence the bid decision significantly. Examples of unattractive conditions are: “unlimited liability” and the “transfer of uncontrollable risks from

client to contractor”. Lastly, the project planning can result in project risks especially if a client included a tight deadline.

Like tender costs the project risks should be considered in combination with the project size. A contractor is willing to take higher financial risks if the project is larger or more complex, since he will also be able to make a higher profit. Furthermore the project risk can also be enlarged by a limited tender duration. A contractor might not be able to calculate everything and thereby uncertainties are introduced. Lastly the pricing mechanism relates to the project risk since a fixed price will leave more risks for the contractor than unit prices.

8.2.4 Project reward

The project reward is established based on the bid of a contractor. Generally the project reward has to be in line with the project size as well as the project risk endured in the project. However if a ceiling price is applied by a client the maximum reward is limited for the contractor. If this ceiling price is subsequently too low this will might lead to no bid decisions of contractors. Furthermore a reward for the contractor can also be found in the potential for new projects. The contractor might be more willing to accept a lower revenue for one project if the project contributes to obtaining more projects in the future.

9 Discussion & Recommendations

This chapter will reflect on the research. Firstly, the relevance of this research is discussed whereafter the earlier discussed validity will be reflected on. This is followed by some limitations of this research. Lastly, recommendations both for practice as well as for further research in this field.

9.1 Relevance of the research

After completion of this research it is possible to reflect and evaluate if the objective has sufficiently been achieved. The objective of this research was to gain insights on what tender design related attributes are key decision drivers during the bid decision of contractors and how these key decision drivers influence the bid decision. Herewith enabling clients to better understand the contractor's bid decisions making it possible to anticipate on this behavior already during the tender design phase.

9.1.1 Scientific

Several researches investigating the contractor's bid decision have been conducted in the past decades. However, in multiple respects this research differentiates itself from other bid decision literature. First of all, most studies assumed procurement awarding based on lowest price only. The addition of awarding through the best value for money principle has increased the complexity of the bid decision even further. Therefore, the awarding criteria and how they are weighed proved to be an important attribute newly added variable and addition to existing knowledge. Similarly the potential for new projects can influence the bid decision positively by increasing the reward for contractors. This is also a newly added decision variable in the bid decision literature.

Furthermore, unlike previous bid decision literature, this research specifically focused on the tender design related decision attributes of importance during the contractor's bid decision especially in periods of economic expansion. Therefore, the research can be used as a stepping stone for further research on how the client should design their tenders during periods of limited availability of contractors.

Lastly, several of the studies included in the literature review were conducted in non-Western countries. Therefore, the development of the institutional aspects regarding the construction

industry as well as the procurement of projects might differ significantly from that of Western countries. Hence it was relevant to conduct a similar research in the Netherlands.

9.1.2 Practical

The practical relevance of this research can be found in the conclusions based on the empirical investigation of contractors bid decisions. More insights into what contractors consider important during their bid decision should help in designing a tender in such a way that sufficient contractors want to participate. In paragraph 9.4.1 a matrix will be presented which will help clients to do so.

9.2 Validity

At the end of the research it became clear that the attribute project planning was probably interpreted differently than anticipated. The researcher aimed to assess whether or not the planning included in the tender was ought realistic or not and to what extent this was important during the bid decision. However, during the interviews it became evident that when talking about project planning most contractors reflected on this whether or not a project would fit within their own planning. Making it an attribute which cannot be influenced by the client. Therefore, the importance ranking of this attribute might not be accurate. This reduces the internal validity of the research.

In order for this research to have a high external validity the question should be asked if there is the possibility to generalize the conclusions of this research. The scope and population of this research was limited to medium and large non-residential construction contractors in the Netherlands. Since the entire population was invited to participate in the research, the conclusion can be generalized to the population. Furthermore, it is anticipated that it is possible to generalize the conclusions of this research to other population with similar characteristics. For example, for contractors in the infrastructural sector or in non-residential contractors in other countries. However, it is recommended to conduct further research within these different populations.

Regarding the reliability of the research one critical note can be made. Each contractor was invited to select one person within its organization, who was involved in the bid decision, to participate in the survey and subsequently the interviews. However different people within the same organization might have a different view on how decisions are made. By allowing multiple people within one organization to fill in the survey or by conducting interviews with several people the reliability could have be increased. However, since the research was aimed more at

formulating general inter organizational conclusions the decision was made to suffice with one person per contractor.

Lastly, it was striking to find that the response rate of large contractors was significantly higher than of the medium sized contractor group. A possible explanation could be that the bid decision is assessed more consciously at large contractors, whereas medium sized contractors make this decision less frequently. The overall response rate approximates the expected 30% as mentioned by Saunders, Lewis and Thornhill (2009).

9.3 Limitations

Some limitations with regard to the reliability have already been discussed in the previous paragraph. This paragraph will add some additional limitations. Following the results it became for example apparent that most of the publicly procured projects in the scope of this research make use of a selection phase. Based on the prequalification requirements several contractors are invited to participate in the award phase. Sometimes not all documents regarding the award phase are already available during the selection phase. Therefore a two stage bid decision is often employed. Thus firstly contractors pose themselves the question: do we sufficiently fulfill the prequalification requirements and do we like the project? Than if the contractor is selected they assess the project in more detail where after a decision not to bid can still be made.

As mentioned before, it became clear during the interviews that most contractors interpreted project planning differently than anticipated. Instead of regarding if the project planning was realistic contractors considered if it fit their own planning. Therefore the rating and ranking of project planning which resulted from the survey is likely to be unreliable since different interpretations were made.

9.4 Recommendations

Following this research several recommendations for practice as well as for future research can be made. This paragraph will discuss the most important recommendations.

9.4.1 'Tender Design Test Matrix' (TDTM)

The practical relevance of the results of this research is that clients should be able to test the compatibility of their tender design during the early phases of the project. Therefore, with the knowledge gained from the results of this research a tender design test matrix has been developed. This matrix includes the four variables which followed from the interviews: project risk, project reward, tender costs and chance of winning.

The first step in filling in the TDTM is to determine the project risks which are transferred to the contractor based on the specific tender design. As discussed in the previous chapter, project risks for a contractor can originate from the contract conditions, the quality of the tender documents, project planning, collaboration form, contract type, project size, tender duration and pricing mechanism.

Appendix I contains an example of a risk register which the client can develop based on the tender design. The client has to identify possible project risks for the client, including cause and consequence, where after he has to estimate the probability and impact. In the example this is done on a scale from 1 to 5, however it is also possible to use a probability between 0 and 1 in combination with the monetized consequences. This monetized risk can then be transferred to a percentage of the total revenue of the project. In addition to assessing the probable strategy of the contractor, the client can after completion of the TDTM subsequently determine what its own strategy should be.

The TDTM is a matrix which plots the project risk against the reward. During stable economic conditions the reward/revenue percentage should be at least as much as the risk/revenue percentage, as also displayed in the vertical blue line in the matrix. In times of economic expansion contractors might not be satisfied with equal risk and reward, whereas during times of recession they might specify a price in which their reward is less than the risk they have to take. The reward axis is therefore dependent on the contractor's behavior, the competition they endure, possibly the use of a ceiling budget and the economic situation.

Through the identification of the project risk (red line) it is possible to draw the horizontal line in the matrix as can be seen in Figure 14. As explained in the previous paragraph the reward depends on several external factors as well as potential for new projects. Nonetheless it is now possible for a client to assess if they are willing and able to reward the contractor sufficiently for the risk they have transferred through the tender design. Clients should realize that the transfer of some risks to the contractor will be more expensive than reducing the risk upfront. This is based on the principle that changes in a later phase of a project are more expensive than during the early phases of a project (MacLeamy, 2004). Additionally, at some point contractors will regard the risk too high all together and withdraw.

The second part of the TDTM is the illustration of the tender risk a tender design imposes on contractors. In this regard the green horizontal axis contains the necessary investment, thus tender costs, a contractor has to endure in order to participate. To assess the tender costs a general estimation should be made based on the collaboration form, contract type, tender duration, pricing mechanism, tender procedure, prequalification requirements and award criteria. Depending on the contractor these tender costs can of course vary but it should be assess if it is expected to be higher or lower than average. The tender costs are also related to the project size, because for a larger project a contractor is also more willing to invest more. Therefore, the tender costs should be evaluated as a percentage of the total revenue of the project.

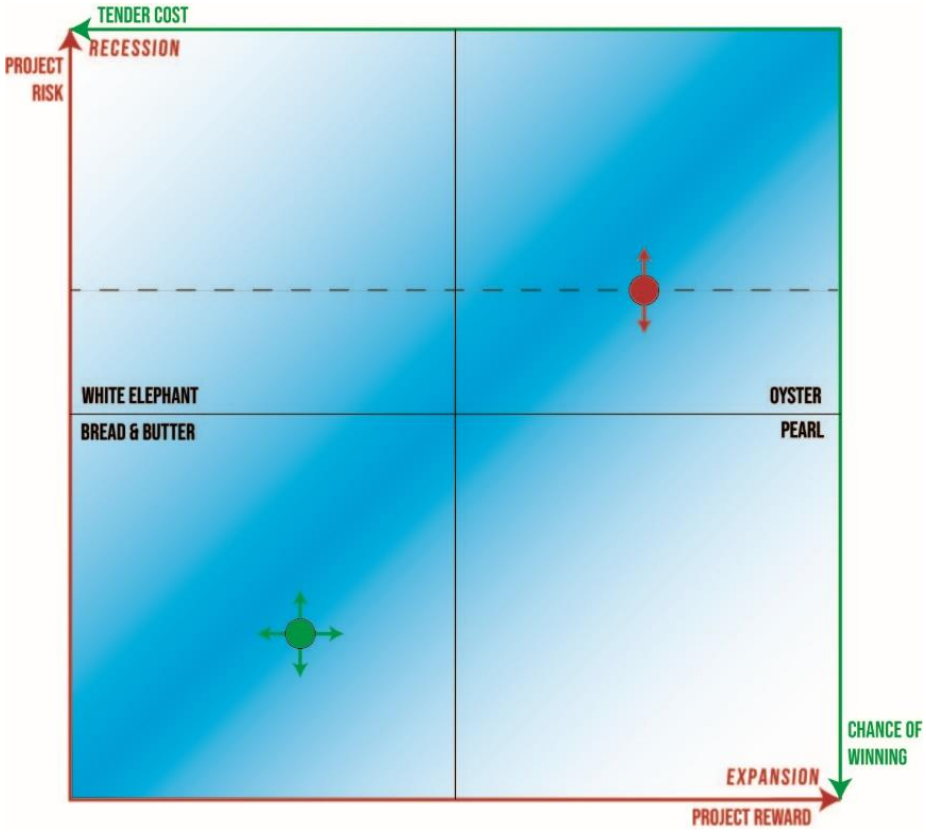

Figure 14: Tender Design Test Matrix example

To illustrate the tender risk the tender costs are put against the other green axis which contains the chances of winning for contractors. Like tender costs this variable depends on the efforts and quality of the contractor, but in general the chances of winning are also related to the tender procedure as well as to the prequalification requirements and award criteria.

As can be seen in Figure 14, the TDTM is divided into four quadrants. Based on the risk/reward matrix of Cooper, Edgett & Kleinschmidt (2001) each quadrant is given a name. There are bread & butter tenders meaning that the project rewards are limited, however the project risks

are as well or, alternatively, the tender investment is high but the chances of winning are high too. A pearl project has low project risks and high rewards as well as low tender investments with high chances of winning, hence a tender which more than enough contractors should be willing to participate in. Oysters are those tenders that do have high rewards but also high project risks, therefore a contractor is never sure what the outcome will be. Regarding the tender risks the oyster tenders have a low chance of winning, however the tender costs are limited as well. Lastly, there are the white elephant projects, under normal conditions no contractor is expected to participate in such tenders. The project risks are high whereas the reward is minimal, likewise the tender investments are high and the chances of winning are low.

The tender and project risks are assessed separately and therefore it can be the case that the tender risks are considered as pearls and hence no changes have to be made on that regard. However, if the project risk is categorized as a white elephant it is wise to reconsider the tender design attributes related to the project risks. In order to gain more insights into how a client can assess its tender design with the help of the TDTM, two tender designs of example projects have been assessed and are elaborated on in Appendix J – TDTM Practical Application

Reassessing the tender design

By assessing in which quadrant the project and tender risk respectively are located the client can assess whether adjustments to the tender design are necessary. With regard to the project risk, the client should then reconsider the following attributes: project planning, tender documents quality level, contract conditions, project size, tender duration, pricing mechanism, collaboration form and contract type. The planning should be realistic, the tender documents of high quality and without contradictions or uncertainties. Contract conditions should follow the standard conditions as much as possible and liabilities should be maximized. Tender duration should be sufficiently to assess all the uncertainties and risks of the project. The fixed price mechanism transfers more financial risks to the contractor. Finally, the collaboration form and contract type should match the size and sort of project.

If on the other hand the tender risk is located in the white elephant quadrant the client might correspondingly want to reconsider the tender design. If that is the case, the client can either limit the tender costs for contractors, increase the chances of winning for the contractor, or both. The tender costs can be reduced by reconsidering the collaboration form and related contract type, reserve sufficient tender time for the contractors, select an alternative pricing mechanism, select a less demanding tender procedure and/or reduce the effort of tendering by adjusting the prequalification requirements and/or award criteria. The chances of winning on the other hand

are primarily determined by the tender procedure and how many contractors are selected to participate. Additionally, award criteria based primarily on price offer the possibility for contractors to distinguish themselves and can improve the chances of winning. Lastly, too strict prequalification requirements limit the chances of winning for contractors.

9.4.2 Recommendations for practice

The TDTM has been developed as a tool for clients to consciously assess what effects the tender design, thus the different attributes, have on the project risk, project reward, tender cost and chance of winning. By thinking consciously about the risks/reward and cost/chance for the contractors in preliminary phases of tender design the aim is to avoid failed procurement processes.

As already discussed in the conclusion it is furthermore important to avoid extremes, such as unlimited liabilities or use of open tender procedure, in the tender design since this might lead to direct no bid decisions of contractors. An interesting result was furthermore that the theoretical attribute pricing mechanism was in practice not applied as would be expected. Most projects and clients utilize the fixed price principle whereas in some projects, especially with early contractor selection and involvement, it can be interesting to use for example unit prices.

9.4.3 Recommendations for future research

The empirical research of this study can give rise to a new subject within the public procurement research. Namely, theory could be developed to assess tender designs based on tender and project risk for a contractor to subsequently determine if contractors are willing to participate. If the risks are high it is then possible to evaluate whether it is more cost efficient to reduce the risks for the contractor preliminary or to accept the risk premium of this higher necessary reward. As recommendation for future research the tender design test matrix as presented in the previous paragraph should be further validated and tested. Especially the risk based assessment of tender design for both client and contractors would be valuable knowledge.

Additionally it is recommended to investigate how the two-stage bid decision works during tenders with a selection phase. Which attributes are important during the selection phase and which are considered during the award phase. Furthermore as already mentioned in paragraph 9.2, the research could be replicated to investigate if the conclusions are similar for different populations. Additionally it can be interesting to study how clients currently design their tenders and therefore include their views as well in future research.

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Part V

Appendix

Content

Appendix A – Attributes selection

Table 8

Literature review results for tender design related attributes

Egemen & Mohamed, 2007 and 2008	**Bageis & Fortune, 2009**	**Cheng, Hsian, Tsai & Do, 2011**	**El-Mashaleh, 2013**	**Jarkas, Mubarak & Kadri, 2014**	**Lesniak & Plebankiewicz, 2015**	**Shokri-Ghasabeh & Chileshe, 2016**	**Olatunji, Aje & Makanjuola, 2017**
Project size (total bid value)	Size of contract	Project size	Project size	Size of the project	Size of the project	Project size	Size of project
Project duration/ Allowed project duration being enough	Duration of the project		Project duration	Contract duration	Time of project duration	Project duration	Proposed timescale
Contract type	Type of contract	Type of contract	Contract type (cost plus, unit price, etc.)	Contract type		Contract type	
	Contract conditions/contract special requirements	Contractual conditions	- Amount of delay damages - Percentage of retention money - The contract includes an advance payment - The contract includes a bonus for early completion - The contract includes an "Adjustment for changes in cost" sub clause	Contract conditions	Contract conditions (the type of remuneration, the possibility of obtaining an advance payment, time for completing the work, amount of performance security		
- Terms of payment - Payment conditions of the project creating a risky environment	Project payment system		Terms of payment (minimum amount of interim payments, specified time periods for applying	Payment scheme		Contract payment terms	

			and issuing interim payment certificates)				
Allowed duration for bid preparation being enough	Time allowed for submitting bids	Time available for tender preparation	Specified time frame for submitting tenders (bidding period)	Tendering duration	Time for the preparation of the bid		Time allowed for bid preparation
- Completeness of the bid documents - Rigidity of specifications	- Sufficiency of project's information - Clarity of the work and specifications	Adequacy of tender information	Quality of the bidding documents	Tender documents quality level		Clarity of documents	Accuracy of contract documents
- Possible number of competitors passing requirements - Desire of qualified contractors to bid and win the project	How many bidders will there be?	Number of competitors	Expected number of competitors	Number of bidders		Number of competitors	Categories of contractors expected to bid
	Required bond capacity			Size and validity of security bonds required			Required bond arrangement
		Tendering method		Tendering method (selective, open)		Bidding condition (open or close)	
	Ability of modifying the contract						
	Cost of preparing the bid	Cost of bidding					
					Criteria of bid selection		

Penalty conditions for not being able to complete the project on time							Penalty of (timely) non-completion
Completeness of fulfilling to tender conditions imposed by the client	Prequalification requirements	Tender conditions					Prequalification requirements
		Expected risk				Project risk	
				Identity of designer		Client design team	
Consultant's attitude, characteristics and the easiness to work with him	Project supervision procedure/project management system			Identity of construction supervisor			Identity of owner/consultant
	- Original price estimated by the client - Bidding document price			Tender documents purchasing price			
				Safety level required			
Dispute resolution process			Contract requires appointing a dispute adjudication or arbitrators for the project				
Warranty issues			Warranty requirements				

*Green attributes are included in research

Appendix B – Preliminary Interviews

A.1 Summary (Dutch) of interview Contractor 1:

- Omvang van het contract
  - Persoonlijk voor aannemer 1: voorkeur voor als het totaal pakket wordt aangeboden; met installaties is interessanter
  - Engineering, build, maintain ook interessanter omdat het een totaal pakket is
  - Energieprestatie: nog lastig en heeft er mee te maken dat er moeilijk op te sturen valt
  - Niet doorslag gevend in de bid decision
- Type contract
  - Ook contracten waar design in zit
  - Positief over geïntegreerde contracten; nog aan de knoppen draaien aan de voorkant dus beter product tegen betere prijs (voorkeur)
  - Voor de rust in de organisatie ook nog wel traditionele contracten
- Geplande duur van project
  - Heel erg belangrijk criterium
  - OG veel vertraging opgelopen in voor traject wat vervolgens ten kosten gaat van de bouwtijd
  - Werkvoorbereiding en inkoop kost ook tijd
  - Strategie: om OG te waarschuwen tijdens vragen → belangrijk om hier realistisch in te zijn, maak gebruik van adviseurs, want grotere problemen als partijen wel inschrijven en het alsnog niet haalbaar blijkt te zijn
  - Wel beginnen met rekenen; als blijkt dat er niks verandert kan er alsnog gestopt worden
- Tijd om inschrijving voor te bereiden
  - Minimale tijd om in te schrijven is niet wenselijk
  - Mee doen om te winnen; daar is voldoende tijd voor nodig
  - Voor een kwalitatief goede inschrijving is de tijd nodig (OG ook bij gebaat)
  - Wel beginnen en vragen voor uitstel anders alsnog proberen het te laten werken
- Over het algemeen blijft het belangrijk hoe interessant het project is (veel risico's of kleine klus met weinig marge is niet interessant)
- Kwaliteit van de aanbestedingsdocumenten
  - Onderscheid maken tussen vaste klanten
  - Risico's of gaten in de stukken te groot kan leiden tot een beslissing om niet mee te doen
- Contractvoorwaarden
  - Scannen op: afstand doen van retentierecht (niet bereid om te doen), dubbele zekerheden (onderhoudstermijn en bankgarantie, vraagt te veel van de aannemer)
  - Betalingstermijnschema moet zo zijn dat er niet te veel voor financiering nodig is
  - Risico's van de OG (bijv. het verkrijgen van vergunningen als er al een ontwerp ligt) die worden overgedragen → no go
  - Boetebeding, is het redelijk?
- Geschiktheidseisen
  - Aan de meeste selectie criteria zijn wel goed te voldoen voor de grotere aannemers
  - Niet verstandig echter om als OG hele specifieke eisen te stellen; sluit je een groot deel van de markt buiten
  - Projecten aannemen met voldoende referentie waarden voor de toekomst; hoe meer variatie hoe beter (project met veel referentie waarden)
- Aanbestedingsprocedure
  - Doen nooit mee aan openbare aanbestedingen; verwacht meer concurrentie
  - Tegenwoordig wel weinig inschrijvingen dus zou nu wel kunnen
- Gevoel bij een OG; is het een redelijke OG is er de mogelijkheid voor goed overleg?; bereid om te geven en te nemen en lange termijn relaties
- Tijdens aanbestedingen ben je ook al bezig met voorbereidingen en kan je samen komen tot goede oplossingen (alleen als je weet dat een OG daar voor open staat)
  - In gesprek gaan als er verbeterpunten gezien worden
- Hoe objectief is de beoordeling?
  - Onderscheiden in kwaliteit maar moet wel goed beoordeeld worden
  - Gebruik van kluizen; prijs kluis pas open zodra de kwaliteit beoordeeld is

- Criteria (klikfactor; heb jij een klik met een OG, uiteraard erg subjectief) en weging daarvan

A.2 Summary (Dutch) of interview Contractor 2:

Technical issue with recording only summary of most important conclusions:

- Limitatie voor mee doen aan meerdere aanbestedingen ligt vooral aan de minimale capaciteit van de calculatie afdeling
- Opdrachten met vaste klanten hebben de preferentie maar ook aanbestedingen wordt regelmatig gedaan
- De holding van aannemer 2 maakt het makkelijker om aan de benodigde referenties te komen
- Maken gebruik van zelf ontwikkelde quickscan om te bepalen of een aanbesteding/opdracht wel of niet aantrekkelijk is om aan mee te doen. Aantal punten die daar in zitten die nog niet zijn opgenomen als attribuut in het onderzoek:
  - Voordeel als er 3D tekeningen al beschikbaar zijn
  - Gunningscriteria → weegt kwaliteit wel echt voldoende mee
  - Bankgaranties en overige borgen
  - Technische aspecten (oa de aanwezigheid van asbest)
- Een aantal punten leiden vrijwel meteen tot een no go:
  - afgeven van retentie recht
  - hoge boete clausule in combinatie met een strakke planning
  - weinig voorbereidingstijd met vaste start datum
  - financieren van een project

A.3 Summary (Dutch) of interview Contractor 3:

- Het komt in de verschillende kanalen binnen: via, tenderned, verschillende bedrijfsonderdelen en gebieden
- Bekijken wat voor soort opdracht het is; hoeveel tijd is nodig (tijd is geld)
- Besluiten ja of nee; beslissing genomen door verschillende personen (ultiem directie)
  - Realisatie capaciteit beschikbaar, wat kan er nog bij dit jaar? → zodra je vol zit wordt je selectiever,
  - Interessant project: makkelijk geld verdienen, goed voor imago/PR
  - Snel nee: als er veel risico's zijn en veel haken en ogen
  - Beleid: niet mee doen aan aanbestedingen puur op prijs (of daarop wijst vanuit EMVI), doel is kwaliteit leveren (in het voordeel van de opdrachtgever, kost uiteraard wel geld); benutten van groot apparaat → is 1^{e} selectie
  - BVP nu mee bezig om referentie projecten etc. bij te houden want in historie verder niet bijgehouden
- Vervolgens een tenderteam opstellen met allerlei disciplines
- Omvang van projecten
  - Bij de grote projecten, risico spreiding met meerdere partijen werken (> 200 miljoen met 2 of 3 partijen binnenhalen) → moeten beschikbaar zijn en regelen voordat je aangeeft om mee te doen
  - Alleen (rond 100 miljoen)
  - Ook bij complexere, specialistisch of hoge tijdsdruk ook samenwerken
  - Minimum niet heel vast (> 20 miljoen de rest in de regio's), relatie sferen is belangrijk
- Geplande duur van project
  - Extreme planningen (in combinatie met volle portefeuille) zowel in calculatie als uitvoering→ wordt moeilijk om op te pakken, kan een reden zijn om niet mee te doen
  - Bij boete clausules: ingecalculeerd en/of beheersen (kost ook geld)
- Tijd om inschrijving voor te bereiden
  - Alles wat omschreven wordt in de leidraad waar je aan moet voldoen worden allemaal bekeken; technisch, juridisch, data kunnen allemaal leiden tot een no go
  - Alleen mee doen om goed mee te kunnen doen dus winnen
  - Ondanks onaantrekkelijke kaders in de uitvraag kan het nog steeds wel zo zijn dat het wordt gezien als een heel interessant project; dan toch beginnen met de aanbesteding en specifieke vragen stellen over die kaders; bij volhouden van opdrachtgever bestaat de kans dat alsnog terug wordt getrokken
  - Voorbeelden kaders: (niet gelimiteerde) boetes, juridische aspecten (contract voorwaarden), tijd om tender goed te kunnen doorlopen
- Kan voorkomen dat tijdens de tender door vragen van andere partijen de uitvraag verandert en meer gaat richting een prijs gaat bijvoorbeeld → kan een reden zijn om alsnog te stoppen
- Zekerheid is belangrijk, hoe kan je het uitvoeren → hoe wordt met risico's omgegaan bijvoorbeeld bodemonderzoek; als het onbekend is wordt het in de prijs mee gerekend
- Betalingsvoorwaarde

    - Betaald als werk compleet opgeleverd wordt; te veel voorfinanciering → no go
    - Redelijke termijn is belangrijk
- Niet projecten 'kopen' om een referentie te hebben voor een volgend project (wel als het ook een winstgevend project kan zijn)
- Plafondprijs → is het reëel?; tijdens het proces kan het zo zijn dat er steeds meer bij komt dus kan de beslissing alsnog volgen om niet verder te gaan, want boven plafondprijs betekend sowieso niet winnen
- Tenderkosten zijn heel erg hoog! Dus tijdens het proces blijven analyseren of de slagingskans voldoende is
- Wanneer 2 partijen gevraagd wordt een DO te maken; worden al vraagtekens bij gezet
    - Hoe zit de weging echt in elkaar? Wordt het eerlijk beoordeeld, is afhankelijk van subjectiviteit → te veel kansspel
- Vergoeding van tenderkosten
    - Eigenlijk nooit toereikend want niet in verhouding
    - Zoals het nu is geeft het geen reden om eerder mee te doen
- Bouw Werktuigbouwkundig en Elektro → liefst geïntegreerd technisch en bouwkundig
    - Onderhoudscomponent kan ook een voorkeur opleveren

A.5 Summary (Dutch) of interview Contractor 4:

- Omvang van het contract:
    - het is heel belangrijk, over het algemeen bandbreedte van grootte van het werk tussen de 3-10 miljoen; midden segment
        - was in de crisis moeilijk toen de grotere aannemers ook naar dat soort werk gingen bieden
    - Uiteraard hangt het af van de beschikbare capaciteit of er nog ruimte is
- Veel repeterende opdrachtgevers die ook onderling promotie maken voor de aannemer
- Het werk moet ook goed bij de aannemer passen, snel ombouwen heeft bijvoorbeeld niet de voorkeur voor aannemer 4
- Tijdens de crisis onder andere gaan specialiseren in scholen, ondertussen weten we erg goed hoe dat soort projecten werken en dat helpt bij het inschrijven van een aanbesteding, je weet wat de opdrachtgever graag wil
- Als er hoge boetes worden gesteld, kan je daarover vragen stellen of uiteindelijk het in de prijs mee rekenen
    - Voorbeeld van een EMVI aanbesteding waarbij de prijs en planning belangrijk waren; maar omdat de planning meer punten opleverde heeft een aannemer het zo gespeeld dat hij zei dat hij vroeger op zou leveren maar ondertussen de boetes in de prijs mee genomen en op deze manier wel de aanbesteding gewonnen → dus oppassen met wat zet je uit en wat wil je er mee bereiken als opdrachtgevers
- Beoordeling van de stukken is erg subjectief; je scoren is vaak hoger bij bestaande relaties
- Voorkeur voor gunningscriteria
    - Hoe liggen je kansen; ervaring met duurzaamheid bijvoorbeeld, wij kunnen wel een plan van aanpak schrijven en het uitvoeren maar omdat de ervaring gering is liggen je kansen lager
    - Hoe meer ze vragen qua aanbestedingsdocumenten, hoe groter de afweging om mee te doen
- Geplande duur van project
    - Is het real?
    - Strakke planning zorgt voor meer benodigde capaciteit
    - En kans op boetes worden ook groter
- Alles schuift naar achteren in het bouwproces, zodra het bestek en de aanbesteding klaar zijn moet alles zo snel mogelijk gebeuren om de eerder verloren tijd goed te maken → zou beter zijn als de aannemer eerder van te voren weet wanneer een aanbesteding om de markt komt zodat hier rekening mee kan worden gehouden in de calculatie capaciteit
- Kwaliteit van de aanbestedingsdocumenten
    - Hoe beter de stukken hoe sneller we er door heen gaan, hoe minder vragen we hoeven te stellen; hoe minder vragen wij ontvangen van de onderaannemers
    - Hoe beter dus ook de prijs; minder transactiekosten en ook door minder risico's
- Uitgangspunten:
    - Kunnen wij het aan zowel capaciteit als kwalitatief
    - Realistische planning zijn
    - Het moet te maken zijn
    - Iedereen moet zijn eigen verantwoordelijkheid nemen (ontwerpteam, OG)

- Op een gegeven moment als er te veel onduidelijkheden zijn, dus technische risico's, waardoor je al weet dat de prijs te hoog is; dus verder dan niet meer te veel moeite voor doen en als je het toch nog wint kan je de risico's ten minste afdekken
- Contracttype:
    - Liever geen maintain in het contract; wat is de demarcatie van regulier onderhoud en incidenteel onderhoud (liever een meerjarenonderhoudsplan zodat je weet wat er allemaal verwacht wordt)
    - Aanbestedingen kosten veel tijd
    - Bouwteam is prioriteit 1; proactief zijn en veel aandacht aanbesteden maar in de praktijk zijn er ook veel andere prioriteiten en omdat er in een bouwteam altijd wel wat te schuiven is staat het eigenlijk toch niet op 1 en gaan aanbestedingen vaak voor door de harde deadline
    - Voordeel van bouwteam: werkvoorbereiding begint al tijdens een eerdere phase
    - Design & Build → wordt helemaal gek van de hele papieren rompslomp door alle certificaten en goedkeuringen; en zelfs als er goedkeuring was kunnen ze nog steeds zeggen dat het uiteindelijk tegen valt
        - Dus meer risico voor de bouwer want OG probeert meerwerk af te kopen → dus hogere prijs
    - Bij alternatieve vormen (geïntegreerd en bouwteam): de activiteiten voordat je je werk hebt is veel meer; tussentijdse ramingen, begrotingen → dus meer investeren in voortrajecten
- Betalingskenmerken:
    - Moeten correct betalen binnen de afgesproken termijnen
    - Aanvragen met hoge bankgaranties en langzame betalingstermijnen
    - Gebruiken van bonussen: ook gevaarlijk, mensen gaan naar iets toewerken om geld binnen te halen
    - Voorbeeld wat wel werkt: milestones inbouwen zodat het overzichtelijker is
    - Aan de andere kant is het gebruik van boetes bijna hetzelfde: hierbij kans dat er wel op tijd wordt opgeleverd maar met tal van gebreken
- Eigenlijk wordt een aanbesteding nooit echt afgezegd
- Geschiktheidseisen
    - Het is beter geworden in de afgelopen jaren omdat ze wel inzien dat het midden segment dan niet mee kan doen
    - Als er vragen worden gesteld over proportionaliteit wordt het soms ook wel bijgesteld
    - Maar er wordt ook mee gegoocheld om er toch aan te komen
- Aanbestedingsprocedure
    - Openbare aanbestedingen: op gekke data zoals midden in de zomer of vlak voor de kerst kan je nog weleens goede werken binnen halen omdat andere partijen er niet meer zo serieus mee bezig waren
    - Je krijgt ook wel feeling bij hoe groot je concurrentie is
- Voorkeur voor utiliteitsbouw; niet in repetitie vallen
    - Soms wordt je verliefd op een werk en daar moet je ook mee oppassen
- Aanbesteden is een als een raket: begint rustig en dan win je hem niet, vervolgens wordt de nood hoger om te winnen dus wordt iedereen (inclusief calculator) scherper in prijs, als je hem uiteindelijk een keer wint is het nog wel de vraag of je niet je eigen risico profiel bent overschreden om toch te winnen (vandaar de conjunctuur bewegingen)
    - Maar dit kan omdat de kosten van de bouw nooit helemaal vast staan; unieke projecten, de inschattingen zijn wel redelijk goed maar altijd variatie

A.5 Summary (Dutch) of interview Contractor 5:

- Spreekt zowel vanuit hoe het gaat bij aannemer 5 als hoe het bij zijn vorige bedrijf ging (ook grootte aannemer)
- Sommige aannemers prefereren 1op1 of eigen ontwikkeling
- Aannemer 5 -> 225 miljoen omzet per jaar en focust ook wel op grotere projecten
- Afdeling voor kleine projecten (< 10 miljoen) en grote projecten
    - Bij grote projecten bij voorkeur samenwerken om risico's te spreiden
- Huis Den Bosch en Rijksmuseum gedaan in het verleden dus af en toe aanbestedingen maar focus voornamelijk op samenwerkingen met private partijen
- Bij BAM geprobeerd om een score tabel te maken om het proces iets te standaardiseren
- 4 hoofdpunten:
    - Slagingskans
    - Benodigde investering (bereid meer te investeren als slagingskans ook hoger is)

    - Aantrekkelijk
    - Capaciteit beschikbaar
- Omzet op korte termijn kan een beweegreden zijn, target omzet voor dit jaar nog willen halen
- Belangrijk dat er een realistische planning ligt; als heel onrealistisch is, is het risico profiel hoger wat de uitvraag dus minder aantrekkelijk maakt
- Realistische tijd in samenhang met omvang en complexiteit van het project een realistische calculatie tijd
    - Kwaliteit en volwassenheid van de aanbestedingsdocumenten moet wel voldoende zijn, allemaal aanvullingen door gebruik van nota's is moeilijker werken
- Als een uitvraag erg stug en voornamelijk op basis van laagste prijs is en daarnaast ontvangt de opdrachtgever ook liever geen vragen of staat niet open voor wijzigingen, dan breng je de aannemers in een modus om onlogische punten in het ontwerp te negeren om wel tot de laagste prijs te komen. Vervolgens wordt dit tijdens het project met meerwerk opgelost omdat dat dan de manier is om toch nog een marge te verkrijgen.
- Ervaring dat ondanks dat EMVI moet worden toegepast dat de uiteindelijk weging van prijs alsnog erg vaak de doorslag geeft in de weging. Of het gevoel bestaat dat de partij met de laagste prijs ook hoger wordt beoordeeld op de andere criteria.
    - Beoordeling van plan van aanpak op schaal van 1-10 en als de hoogste dan een 8 krijgt en de laagste een 6 is het verschil nog altijd minimaal
    - Werken met kluizen is een optie en soms gaat het sowieso wel goed
    - Als er echt goed wordt gekeken naar kwaliteit kan dit een belangrijke beweegreden zijn om wel mee te doen
- Conjunctuur is eigenlijk heel belangrijk, tijdens moeilijke tijden zijn er eigenlijk geen no-go's terwijl in de goede periode aannemers weer heel kieskeurig zijn → daarom zijn langdurige relaties eigenlijk wenselijker om het uit te spreiden
- Type contract:
    - Veel grote aannemers vinden geïntegreerd aantrekkelijk omdat er al invloed uitgeoefend kan worden tijdens het design; aan de andere kant worden zijn de risico's vaak wel weer hoger en dit wordt vaak afgeprijsd door aannemers
    - Keuze van opdrachtgever: hoeveel invloed wil ik hebben op het ontwerp
    - Bouwteams werkt ook prettig, voornamelijk als het op basis van gelijkwaardigheid gaat; waardering voor inbreng; volwassen manier benaderen
    - Soft skills vanuit de OG dus ook erg belangrijk; hoe verloopt het proces, hoe ga ik om met vragen en communicatie; de juiste sfeer creëren; geen hiërarchische houding maar onderling overleg en respect → hier valt nog wel veel te winnen
- Contractvoorwaarden:
    - Moeten redelijk zijn; uitgangspunt om de uav of uav-gc te gebruiken is een goed start punt
    - Echter zodra er heel veel toevoegingen of wijzigingen zijn ten opzichte hiervan komen er al snel vraagtekens; waarom moet het net anders?
    - Gevolg is dat alles ook weer opnieuw doorgenomen moet worden; wat veel tijd en dus geld kost
    - Ontwerpverantwoordelijkheid: overnemen hiervan terwijl de aannemer niet betrokken was wordt als onredelijk gezien
        - Eventueel een periode (niet alleen tijdens aanbesteding) mee lopen met het ontwerp proces om het vervolgens over te nemen is al redelijker, kan alleen bij overzichtelijk project
        - Echter beter als je alleen verantwoordelijk bent voor werkzaamheden vanaf het moment dat de aannemer er daadwerkelijk bij betrokken wordt
- Risico's
    - Risico's neerleggen bij die partij die het best instaat is om ze te beheersen
    - Ontwerp en uitvoering
- Betalingsvoorwaarden:
    - Dubbele zekerheden zijn ontstaan tijdens de crisis bijvoorbeeld: 10% opleveringstermijn die pas wordt vrijgegeven aan het einde van de onderhoudsperiode en daarnaast een bankgarantie → hoeveel zekerheid wil je hebben en hoe redelijk is dat ten opzichte van de aannemer?
- Geschiktheidseisen:
    - De aanbestedingswet regelt dit in principe om er voor het te zorgen dat dit proportioneel is
    - Voor grotere bedrijven is dit veel makkelijker om te vervullen omdat zij vaak vanuit hun BV structuur deze aan kunnen dragen; terwijl het daadwerkelijke onderdeel van het bedrijf dat het gaat uitvoeren hier misschien helemaal geen ervaring mee heeft

    - Te strengen eisen dan sluit je bij voorbaat een hoop partijen uit; wat het vervolgens wel weer aantrekkelijker kan maken voor de partijen die wel mee kunnen doen maar zo geef je niet de kans aan kleinere partijen
- Aanbestedingsprocedure
    - Niet-openbare aanbestedingen zijn op voorhand wat aantrekkelijker aangezien er minder concurrenten zijn; openbaar is van te voren niet zeker hoeveel concurrenten
    - Marktoriëntatie: testen of je aanbesteding wel aantrekkelijk is voor je beoogde doelgroep; hoe staan ze erin; wat vraagt de markt?
- Wie is de concurrentie? Als de weging heel erg richting prijs gaat en je weet dat de concurrent bijvoorbeeld weinig overhead heeft en laag kan inschrijven is dit een afweging
- Investering van de tender → zit er een rekenvergoeding aan vast
- Ervaring en relatie met opdrachtgever en welke adviseurs/architecten zijn er bij betrokken
- Thema's: strategie om bijvoorbeeld te specialiseren in een duurzaamheid om imago uit te stralen of ingaan op een markt ontwikkeling
- Projecten kunnen zich ook ontwikkelen tijdens het proces → zowel positief of negatief, dus tijdens het proces is het goed om de beslissing om mee te doen opnieuw te evalueren

A.6 Results preliminary interviews

Table 9

Results of preliminary interviews

	Contractor:	**Decision**
Award criteria • Weight of the criteria (primarily on price or more on quality) • Objectivity of the criteria (is objective assessment possible) • Assessment of documents prior to opening the submitted price?	 1, 3 & 5 1, 3 & 4 1 & 5	Include attribute in research
Use of ceiling price	3	Too specific and included in award criteria
Compensation for tender costs	4 & 5 (3: only if it comes closer to reality of tender costs)	Not enough times mentioned
Attitude of the client • Being open to adjustments • Clear communication • Clear answers to questions	1, 3 & 5	Very subjective and cannot be assessed at the start of a tender
Contract conditions considered making a tender unattractive: • Giving up retention right • Double collateral (both maintenance term and bank guarantee) • Transfer of design responsibility • High penalty clauses (especially in combination with tight deadlines • Transfer of uncontrolable risks • Deviations of general conditions • Height and type of liability (unattractive: unlimited and for indirect damages) • Coordination duty	 1, 2 1, 2, 4 & 5 5 1, 2, 3 1 & 5 5 Interviews with consultants	Already included as attribute but use examples of unattractive conditions for survey question
Technical risks/uncertainties	1, 2, 3 & 4 (heeft voornamelijk effect op inschrijvingsprijs; risk premium)	Is a result of the quality of the tender documents

Potential for new projects • Project with high reference value • Good for image • Establishing a relation with the commissioning client	1, 2, 3, 4 & 5	Include attribute in research

Appendix C - Survey

Introductie:

Beste heer/mevrouw,

Allereerst bedankt dat u de tijd hebt genomen om deze enquête in te vullen. Deze enquête is een onderdeel van mijn afstudeeronderzoek voor de master Constructie Management & Engineering aan de TU Delft en wordt uitgevoerd in samenwerking met Brink Management en Advies. Het invullen duurt ongeveer 10 minuten.

Het doel van dit onderzoek is het bestuderen van het besluitvormingsproces, van middelgrote tot grote aannemers, om wel of niet mee te doen aan (Nationale of Europese) aanbestedingen in de utiliteitsbouw. Specifiek wordt er gekeken naar factoren die opdrachtgevers kunnen beïnvloeden tijdens het opzetten van een aanbesteding. Op deze manier wordt er beoogd opdrachtgevers meer inzicht te geven in wat aannemers belangrijk vinden tijdens het selecteren van projecten en wat daarin hun voorkeuren zijn.

Met 'deelnamebesluitvorming' wordt in de onderstaande vragen het besluit om wel of niet mee te doen aan een aanbesteding bedoeld. Er wordt een schaal een schaal van 1 tot en met 5 gebruikt om het belang van de factoren aan te geven, waarbij het volgende geldt:

1 = Helemaal niet belangrijk
2 = Niet erg belangrijk
3 = Redelijk belangrijk
4 = Zeer belangrijk
5 = Uitermate belangrijk

Uiteraard zullen de antwoorden alleen anoniem verwerkt worden in het onderzoek. Wel wil ik u vragen om uw mailadres achter te laten zodat ik nog contact met u op kan nemen voor het delen van de resultaten en eventueel nog een vervolg gesprek.

Met vriendelijk groet,
Anouk Slockers

Bedrijfsprofiel:

1. Wat is uw functie binnen het bedrijf waar u werkzaam bent?
    - Directeur
    - Tender- of inkoopmanager
    - Project Manager
    - Calculator
    - Anders…

2. Wat is de jaarlijkse omzet van het bedrijf waar u werkzaam bent?
    - Minder dan 25 miljoen euro per jaar
    - Tussen de 25 miljoen en 100 miljoen euro per jaar
    - Tussen de 100 en 200 miljoen per jaar
    - Meer dan 200 miljoen per jaar

3. Hoeveel werknemers heeft het bedrijf waar u werkzaam bent?
    - Minder dan 21 werknemers
    - Tussen de 21 en 100 werknemers
    - Tussen de 101 en 500 werknemers
    - Meer dan 500 werknemers

4. In welke provincies is uw bedrijf actief? (meer dan één keuze mogelijk)
    - Heel Nederland
    - Noord-Holland
    - Zuid-Holland
    - Utrecht
    - Zeeland
    - Brabant
    - Limburg
    - Gelderland
    - Overijssel
    - Drenthe
    - Flevoland
    - Friesland
    - Groningen

5. Maakt uw bedrijf gebruik van een gestandaardiseerd besluitvormingsproces voor de deelnamebesluitvorming?
    - Ja, de uitkomst is bindend
    - Ja, de uitkomst is adviserend
    - Nee

6. Hoeveel procent van de omzet van uw bedrijf wordt vergaard door middel van aanbestedingen conform de nationale of Europese procedure?

7. Hoelang heeft uw bedrijf nodig om tot een deelnamebesluit te komen voor een gemiddelde aanbesteding in uw bedrijf? (in dagen)

Attributen:

Omvang project:

1. Hoe belangrijk is de omvang van het project tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Naar welke projectomvang gaat de voorkeur van uw bedrijf uit? (meer dan één keuze mogelijk)
   - Aanbestedingen met een waarde onder de 1,5 miljoen
   - Nationale aanbestedingen met een waarde tussen de 1,5 en 5,5 miljoen
   - Europese aanbestedingen met een waarde tussen de 5,5 en 10 miljoen
   - Europese aanbestedingen met een waarde van meer dan 10 miljoen
   - Geen voorkeur

Planning:

1. Hoe belangrijk is de planning van het project (volgens de aanbestedingsstukken) tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Welke kenmerken zijn voor uw bedrijf voornamelijk van belang met betrekking tot de planning? (meer dan één antwoord mogelijk)
   - Startdatum
   - Opleverdatum
   - Doorlooptijd
   - Fasering
   - Planning huidige orderportefeuille
   - Beoordelingstermijnen
   - Anders…

Tenderduur:

1. Hoe belangrijk is de tenderduur tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Wat is de gewenste inschrijvingstijd (tijdens de gunningsfase) voor een gemiddelde aanbesteding in uw bedrijf? (in weken)

Kwaliteit van aanbestedingsstukken:

1. Hoe belangrijk is de kwaliteit van de uitvraag tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Welke onderdelen zijn voor uw bedrijf voornamelijk van belang met betrekking tot de kwaliteit van de uitvraag? (meer dan één antwoord mogelijk)
   - Consistentie
   - Compleetheid
   - Structuur
   - Gewenst uitwerkingsniveau
   - Anders…

Samenwerkingsvorm:

1. Hoe belangrijk is de samenwerkingsvorm tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Heeft uw bedrijf een voorkeur voor één of meerdere van de volgende samenwerkingsvormen?
   - Traditioneel
   - Bouwteam
   - Engineer & Construct (E&C)
   - Design & Build (D&B)
   - Design, Build & Maintain (DBM)

- Design, Build, Maintain, (Finance) & Operate (DBM(F)O)
- Geen voorkeur

Type contract:

1. Hoe belangrijk is het type contract tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Heeft uw bedrijf een voorkeur voor één of meerdere van de volgende contract types?
   - UAV 2012
   - UAV-GC 2005
   - Internationale contracten (e.g. FIDIC, NEC)
   - Project specifiek

Prijsmechanisme:

1. Hoe belangrijk is het toegepaste prijsmechanisme tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Heeft uw bedrijf een voorkeur voor één of meerdere van de volgende prijsmechanismes?
   - Op basis van regie
   - Op basis van vast bedrag (lumpsum)
   - Op basis van vast bedrag met incentive regeling (target)
   - Anders…

Aanbestedingsprocedure:

1. Hoe belangrijk is de toegepaste aanbestedingsprocedure tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Heeft u een voorkeur voor één of meerdere van de volgende aanbestedingsprocedures?
   - Openbare procedure
   - Niet-openbare procedure
   - Concurrentiegerichte dialoog
   - Mededingingsprocedure

Selectiecriteria:

1. Hoe belangrijk zijn de toegepaste selectiecriteria tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. In hoeveel procent van de aanbestedingen zou u de minimum geschiktheidseisen als niet proportioneel beschouwen?

3. In hoeveel procent van de aanbestedingen zou u de selectiecriteria als niet proportioneel beschouwen?

Gunningscriteria:

1. Hoe belangrijk zijn de toegepaste gunningscriteria en de onderlinge weging tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Heeft uw bedrijf voorkeur voor één of meerdere van de volgende weging van de gunningscriteria?
   - BVKV: nadruk op prijs
   - BVKV: nadruk op kwaliteit
   - Uitsluitend kwaliteit
   - Best Value inkoopmethodiek
   - Geen voorkeur

3. Welke kwaliteitscriteria zou uw bedrijf graag terug zien omdat uw bedrijf zichzelf daarin onderscheid? (meer dan één antwoord mogelijk)
    - Projectorganisatie samenstelling
    - Planning
    - Bouwlogistiek
    - Risico beheersing
    - Samenwerking en coördinatie
    - Anders…

Contractvoorwaarden:

1. Hoe belangrijk zijn de contractvoorwaarden tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Welke contractvoorwaarden leiden ertoe dat u af ziet van deelname? (meer dan één antwoord mogelijk)
    - Opgeven van retentierecht
    - Dubbele zekerheden (e.g. zowel onderhoudstermijn als bankgarantie)
    - Overnemen van ontwerpverantwoordelijkheid
    - Hoge boetes voor te laat opleveren
    - Overdragen onbeheersbare risico's (e.g. verkrijgen van vergunningen)
    - Coördinatie plicht voor het samenwerken met andere nevenaannemers
    - Onbeperkte aansprakelijkheid
    - Aansprakelijkheid voor indirecte schade
    - Veel afwijkingen/toevoegingen op de algemene voorwaarden
    - Anders…

3. Wat beschouwd uw bedrijf als een acceptabele betalingstermijn? (in weken)

Potentie voor nieuwe projecten:

1. Hoe belangrijk is de potentie voor nieuwe opdrachten tijdens de deelnamebesluitvorming?

Helemaal niet 1 2 3 4 5 Uitermate

2. Is één of meerdere van de onderstaande argumenten wel eens een doorslaggevende reden geweest om deel te nemen?
    - Goede referentiewaarde van project
    - Goed imago
    - Opbouwen van relatie met opdrachtgever
    - Anders…

Appendix D – Interview guideline

Semi-structured interview structure

	Total	Ranking	Medium	Ranking	Large	Ranking
Contract conditions	90,00	1	87,69	1	94,12	1
Tender documents quality level	86,82	2	84,62	3	90,59	2
Collaboration form	86,36	3	86,15	2	88,24	3
Project duration	85,91	4	84,62	3	88,24	3
Award criteria	85,45	5	84,62	3	85,88	5
Prequalification requirements	81,82	6	83,85	6	77,65	7
Contract type	78,64	7	75,38	7	84,71	6
Tendering procedure	72,73	8	75,38	7	68,24	11
Potential for new projects	72,27	10	75,38	7	68,24	11
Project size	71,82	11	73,08	10	70,00	10
Pricing mechanism	72,73	8	70,77	11	74,12	9
Tender duration	70,00	12	67,69	12	75,29	8

Table 10

Interview guideline per attribute

X	Score	Attributes	Possible questions	Order
	4	Omvang projecten	• Waarom vind u financiële omvang van het project (minder) belangrijk? • Welke aspecten naast financiële omvang zouden de omvang van het project wel belangrijk kunnen maken? • Preferentie → maakt de m^2 uit, complexiteit minder	8
	4	Planning	• Waarom vind u de planning van het project (minder) belangrijk? • Waarom is de planning van de huidige orderportefeuille belangrijk in het besluit om wel of niet mee te doen? • Wanneer is een planning realistisch en wat zou u hierin de OG adviseren?	5
	3	Tenderduur	• Waarom vind u tender duur (minder) belangrijk?	9
	5	Kwaliteit uitvraag	• Waarom vind u de kwaliteit van de uitvraag (minder) belangrijk? • Op welke punten kan de kwaliteit van de huidige uitvragen voornamelijk worden verbeterd? (compleetheid is belangrijk, wanneer is het niet compleet?)	2
	5	Samenwerkingsvorm	• Waarom vind u de samenwerkingsvorm (minder) belangrijk? Waarom is bouwteam een aantrekkelijke samenwerkingsvorm? Is dit onder alle omstandigheden mogelijk? Ten opzichte van traditioneel • Wanneer werkt een bouwteam niet?	1

	3	Type contract	• Waarom vind u het type contract (minder) belangrijk?	10
	5	Prijsmechanisme	• Waarom vind u prijsmechanisme (minder) belangrijk? • Wat vind je van incentive? En wat vind je van belang in een incentive regeling?	11
	4	Aanbestedingsprocedure	• Waarom vind u aanbestedingsprocedure (minder) belangrijk? • Wat vind u van de mededingingsprocedure, bent u er mee bekend? Zou u hier aan mee doen? Vergelijking concurrentie gerichte dialoog en mededingsprocedure	6
	2	Selectiecriteria	• Waarom vind u de toegepaste selectiecriteria (minder) belangrijk? • Wat zou u een opdrachtgever aanraden bij het opstellen van de selectiecriteria?	3
	5	Gunningscriteria	• Waarom vind u de toegepaste gunningscriteria (minder) belangrijk? • Wat zou u een opdrachtgever aanraden bij het opstellen van de gunningscriteria? • Samenwerking wordt als belangrijkste kwaliteitscriteria aangeduid, hoe denkt u hier verschil op te kunnen maken en waarom is dit zo belangrijk (hoe maak jij het verschil t.o.v. de concurrent)?	3
	5	Contractvoorwaarden	• Waarom vind u contractvoorwaarden (minder) belangrijk? • Waarom zijn bepaalde contractvoorwaarden niet acceptabel? • Hoog: onbeheersbare risico's, wat zijn onbeheersbare risico's die je terug ziet in uitvragen?	4
	2	Potentie voor nieuwe opdrachten	• Waarom vind u potentie voor nieuwe opdrachten (minder) belangrijk? • Voornamelijk voor relatie opbouwen van belang, is dit bij alle soorten opdrachtgevers van belang? (verschil publiek/privaat) En moet dit op korte termijn vruchten afwerken.	7

Appendix E – Interview Transcripts

The interview transcripts have not been included in this public version. For more information the researcher can be contacted.

Appendix F – Survey Results

This appendix included all the graphs of the results of the survey as described in Chapter 7.

F.1 Project size

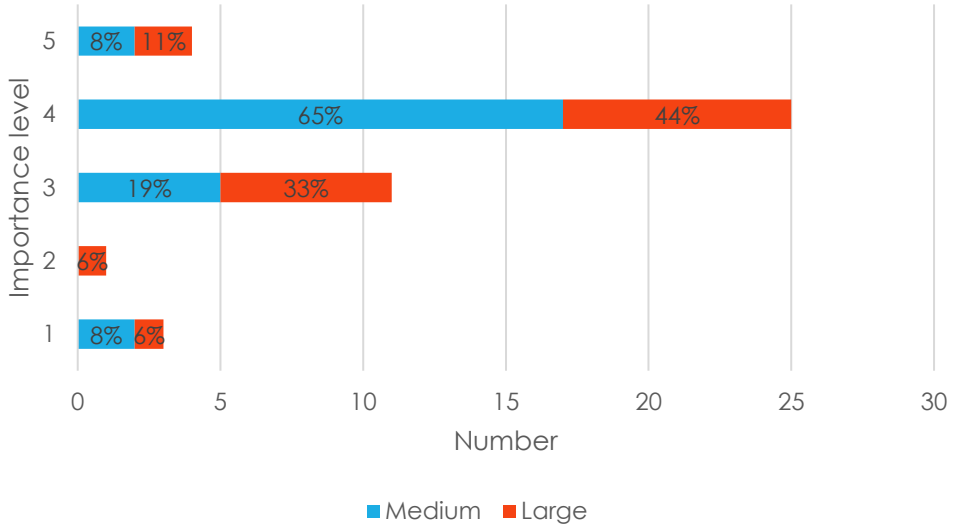

Figure 15a: Importance rating

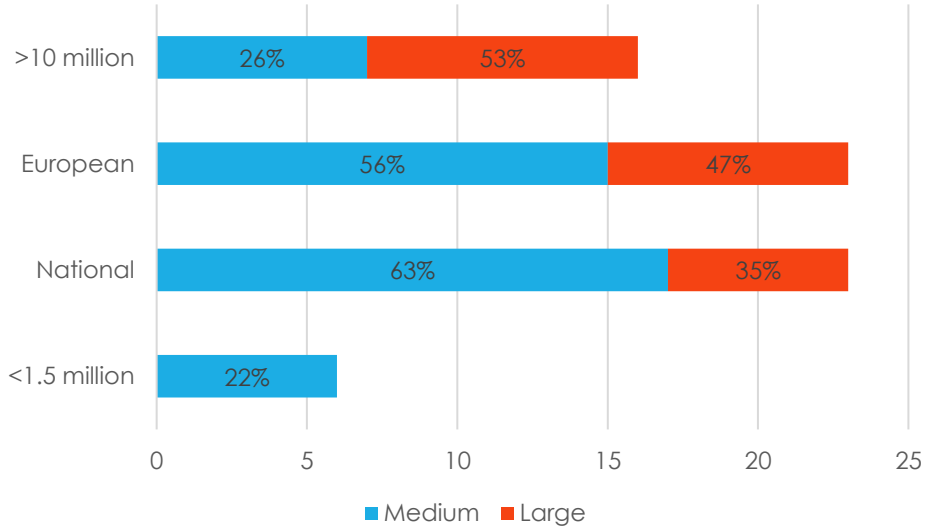

Figure 15b: Preferences (multiple preferences possible)

F.2 Project planning

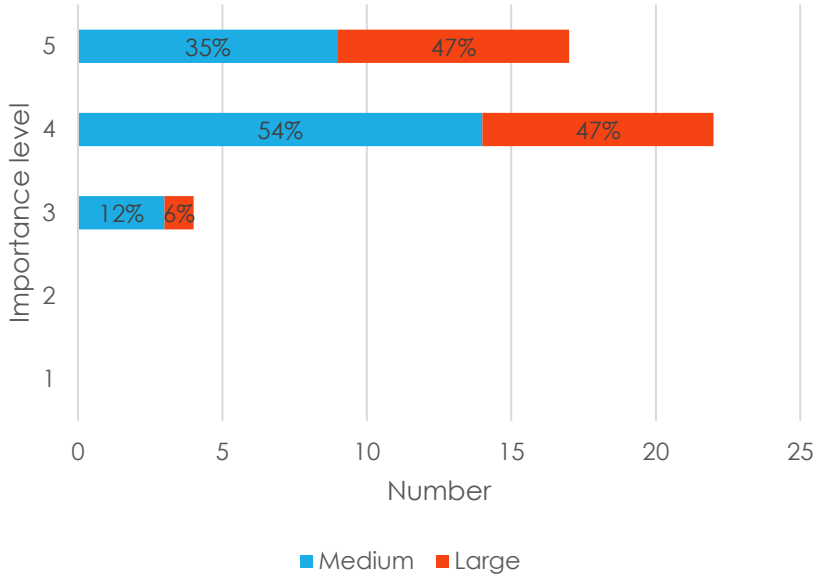

Figure 16a: Importance rating

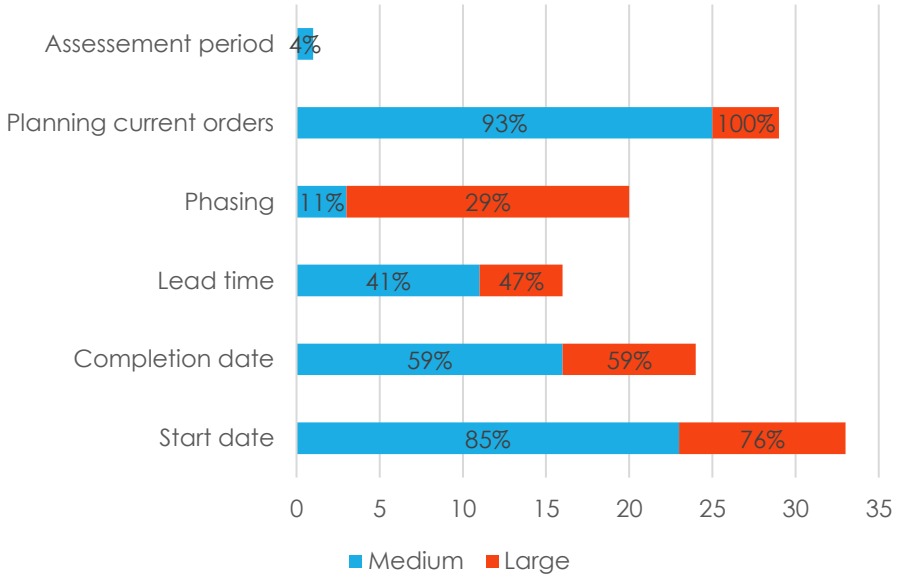

Figure 16b: Criteria used for assessment of planning proposed by client (multiple preferences possible)

F.3 Tender duration

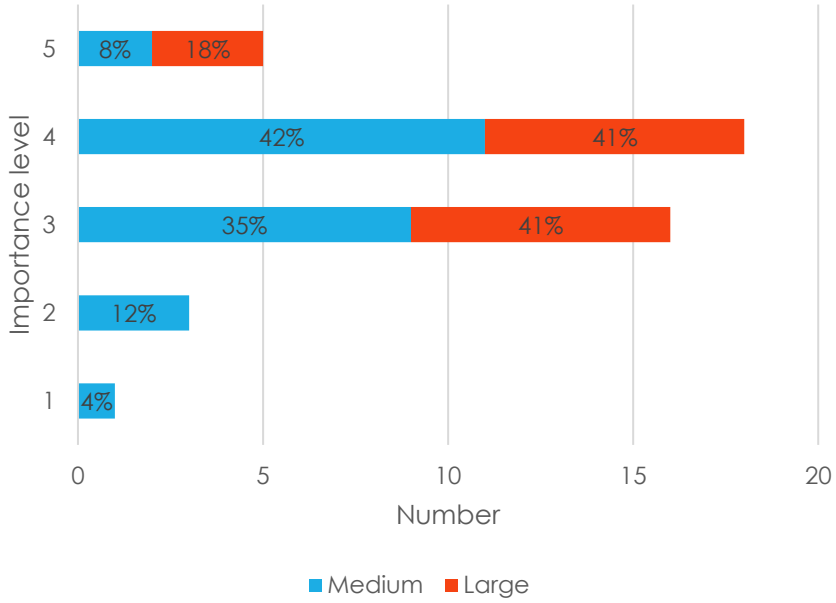

Figure 17a: Importance rating

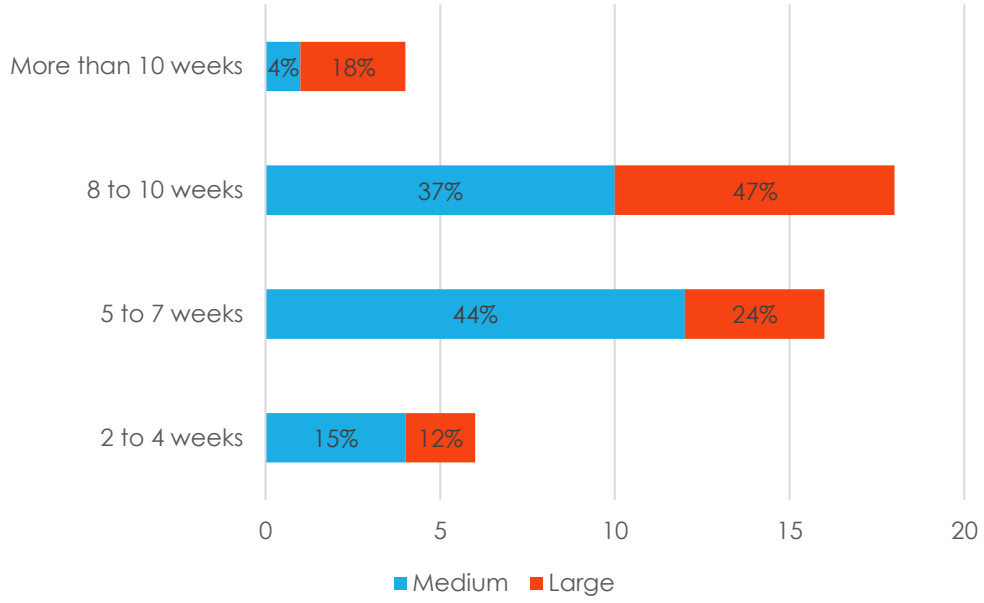

Figure 17b: Preferred tender duration (one answer only)

F.4 Tender documents quality level

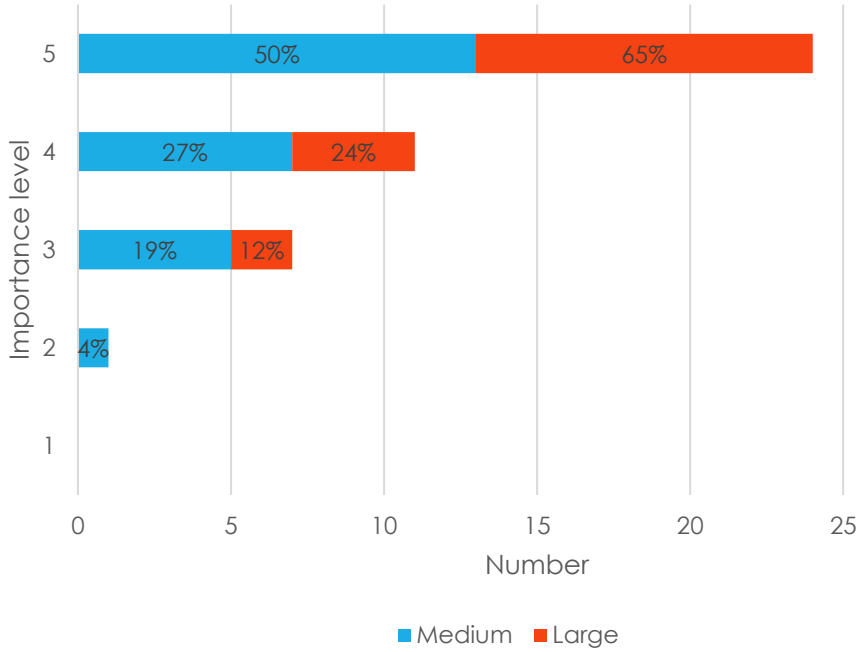

Figure 18a: Importance rating

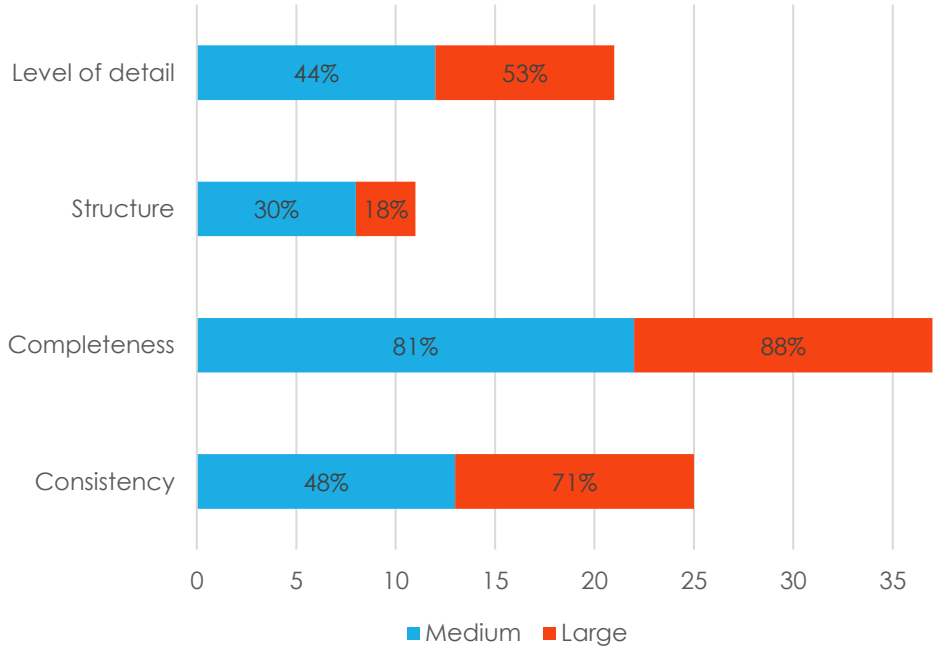

Figure 18b: Criteria used for assessment of quality of documents (multiple preferences possible)

F.5 Collaboration form

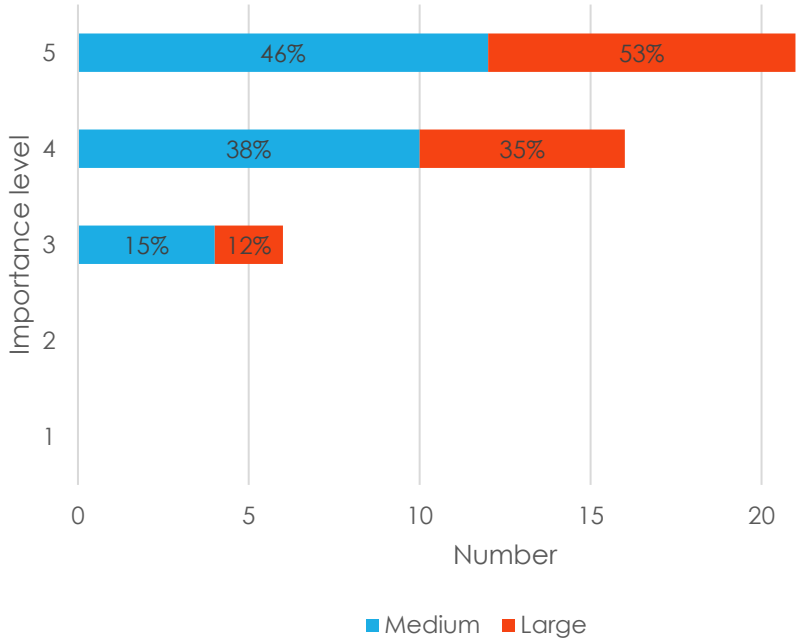

Figure 19a: Importance rating

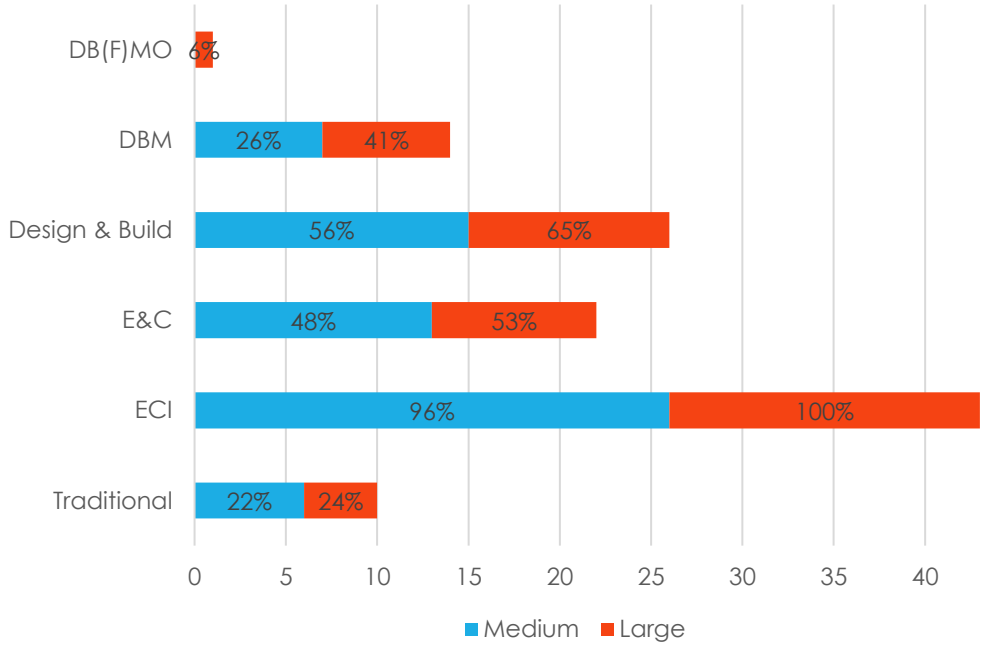

Figure 19b: Preferred collaboration form (multiple preferences possible)

F.6 Contract type

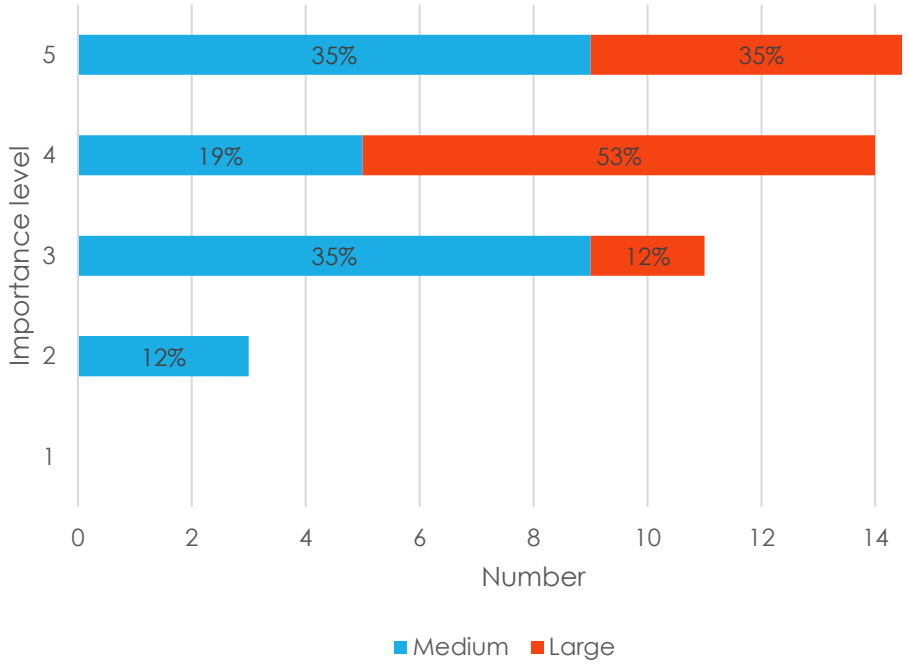

Figure 20a: Importance rating

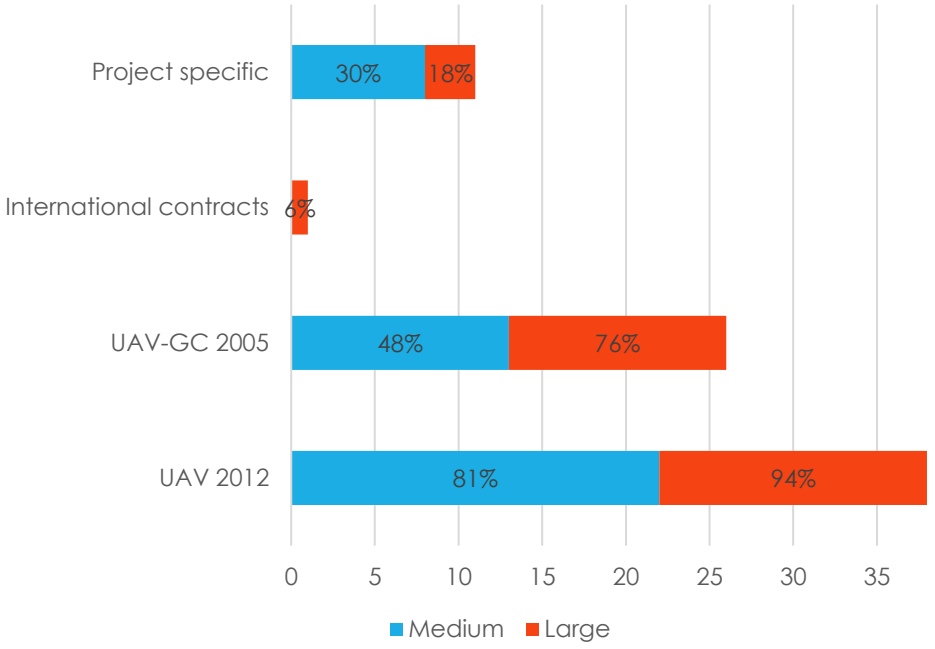

Figure 20b: Preferred contract type (multiple preferences possible)

F.7 Pricing mechanism

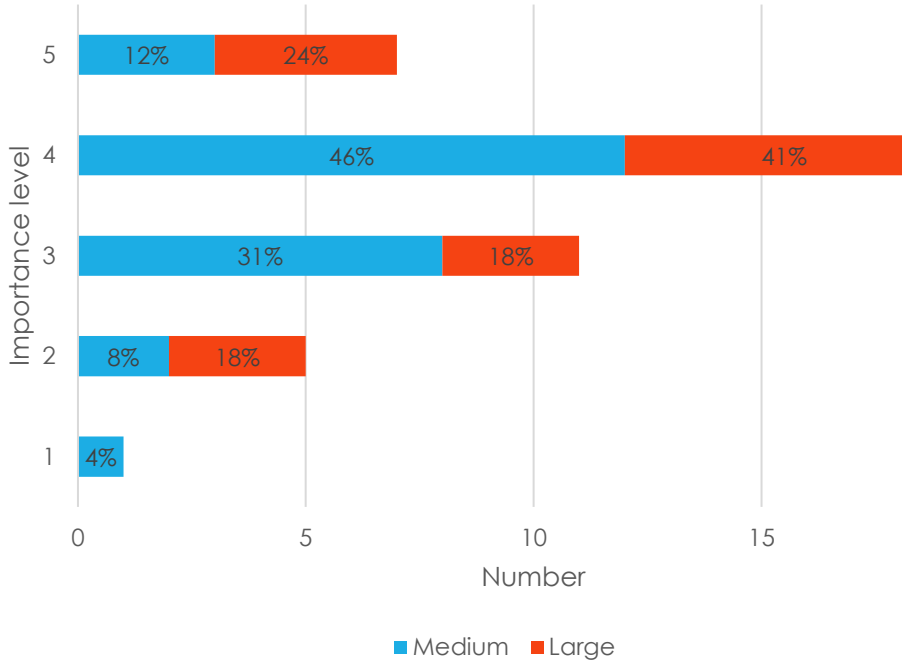

Figure 21a: Importance rating

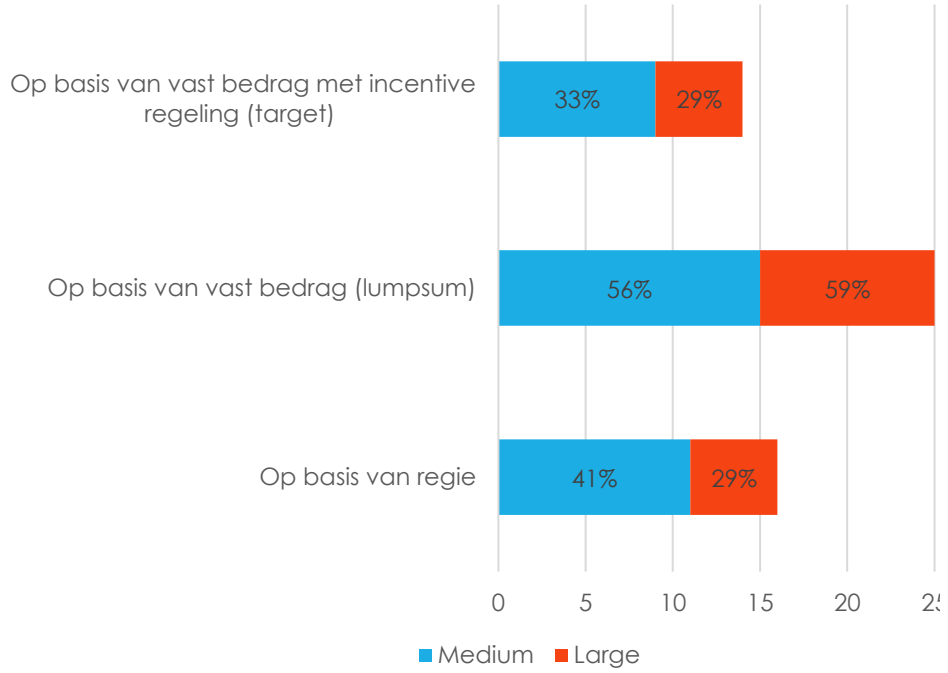

Figure 21b: Preferred pricing mechanism (multiple preferences possible)

F.8 Tender procedure

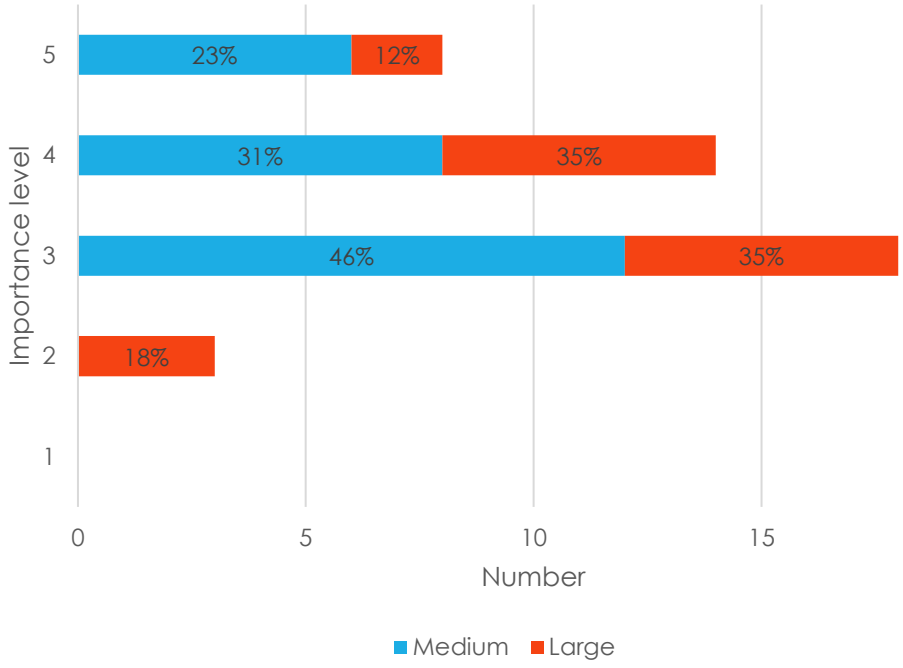

Figure 22a: Importance rating

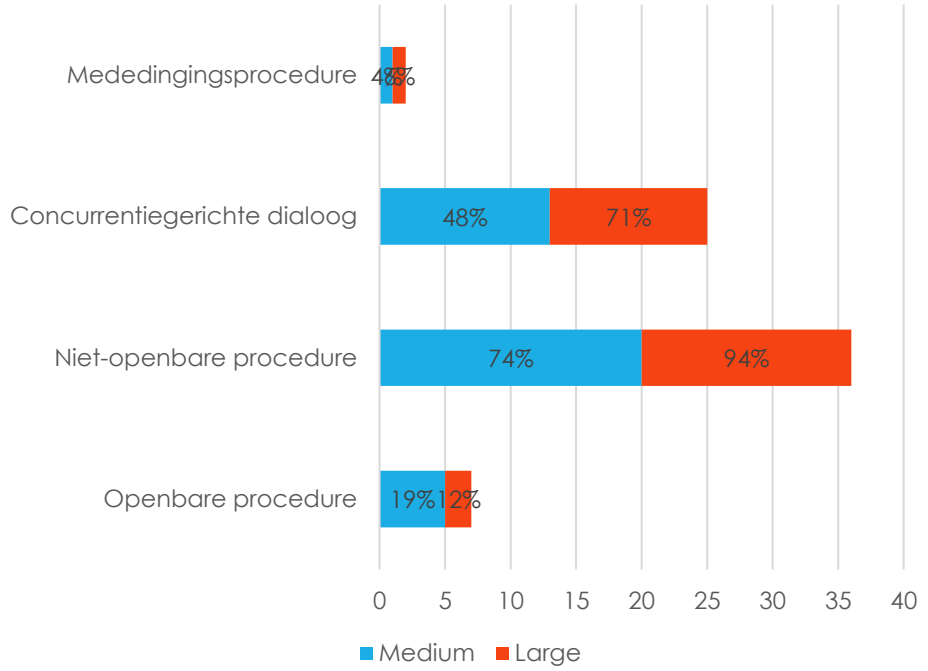

Figure 22b: Preferred tender procedure (multiple preferences possible)

F.9 Prequalification requirements

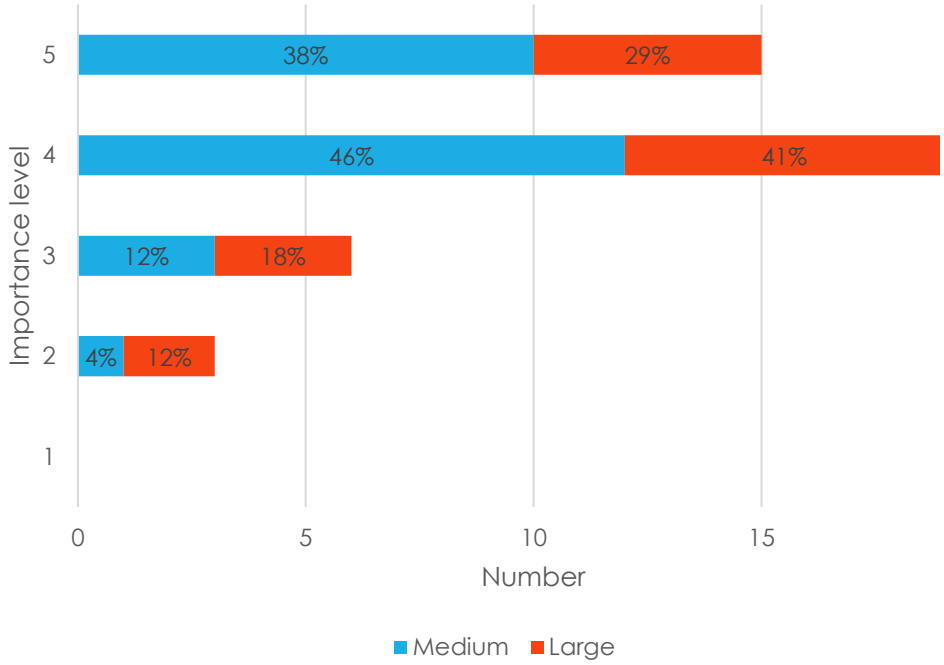

Figure 23a: Importance rating

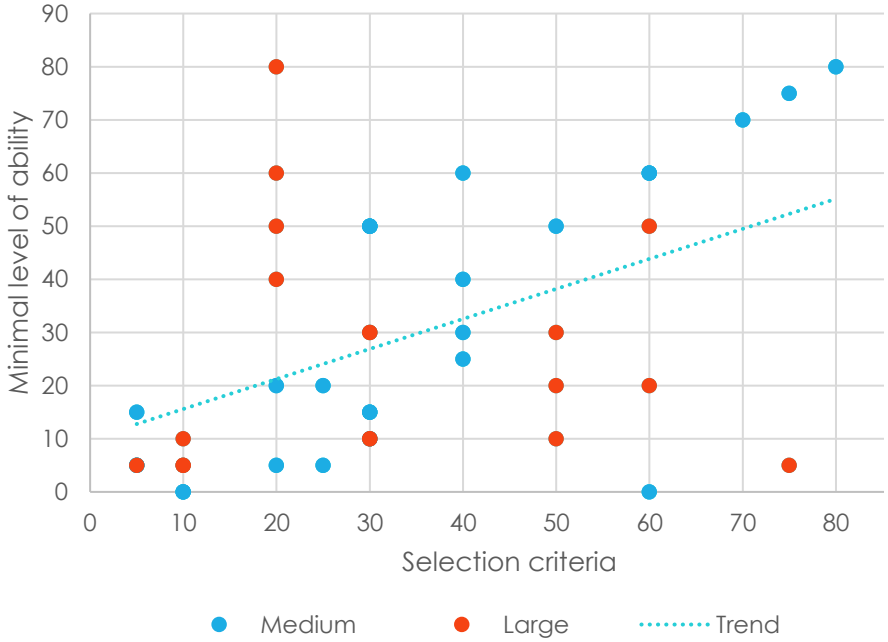

Figure 23b: Percentage of tenders with disproportionate prequalification requirements (multiple preferences possible)

F.10 Award criteria

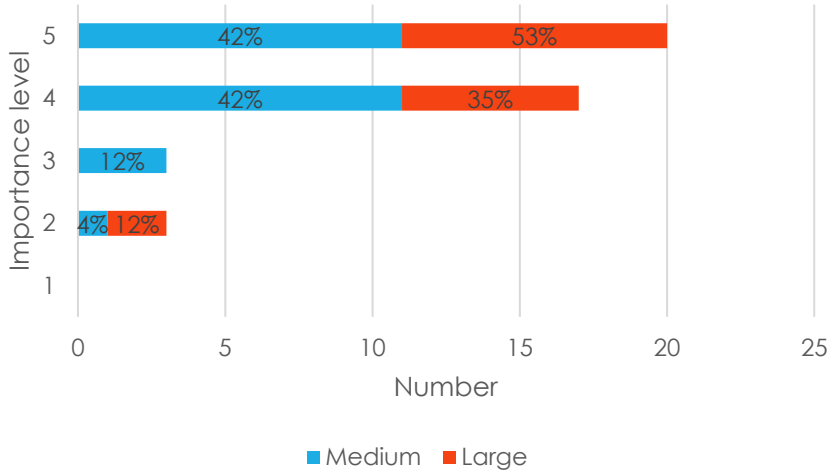

Figure 24a: Importance rating

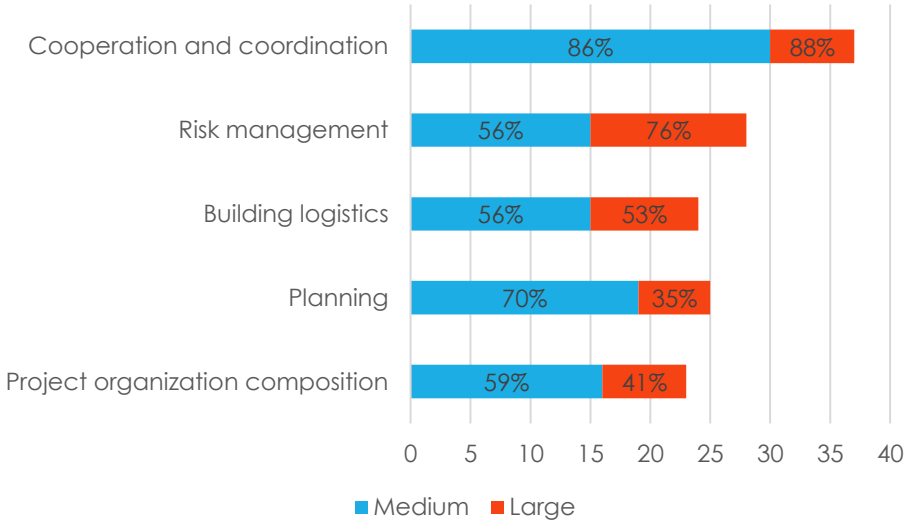

Figure 24b: Preferred quality award criteria (multiple preferences possible)

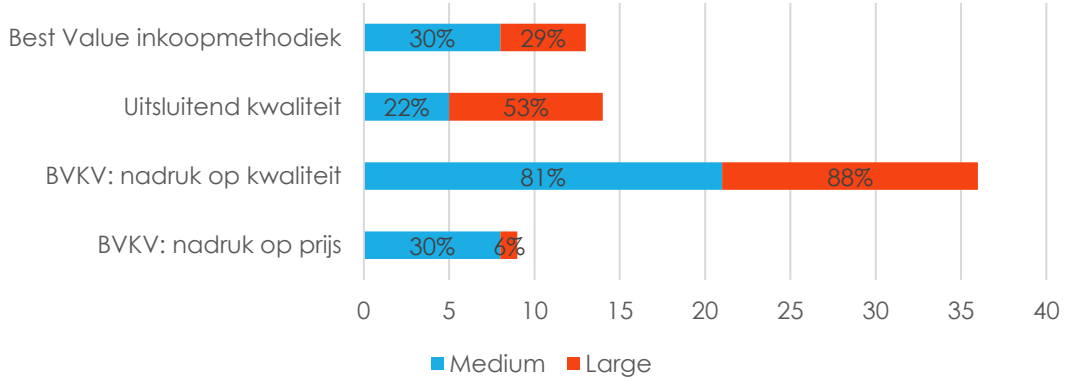

Figure 24c: Preferred type and weight of award criteria (multiple preferences possible)

F.11 Contract conditions

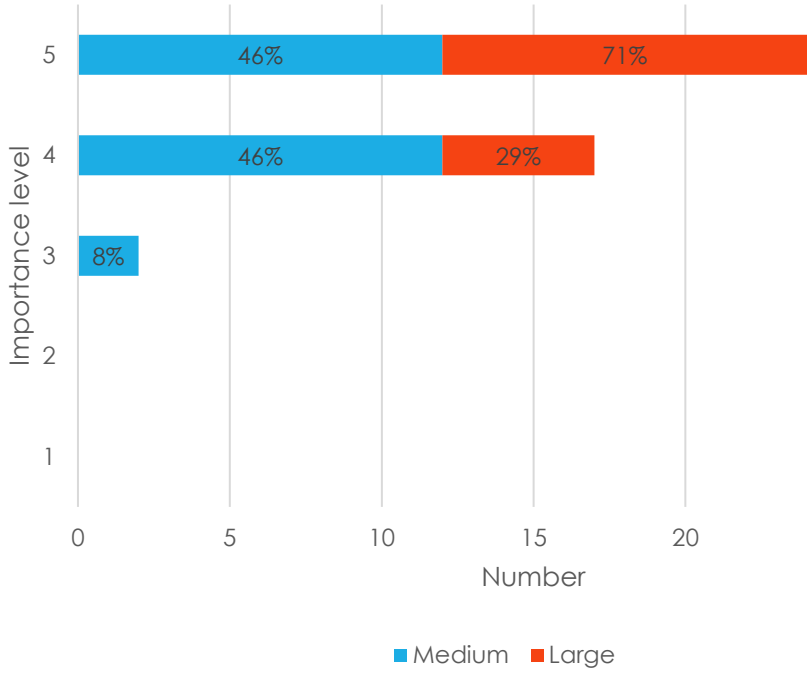

Figure 25a: Importance rating

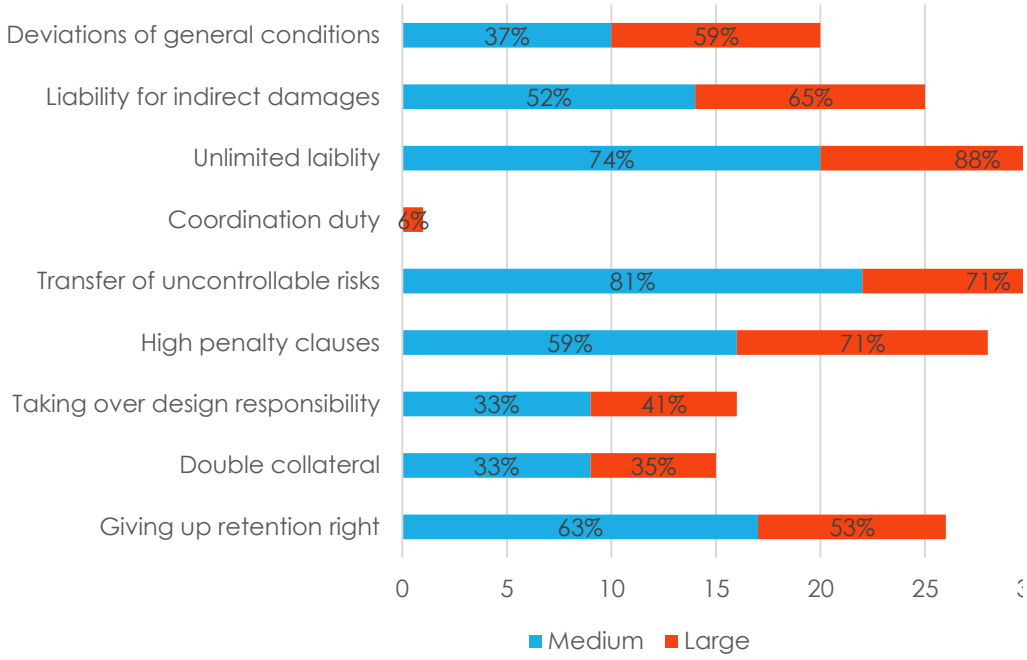

Figure 25b: Unattractive contract conditions which lead to no bid decision (multiple preferences possible)

F.12 Potential for new projects

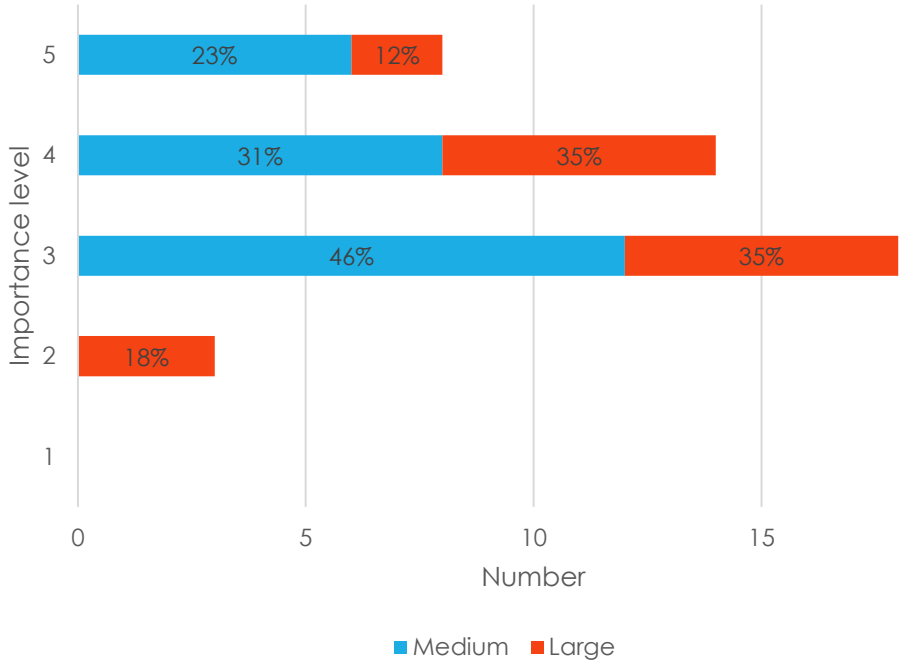

Figure 26a: Importance rating

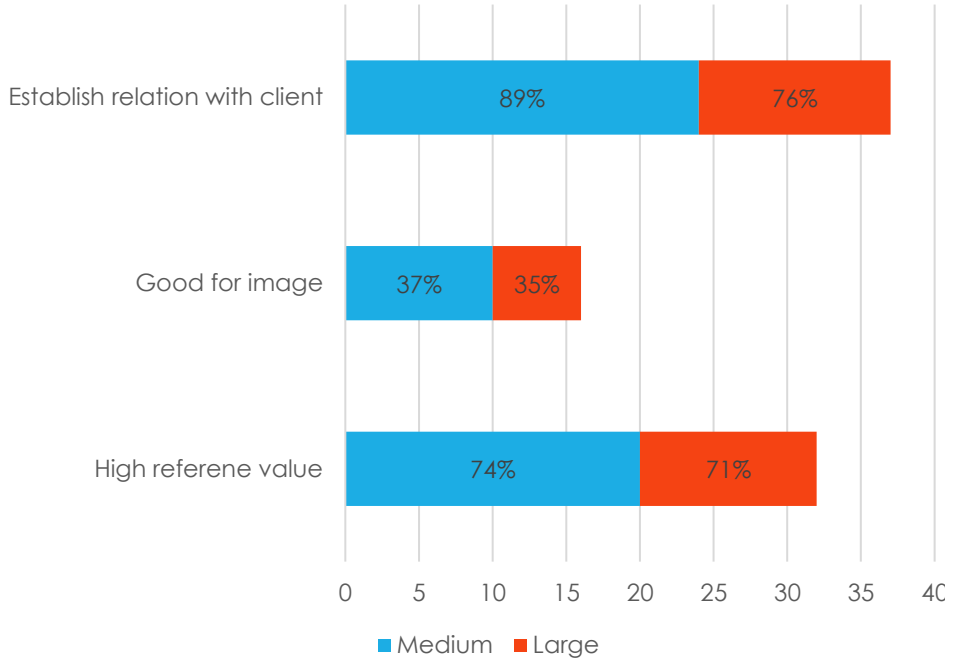

Figure 26b: Reasons to participate in tenders (multiple preferences possible)

Appendix G – Statistical test results

This appendix reports the results of the Chi-square test in Table 11, which was conducted to see if there were any differences between medium and large sized contractors.

Table 11

Results Chi-square test

Attribute	Level	Chi-square	Significance
Project size	<1.5million	4.810	0.028
	National	0.748	0.387
	European	0.254	0,614
	>10 million	3,678	0.055
Project planning	Start date	0.334	0.563
	Completion date	0.157	0.691
	Lead time	0.229	0.632
	Phasing	1.886	0.170
	Planning of current orders	1.451	0.228
	Assessment period	3.566	0.059
Tender duration	2 to 4	0.165	0.685
	5 to 7 weeks	0.970	0.325
	8 to 10 weeks	0.157	0.691
	More than 10 weeks	2.115	0.146
Quality level tender documents	Consistency	0.229	0.632
	Completeness	0.165	0.685
	Structure	1.128	0.288
	Level of detail	2.187	0.139
Collaboration form	Traditional	0.637	0.425
	Early Contractor Involvement	0.708	0.400
	E&C	0.376	0.540
	D&B	0.723	0.395
	DBM	0.702	0.402
	DB(F)MO	1.478	0.224
Contract type	UAV 2012	0.165	0.685
	UAV-gc 2005	0.723	0.395
	International	1.478	0.224
	Project specific	0.125	0.723
Price mechanism		0.970	0.325
	Lump sum	0.229	0.632
	Lump sum with incentive	0.229	0.632
Tender procedure	Open procedure	0.524	0.469

	Restricted procedure	2.441	0.118
	Dialogue	0.229	0.632
	Restricted with negotiation	0.072	0.789
Award criteria	Primarily price	7.833	0.005
	Primarily quality	0.524	0.469
	Quality only	3.431	0.064
	BVP	0.785	0.376
Quality criteria	Composition project organization	1.245	0.263
	Planning	2.703	0.100
	Building logistics	0.020	0.888
	Risk management	0.540	0.462
	Cooperation and coordination	0.165	0.685
Contract conditions	Deviations of general conditions	0.157	0.691
	Liability for indirect damages	0.008	0.930
	Unlimited liability	0.860	0.354
	Coordination duty	0.970	0.325
	Transfer of uncontrollable risks	0.442	0.506
	High penalty clauses	1.478	0.224
	Taking over design responsibility	0.047	0.828
	Double collateral	0.051	0.0821
	Giving up retention right	0.254	0.614
Potential for new projects	Reference value	0.564	0.453
	Good for image	0.121	0.727
	Establish relation with client	0.908	0.341

Appendix H – Coding interview data

This appendix reports the coding of the citations of the interviews. Table 12 contains the results.

Table 12

Coding of interview data

Interview	Attribute	Code	Citation	Coding	Axiaal coding
L.1	Contractvoorwaarden	L1.001	Dat is de grootste valkuil/keuze wat vragen ze wat zijn de contractuele randvoorwaarden, welke verantwoordelijkheden leggen ze bij ons. Daar herken je het professionele opdrachtgeverschap vooral aan, als het reëel is	Professionaliteit OG	Professionaliteit OG
L.1	Contractvoorwaarden	L1.002	Er worden vaak heel veel verantwoordelijkheden naar de uitvoerende partij geschoven, maar dat is niet altijd reëel	Risico's overdragen	Risico's
L.1	Contractvoorwaarden	L1.003	Ook is het niet reëel als je als opdrachtgever al vast een ontwerp heeft gemaakt, en je moet die verantwoordelijkheid overnemen	Risico's overdragen	Risico's
L.1	Gunningscriteria	L1.004	Wat ik belangrijk vind is dat het op kwaliteit is. Ook weer omdat we vroeg in het proces willen zijn en als je dan op prijs gaat sturen dan is het eigenlijk te vroeg dus het zou echt heel fijn zijn als ze de selectie doen op minder inspanning	Sturen aan voorkant /gunnen op kwaliteit	Aannemer vroeg betrokken in proces
L.1	Gunningscriteria	L1.005	Wat ik belangrijk vind is dat het op kwaliteit is. Ook weer omdat we vroeg in het proces willen zijn en als je dan op prijs gaat sturen dan is het eigenlijk te vroeg dus het zou echt heel fijn zijn als ze de selectie doen op minder inspanning	Minder inspanning tijdens aanbesteding	Tenderkosten
L.1	Kwaliteit van de uitvraag	L1.006	Ik wordt dus eigenlijk blijer van een uitvraag die niet zo ver is uitgewerkt, want daar kunnen ook niet zoveel fouten in zitten.	Fouten in uitvraag	Aannemer vroeg betrokken in proces
L.1	Kwaliteit van de uitvraag	L1.007	De meeste opdrachtgevers zijn wel gewoon professioneel en komt het (veel fouten in uitvraag) niet veel voor.	Professionaliteit OG	Professionaliteit OG
L.1	Overig	L1.008	Een opdrachtgever heeft toch meestal wel een budget staan voor zijn opdracht en een bepaald beeld wat hij daarvoor wil krijgen als constateren dat het zo ver uit elkaar ligt, dan trekken we ons terug.	Budget	Professionaliteit OG

L.1	Omvang van project	L1.009	Qua omvang willen we vooral een divers palet hebben. Hoe is mijn portefeuille verdeeld en ook type. Ook met interesses van je personeel en ook qua risico's.	Diversiteit portfolio	Risico’s
L.1	Omvang van project	L1.010	Dat (grote projecten met ook meer risico’s) zijn de parels. Maar daar kan je er niet te veel van hebben.	Diversiteit portfolio	Risico’s
L.1	Overig	L1.011	Dat(raamovereenkomsten) is gewoon heel gunstig, dan kan je daarop insteken. Dan zet je wel je percentages vast en dan kun je op basis van kleinere competities overzichtelijk samenwerken	Raamovereenkomsten	Prijsvorming
L.1	Overig	L1.012	Aan de voorkant zeg je eigenlijk van, wat is het voor opdrachtgever, wat is de omzet, wat is de kans op een vervolg, kunnen we ons onderscheiden	Samenvatting keuze (type OG, omzet, kans op vervolg, onderscheidend vermogen)	Professionaliteit OG
L.1	Overig	L1.013	Heb je een team beschikbaar, hoeverre is je omzet portefeuille gedekt, want als die nog niet gevuld is ga je meer risico's nemen. Dat accepteer je dan, dan ga je ook eerder mee doen aan een aanbesteding op prijs.	Risico en omzet portefeuille in relatie tot bid decision	Risico’s
L.1	Overig	L1.014	Eén het risico profiel van de hele opdracht inschatten, dus moeten we er voor gaan? En twee de specifieke risico's op het project, want misschien moet je die afprijzen en mee nemen in je aanbieding.	Risico’s voor keuze en afprijzen	Risico’s
L.1	Overig	L1.015	Je merkt nu dat bij de onderaannemers/leveranciers dat zei zeggen maar hoeveel rekenen we voor jou dan, ik wil 1op1 anders krijg je geen prijs. Dus we kunnen eigenlijk al bijna geen marktwerking introduceren.	Marktwerking bij onderaannemers	Ruimte in orderportefeuille
L.1	Overig	L1.016	De hoogte van de opdracht, stel het is een werk van 60 miljoen, dan gaan we eerder accepteren dat we aan de voorkant iets meer moeten doen om hem binnen te halen.	Tenderkosten in verhouding met omzet	Tenderkosten
L.1	Overig	L1.017	Houd de inspanning aan de voorkant laag en kies de partij waarmee je echt wil samenwerken. Die past bij jou opgaven of organisatie. En vraag een klein select aantal om dan ook echt een aanbieding van te maken. Ook dan heb je nog concurrentie, alleen geen 5 prijzen, maar dat moet je dan accepteren	Inspanning aan voorkant laag / minder partijen selecteren	Tenderkosten
L.1	Overig	L1.018	Houd de inspanning aan de voorkant laag en kies de partij waarmee je echt wil samenwerken. Die past bij jou opgaven of organisatie. En vraag een klein select aantal om dan ook echt een aanbieding van te maken. Ook dan heb je nog concurrentie, alleen geen 5 prijzen, maar dat moet je dan accepteren	Inspanning aan voorkant laag / minder partijen selecteren	Win-kans

L.1	Overig	L1.019	Aan de voorkant zeg je eigenlijk van, wat is het voor opdrachtgever, wat is de omzet, wat is de kans op een vervolg, kunnen we ons onderscheiden	Samenvatting keuze (type OG, omzet, kans op vervolg, onderscheidend vermogen)	Win-kans
L.1	Planning	L1.020	Het is echter ook in ons belang om kort te bouwen, dus er hoeft geen vrees te zijn van een opdrachtgever dat we opeens langer gaan bouwen want dat kost ons geld. Daarom vind ik het altijd prettig als de planning wordt over gelaten aan de partij die weet waar hij aan begint, en het kan waarmaken	Zelf planning maken	Aannemer vroeg betrokken in proces
L.1	Planning	L1.021	Het is echter ook in ons belang om kort te bouwen, dus er hoeft geen vrees te zijn van een opdrachtgever dat we opeens langer gaan bouwen want dat kost ons geld. Daarom vind ik het altijd prettig als de planning wordt over gelaten aan de partij die weet waar hij aan begint, en het kan waarmaken	Zelf planning maken	Prijsvorming
L.1	Potentie voor nieuwe opdrachten	L1.022	We gaan eerder een risicovol project aan als er meer kans is op projecten erachteraan	Risico's	Risico's
L.1	Prijsmechanisme	L1.023	Maar je kan natuurlijk wel zeggen we gaan op onderdelen en hoeveelheden gaan we afspreken hoeveel het kost (voor aanbesteden bouwteam)	Op basis van regie	Prijsvorming
L.1	Procedure	L1.024	Hoe meer contact momenten en hoe meer je kunt onderzoeken en richting kan geven tijdens de aanbesteding, hoe beter.	Contact momenten	Professionaliteit OG
L.1	Procedure	L1.025	Ik vind het ook goed, voordat de aanbesteding begint een marktconsultatie doen met ik wil het zo gaan doen, hoe kijken jullie hier tegen aan?	Contact momenten	Professionaliteit OG
L.1	Procedure	L1.026	Als je een open aanbesteding gaat doen, heb je geen idee wat je kans is en heb je geen idee hoeveel concurrenten mee gaan doen	Win-kans	Win-kans
L.1	Procedure	L1.027	Maar je wil eigenlijk een beetje gevoel hebben van okee ze gaan 1e selectie doen van partijen, waardoor we een kans hebben van 1 op zoveel. En dan vinden wij nu 1 op 5, zeker nu niet interessant.	Win-kans	Win-kans
L.1	Procedure	L1.028	Het nadeel van niet openbaar is dat je al partijen selecteert die over een lat kunnen springen, dus het allemaal kunnen. Dus dat is sowieso al de achilleshiel van de aanbestedingswet, waarom zouden wij dat gaan doen?	Waarom nog mee doen met aanbestedingen?	Win-kans
L.1	Samenwerkingsvorm	L1.029	Nog in gesprek bent met elkaar dus je kan nog makkelijker sturen	Sturen aan voorkant	Aannemer vroeg betrokken in proces
L.1	Samenwerkingsvorm	L1.030	Als je eisen niet duidelijk zijn, je wil een zoektocht naar de beste oplossing en bestaande situatie niet duidelijk is kan je dat (UAV-gc) eigenlijk niet van ons vragen.	Passende samenwerkingsvorm	Geschikte samenwerkingsvorm

L.1	Samenwerkingsvorm	L1.031	En dat is dan weer het mooie van bouwteam want dan kan je gewoon laten zien, met openboeken, wat je doet. Terwijl je heel erg poppenkast speelt bij een gewone aanbesteding.	Openboeken	Prijsvorming
L.1	Samenwerkingsvorm	L1.032	Want wat is nou de angel, dat ze geen bouwteam willen aanbesteden. Dat is dat je geen gevoel hebt bij de prijzen.	Geen gevoel prijzen bij bouwteam aanbesteden	Prijsvorming
L.1	Samenwerkingsvorm	L1.033	Het voordeel van een aanbestedingstraject is dat er harde dingen in staan, je weet dus wanneer het gaat beginnen. Want bij een bouwteam of een samenwerkingsvorm is het toch vaak: het komt niet uit, we gaan nog even terug naar raad van commissarissen of je hebt vertraging	Startdatum / ruimte in portefeuille	Ruimte in orderportefeuille
L.1	Samenwerkingsvorm	L1.034	Geïntegreerde contracten is eigenlijk gewoon één grote papierwinkel als je het onpopulair wil beschrijven.	Tenderkosten	Tenderkosten
L.1	Samenwerkingsvorm	L1.035	Ik vind uav-gc in de aanbestedingswet dan ook vooral interessant in de nieuwbouw. Maak een ontwerp en ik kies uit 3. Het liefst wel echt 3 want 5 is wel heel veel maatschappelijke kosten.	Tenderkosten	Tenderkosten
L.1	Selectie criteria	L1.036	Zo kan je elkaar helpen. Wat je dan vaak ziet is dat je wel aan moet tonen dat je de kennis en expertise van je referent ook inzet. Daar hebben we ook gewoon een standaardbrief voor dat we ook kunnen beschikken over elkaars competenties.	Voordelen van holding	Onderscheidend vermogen
L.1	Tenderduur	L1.037	de tenderduur moet passen bij de vraag die wordt gesteld	Juiste tenderduur	Professionaliteit OG
L.1	Contractvoorwaarden	L1.038	uiteindelijk was de aanbesteding mislukt want iedereen vond dat de voorwaarden te risicovol was en je opgave is te groot	Risico's	Risico’s
L.1	Overig	L1.039	uiteindelijk was de aanbesteding mislukt want iedereen vond dat de voorwaarden te risicovol was en je opgave is te groot	Omvang uitvraag	Tenderkosten
L.2	Contract type	L2.001	En die doet een check of dat daar (standaard voorwaarden) gekke dingen in zitten. Zijn opmerkingen komen bij mij terug en die neem ik dan mee in een nota van inlichtingen.	Nota van inlichtingen	Risico’s
L.2	Contractvoorwaarden	L2.002	gewoon risico's die onacceptabel hoog zijn	Risico’s	Risico’s
L.2	Contractvoorwaarden	L2.003	Dan heb je het bijvoorbeeld over onbeperkte aansprakelijkheid dus waar je totaal geen grip hebt op wat voor kosten jou kant in zouden kunnen komen	Onbeperkte aansprakelijkheid	Risico’s
L.2	Contractvoorwaarden	L2.004	Omgekeerde bewijslast is ook zo'n dingetje	Omgekeerde bewijslast	Risico’s
L.2	Contractvoorwaarden	L2.005	liquiditeitsbeslag, op het moment dat wij heel veel moeten voor financieren en een OG houdt daar heel hard aan vast, ja dan wij zijn geen bank. En kijk een lening kunnen wij inrekenen, maarja dat gaat ook weer ten lasten van de kwaliteit die we kunnen bieden als je met een plafond bedrag te maken hebt	Afprijzen risico’s ten kosten van kwaliteit bij plafond bedrag	Risico’s

L.2	Gunningscriteria	L2.006	de prijs/kwaliteit verhouding ook zeer mee weegt in of we nu wel of niet mee gaan doen, omdat binnen die trajecten ons onderscheidend vermogen ook weer groter is	Prijs/kwaliteit verhouding / onderscheidend vermogen	Onderscheidend vermogen
L.2	Gunningscriteria	L2.007	kwaliteit daar kan je je echt in onderscheiden ten opzichte van andere partijen	Onderscheidend vermogen	Onderscheidend vermogen
L.2	Kwaliteit van de uitvraag	L2.008	Vaak vind je die gaten pas als je concreet met die stukken aan de slag gaat	Problemen rondom stukken pas na bid decision	Risico's
L.2	Omvang project	L2.009	Dat (rond de 10 miljoen) zijn projecten die ons gewoon goed liggen, daar kan een goed project team op die zich ook volledig kan focussen op dat werk. Wordt het kleiner, wat heel veel moeite kost om het project vlot getrokken te krijgen. Doen we wel die projecten, maar dan gaan we wel kijken hoe kunnen we dat allemaal zo lean mogelijk inrichten	Voorkeur omzet van projecten	Prijsvorming
L.2	Overig	L2.010	Dus wij maken gewoon een goede eerlijke prijs, met een normale staart omdat wij dat gewoon nodig hebben om dit gewoon in de lucht te kunnen houden en alle mensen die hier werken	Prijsvorming en dekking (algemene)kosten	Prijsvorming
L.2	Overig	L2.011	Dus ik ben er altijd een sterke voorstander van als OG alvorens ze de selectie uit doen, dat ze werken met een marktconsultatie. Dan kun je richting je onderscheidende vermogen dat je hebt, kun je al een beetje sturing geven richting je opdrachtgever.	Marktconsultatie	Professionaliteit OG
L.2	Overig	L2.012	Wat je nu gewoon merkt, is dat heel veel aanbestedingstrajecten heel enthousiast opgestart worden. En dat er op het moment van inschrijven misschien maar 1 of soms zelfs wel 0 partijen nog over zijn. Omdat het gewoon budgettair niet past.	Te laag plafond bedrag	Professionaliteit OG
L.2	Overig	L2.013	Dat gaande weg bleek dat een tender dat de risico's alleen maar groter werden en voor ons niet meer te overzien waren, ja toen hebben we op een gegeven moment ook gewoon de stekker eruit getrokken. Dus en dan is het even slikken want dan heb je al een hoop kosten gemaakt met je team	Later in proces terugtrekken	Risico's
L.2	Overig	L2.014	In eerste instantie werken wij eigenlijk met een go/no go formulier waarbij we ook al iets gaan zeggen over, wat zijn de kansen dat we de tender gaan winnen, wat zijn de kosten die er mee gemoeid zijn	Samenvatting keuze (kansen om te winnen en wat zijn de kosten)	Tenderkosten
L.2	Overig	L2.015	Maarja de tenderkosten draag je toch voor het grootste gedeelte voor eigen risico.	Risico van tenderkosten	Tenderkosten

L.2	Overig	L2.016	In eerste instantie werken wij eigenlijk met een go/no go formulier waarbij we ook al iets gaan zeggen over, wat zijn de kansen dat we de tender gaan winnen, wat zijn de kosten die er mee gemoeid zijn	Samenvatting keuze (kansen om te winnen en wat zijn de kosten)	Win-kans
L.2	Overig	L2.017	In eerste instantie werken wij eigenlijk met een go/no go formulier waarbij we ook al iets gaan zeggen over, wat zijn de kansen dat we de tender gaan winnen, wat zijn de kosten die er mee gemoeid zijn	Samenvatting keuze (kansen om te winnen en wat zijn de kosten)	Tenderkosten
L.2	Gunningscriteria	L2.018	wij denken ook dat wij ons op kwaliteit ook echt kunnen onderscheiden	Onderscheidend vermogen	Onderscheidend vermogen
L.2	Planning	L2.019	want in het ergste geval kan je boetes inrekenen	Boetes inrekenen	Risico's
L.2	Planning	L2.020	Ik vind dat wel onze plicht om dat in zo'n vragenronde aan te geven van, wij signaleren dat de uitvoeringsplanning wel heel erg krap is	Nota van inlichtingen mbt planningsvraag	Risico's
L.2	Planning	L2.021	Voor wat betreft de planning, kijken wij alleen maar, zowel aan de voorkant, dus hebben we voldoende handjes om de offerte uit te werken	Beschikbaarheid calculatie, tender manager en planontwikkelaar	Ruimte in orderportefeuille
L.2	Potentie voor nieuwe opdrachten	L2.022	Heeft ook te maken met potentieel toekomstige referentie. Op het moment heb je referenties die zijn maar beperkt houdbaar en op het moment dat daar een gat in dreigt te ontstaan, dan zijn wij genegen om wel eerder aan een bepaald project mee te doen om zeg maar die referentie weer binnen boord te kunnen halen	Referentie projecten	Onderscheidend vermogen
L.2	Procedure	L2.023	Selectie en gunningsfase, dat zijn dan wel de trajecten waar wij in stappen. Maar zonder selectiefase dan kunnen er goed 15 partijen inschrijven en dat dan gaat het vaak vooral op prijs. Dat zijn toch wel projecten die we snel aan ons voorbij laten gaan	Openbare aanbestedingen (op prijs)	Win-kans
L.2	Procedure	L2.024	Voorkeur voor 3. Wil niet zeggen dat we 5 niet doen hoor maar je win-kans wordt kleiner. Maar is een beetje afhankelijk van wie is de OG en wat is onze relatie met die OG, wat is ons onderscheidend vermogen	Aantal deelnemers na selectiefase	Win-kans
L.2	Samenwerkingsvorm	L2.025	Die (tenderkosten) zijn ook afhankelijk van het soort project. Dan heb je eigenlijk je calculatie uren en het schrijven van je plan van aanpak. Maar als we een design en build hebben bijvoorbeeld, ja dan ligt er een vraagspecificatie van de opdrachtgever die wij compleet moeten vertalen naar een SO of een VO. Dat betekend dus dat je een architect nodig hebt, een constructeur, een installatieadviseur, een bouwfysisch adviseur, een installateur.	Tenderkosten traditioneel vs geïntegreerd project	Tenderkosten

L.2	Samenwerkingsvorm	L2.026	Maar een architect en constructeur en alle adviseurs, die zijn vaak wel bereid voor een deel mee risico te lopen, die zeggen dan gewoon van als we de tender niet winnen dan zijn wij tevreden met 70% vergoeding van onze uren. Laat maar zeggen het stukje wat zij risicodragend mee willen doen. Dan ben je nog steeds kosten kwijt. En als je de tender wint, staat daar dan vaak wel tegenover dat zij 130% uitbetaald krijgen. Maar dan doet het ook geen pijn, want die kosten heb je dan in je inschrijving meegenomen.	Tenderkosten / afprijzen adviseurs kosten	Tenderkosten
L.2	Selectie criteria	L2.027	Wij kijken wel kunnen we voldoen en op wat voor manier kunnen we er aan voldoen anders heb je knock-out en zeker voor je geschiktheidseisen	Voldoen aan selectie criteria	Win-kans
L.2	Selectie criteria	L2.028	Zo kan je elkaar helpen. Wat je dan vaak ziet is dat je wel aan moet tonen dat je de kennis en expertise van je referent ook inzet. Daar hebben we ook gewoon een standaardbrief voor dat we ook kunnen beschikken over elkaars competenties.	Voordelen van holding	Win-kans
L.2	Tenderduur	L2.029	Ja of je daar tijd voor hebt, zeker qua planning. Geld is nog een ander aspect. Wat zijn de tenderkosten die je verwacht te gaan maken. Dat weegt ook mee in ga je iets wel of niet doen.	Tenderkosten en keuze	Tenderkosten
L.2	Overig	L2.030	Kijk qua kostprijs verschillen die prijzen van de verschillende partijen niet zoveel, het zit hem met name in wat voor kortingspercentage is de directie nog bereid te geven op de directe kosten en met wat voor staart willen ze weg gaan	Op prijs concurreren	Prijsvorming
L.2	Overig	L2.031	Op het moment dat er een plafond bedrag gegeven wordt waarvan wij op basis van eerste raming al zien van dat gaat hem absoluut niet worden	Plafond bedrag	Professionaliteit OG
L.2	Overig	L2.032	Wat je wel heel erg merkt dat door de huidige stijgingen van de materiaal prijzen en de schaarste aan handjes, dat je inschrijfsom heel erg om hoog gaat. Wij merken gewoon nu heel erg dat dat gaat botsen met de plafondbedragen en de budgetten	Te laag plafond bedrag	Professionaliteit OG
L.2	Gunningscriteria	L2.033	En je weet ook nooit 100% zeker dat ze ook 100% op kwaliteit beoordelen of ze in het achterhoofd al het getalletje zitten en hebben de prijs al gezien en wordt het dan niet kunstmatig wat bijgeschaafd	Subjectiviteit beoordeling	Professionaliteit OG
L.3	Kwaliteit van de uitvraag	L3.001	want je kan beter een adviseur aan de voorkant 50.000 euro extra betalen om een goed BIM model te maken want dat verdien je namelijk terug, want dat scheelt dadelijk bij de aannemer een ton misschien 2,3 ton aan risico opslag.	Afprijzen risico’s	Professionaliteit OG
L.3	Overig	L3.002	En als de markt een risico wordt toegeschoven wat hij niet goed kan beheersen, ja dan prijst hij het af. Of hij zegt bedankt en tot ziens en we zoeken wel een andere OG.	Afwijkingen op UAV / risico’s	Professionaliteit OG

L.3	Contract type	L3.003	En bij een professionele OG vaak in de aanbestedingsfase wel wordt gecorrigeerd (niet afcappen van onbeperkte aansprakkelijkheid, dat de klant is van oja dat was ik inderdaad vergeten)	Professionaliteit OG	Professionaliteit OG
L.3	Contract type	L3.004	de lijst met afwijkingen op de UAV dikker is dan de UAV zelf. En als je dat doet dan weet je per definitie dat je één ding introduceert, namelijk een heel groot risico en een heel groot fuzzy contract.	Afwijkingen op UAV / risico's	Risico's
L.3	Contract type	L3.005	En als de markt een risico wordt toegeschoven wat hij niet goed kan beheersen, ja dan prijst hij het af. Of hij zegt bedankt en tot ziens en we zoeken wel een andere OG.	Afprijzen onbeheersbare risico's	Risico's
L.3	Contract type	L3.006	En dat lijstje, lijst, (spreadsheetjes waarbij de standaard paragrafen van UAV-gc staan waarbij staat afwijking ja of nee en als er een afwijking is, hoe grote afwijking) bepaald gewoon letterlijk in hoge mate de risico opslag aan het eind van het contract. En dus weet je als OG, hoe meer afwijkingen op de UAV of UAV-gc hoe hoger waarschijnlijk de risico opslag van de aannemer wordt.	Afprijzen risico's ontstaan door aanpassingen UAV	Risico's
L.3	Contract type	L3.007	In de UAV en de UAV-gc staan een paar onbeperkte aansprakelijkheden, ja daar ga ik dus nooit voor tekenen. Die zou je juist wel moeten definiëren als afwijking op UAV-gc of in ieder geval cap op	Onbeperkte aansprakelijkheid	Risico's
L.3	Gunningscriteria	L3.008	Je hebt zoiets als bedachte EMVI en werkelijke EMVI. Je ziet nog steeds dat een hele hoop EMVI aanbestedingen gewoon hele platte prijs aanbestedingen zijn	Effectiviteit EMVI scoring	EMVI beoordeling
L.3	Gunningscriteria	L3.009	wat je te weinig ziet en meer zou moeten zien; een EMVI uitvraag zou er op moeten zijn gericht welke risico's kan de opdracht nemende partij mij helpen mitigeren en hoe gaat hij dat doen. Drie echte risico's bij voorkeur op het raakvlak van OG en ON, want daar gaat het namelijk fout.	EMVI op risico's	EMVI beoordeling
L.3	Gunningscriteria	L3.010	dat een hele hoop OG nog steeds van dat soort domme dingen uitvragen als ligt maar toe hoe je project organisatie eruit ziet. Ja die ziet er bij elke aannemer echt hetzelfde uit. Ligt toe dat u de planning gaat halen en hoe u hem gaat halen. Dat de aannemer de planning gaat halen, ja dat haalt iedereen want anders had hij niet ingeschreven en hoe die het gaat halen, ja daar kan je echt geen onderscheidend verhaal overschrijven	EMVI op niet onderscheidende factoren (planning en project organisatie)	EMVI beoordeling
L.3	Kwaliteit van de uitvraag	L3.011	mijn BIM klopt niet met mijn platte tekeningen en het BIM klopt in ieder geval helemaal niet. Dus daar ontstaan heel veel risico's,	Risico's	Risico's

L.3	Kwaliteit van de uitvraag	L3.012	want je kan beter een adviseur aan de voorkant 50.000 euro extra betalen om een goed BIM model te maken want dat verdien je namelijk terug, want dat scheelt dadelijk bij de aannemer een ton misschien 2,3 ton aan risico opslag.	Afprijzen risico's	Risico's
L.3	Overig	L3.013	ik loop ze allemaal af. Ik zit denk ik 1x per week bij een marktconsulatie.	Marktconsultaties	Professionaliteit OG
L.3	Overig	L3.014	Kostenkengetallen hebben één groot nadeel, ze worden gebaseerd op aanbestedingen van ongeveer een half jaar terug tot een jaar terug. En vaak wordt dat budget dan vastgezet en niet voldoende geïndexeerd dus in de huidige markt zit er inderdaad tussen budget vastklikken en werkelijk in we gaan naar de markt, ten minste een prijsverschil van 10 tot 15%.	Kostenkentallen / te laag (plafond) budget	Professionaliteit OG
L.3	Overig	L3.015	Maar de vraag is ben je nou goedkoper en veiliger en beter af als je het afkoopt of als je aan de voorkant eens nadenkt wat is nou daadwerkelijk het risico wat ik loop en reserveer ik zelf een potje	Afprijzen risico's	Risico's
L.3	Overig	L3.016	vooral risicoprofiel en heb ik capaciteit.	Samenvatting keuze (risico en capaciteit)	Risico's
L.3	Overig	L3.017	In deze markt stel ik ten minste 1 opdrachtgever teleur die mij één-op-één een project aan bied. Dus waarom zou ik dan een onverantwoord risico gaan lopen inderdaad	Geen onverantwoorde risico's nemen	Risico's
L.3	Overig	L3.018	wat je meestal ziet is waar de meeste projecten op worden afgeschoten: contractueel risicoprofiel, dus de aansprakelijkheden daar sneuvelen de meeste projecten op, de tweede is een onrealistische bouwtijd en de derde is toch wel gewoon de plafondprijs	Samenvatting wanneer: no bid (risico's, onrealistische bouwtijd & plafondprijs)	Risico's
L.3	Overig	L3.019	Daar kun je best op sturen als je dat weet, dus kun je heel bewust zeggen inderdaad als ik iets in de Haagse regio ga doen dan moet dat misschien als het groots en meeslepend ook maar 2/3 jaar wachten, als het kan wachten	Rekening houden met ruimte in orderportefeuille aannemers	Ruimte in orderportefeuille
L.3	Overig	L3.020	Dus ook dat weegt mee in onze afweging, hoeveel werk is er rondom Den Haag, gaan we de markt dus de onderaannemers inderdaad ook in die periode bereid krijgen om voor ons te werken	Beschikbaarheid onderaannemers	Ruimte in orderportefeuille
L.3	Overig	L3.021	vooral risicoprofiel en heb ik capaciteit.	Samenvatting keuze (risico en capaciteit)	Ruimte in orderportefeuille
L.3	Overig	L3.022	UAV contract mag maximaal 1% van de omzet aan acquisitiekosten kosten. Een UAV-gc contract mag maar maximaal 1.5% aan acquisitie kosten. Nou als je dat weet, kan je als OG daar best over nadenken. Van wat vraag ik nou en hoeveel inspanning vraagt dat	Maximale tenderkosten van soort project	Tenderkosten

L.3	Overig	L3.023	weet dat het gemiddelde plan van aanpak ongeveer 1500 euro per pagina kost, om te maken voor een aannemer	Tenderkosten plan van aanpak	Tenderkosten
L.3	Overig	L3.024	Prijsvorming op ramingsniveau kost mij of mag mij 0.05% van de te verwerven omzet kosten	Tenderkosten van prijsvorming	Tenderkosten
L.3	Overig	L3.025	De prijsvorming van een UAV traject, van een bestek mag ongeveer 0.1 tot 0.2% van mijn te verwerven omzet kosten. Bij de gemiddelde tender (+/- 15 miljoen) is dat dus niet meer dan 6 weken reken tijd.	Tenderkosten van prijsvorming / rekentijd	Tenderkosten
L.3	Overig	L3.026	die adviseurs hebben heel veel kennis van wat kost een aanbesteding, want ze gaan namelijk steeds meer mee als onze adviseur. Alleen ik denk nog steeds dat zij OG onvoldoende adviseren wat kost een aanbesteding nou echt en daar gaat het dan ook fout.	OG onvoldoende geadviseerd over tenderkosten van ON	Tenderkosten
L.3	Overig	L3.027	Wij hebben gewoon een spreadsheet wat gaat dit grapje kosten. En die spreadsheet zou je gewoon als OG na kunnen bouwen, wat gaat deze tenderkosten als ik hem aan de markt vraag.	Tenderkosten berekenen als OG	Tenderkosten
L.3	Planning	L3.028	Sterker nog de klant is vaak niet adviseerbaar. De klant heeft vaak gewoon een planning in zijn hoofd, dan moet het af en de markt moet maar gaan lopen. Maar dat werkt niet, niet in deze markt in ieder geval.	Weinig flexibele planning	Professionaliteit OG
L.3	Planning	L3.029	wat je nog steeds wel ziet is dat een hoop OG chronisch optimistisch zijn, en dan gaat nog niet eens zo vaak op UAV aanbestedingen, dus gewoon prijsje bestekje planninkje maken. Maar wel vaak in de processen met een ontwerptraject. Want waar de meeste OG chronisch optimistisch over zijn is hun eigen besluitvaardigheid.	Haalbare planning	Professionaliteit OG
L.3	Potentie nieuwe opdrachten	L3.030	Nou ik besteed aan omdat een hoop projecten die via de aanbestedingskalender komen wel interessant zijn om voor mij referentie op te bouwen of bij een klant in beeld te blijven. Maar ik doe het op het moment niet omdat ik de productie nodig heb.	Referentie waarden / relatie OG	Onderscheidend vermogen
L.3	Potentie nieuwe opdrachten	L3.031	Nou ik besteed aan omdat een hoop projecten die via de aanbestedingskalender komen wel interessant zijn om voor mij referentie op te bouwen of bij een klant in beeld te blijven. Maar ik doe het op het moment niet omdat ik de productie nodig heb.	Referentie waarden / relatie OG	Ruimte in orderportefeuille
L.3	Potentie nieuwe opdrachten	L3.032	Er worden gewoon aanbestedingsuitslagen gemanipuleerd om de gewenste ON eruit te krijgen. Op referentie, op historische samenwerking. Het gebeurt gewoon.	Nut van goede relatie	Win-kans
L.3	Prijsmechanisme	L3.033	Als je als OG op schetsontwerp of voorlopig ontwerp gaat aanbesteden, wat is dan de relevantie om alle marktpartijen dat voorlopig ontwerp uit te laten rekenen in de wetenschap dat dat nog heel veel gaat veranderen?	Relevantie werken met vaste prijs bij schetontwerp	Prijsvorming

L.3	Prijsmechanisme	L3.034	zeg inderdaad dit is het bied boek, prijs die af, dat kan heel snel. Dan heb je daar een biedboek en wat je risicodragend aanbied is je WRAK: winst, risico, AK en misschien ook wel Algemene BouwplaatsKosten (ABK). ABK is tijd gebonden en als de bouwtijd niet wijzigt. En dat zijn voor ons, als marktpartij, verre weg de interessantste aanbestedingen om nu aan mee te doen	Andere prijsvorming op basis van biedboek en WRAK	Prijsvorming
L.3	Prijsmechanisme	L3.035	alle projecten, alle aanbestedingsvormen waarbij je zegt na gunning gaan we nog met elkaar in dialoog over wat het werkelijk moet worden.	Toepasbaarheid biedboek	Prijsvorming
L.3	Prijsmechanisme	L3.036	in deze markt haak ik in ieder geval met mijn team op een hele hoop aanbestedingen af omdat de tender inspanning te hoog is en dat komt door de wijze van de prijsvorming	Tenderinspanning	Tenderkosten
L.3	Procedure	L3.037	de dialoog wordt nog steeds door een hoop OG gezien als een beïnvloedingsmoment terwijl het dat niet is. En je hebt ook een hoop OG die in een dialoog dan zeggen van laat maar van alles zien, maar de andere kant, die willen geen feedback geven	Dialoogfase zonder feeback	Professionaliteit OG
L.3	Procedure	L3.038	op de wat zachtere criteria durf dan in de dialoog ook kleur te bekennen en durf dan ook te zeggen ik vind die beter aansluiten bij omdat	Feedback zachte criteria in dialoogfase	Professionaliteit OG
L.3	Procedure	L3.039	de OG niet verander bereid te eigenwijs om echt kritisch naar zijn eigen proces te kijken	Veranderbereidheid OG tijdens dialoog	Professionaliteit OG
L.3	Procedure	L3.040	Openbare aanbestedingen krijgen per definitie een no-go	Openbare aanbestedingen	Win-kans
L.3	Samenwerkingsvorm	L3.041	Naarmate de projecten complexer worden, is het echt wenselijk dat een aannemer eerder aan tafel komt	Betrokken aan de voorkant	Aannemer vroeg betrokken in proces
L.3	Samenwerkingsvorm	L3.042	Dus je creëert als OG in complexe opdrachten een hele hoop variabelen, die leg je vast als OG dit wil dit, en vervolgens met de markt dat maar doen en dan ben je vervolgens verbolgen dat de marktpartij zegt ik ga het niet doen, je hebt te weinig budget. Of beste klant inderdaad dat is niet heel handig, ik zou het anders doen	Probleem van vaste eisen	Aannemer vroeg betrokken in proces
L.3	Samenwerkingsvorm	L3.043	Dus dat je in een zo vroeg mogelijk stadium met en marktpartij kan gaan sturen op deze ontwerprichting doen we wel en deze ontwerprichting doen we niet.	Betrokken aan de voorkant om budget haalbaar te maken	Aannemer vroeg betrokken in proces
L.3	Samenwerkingsvorm	L3.044	aanbestedingsfase met 3 dialoog ronden, 3 dialoogronden over architectuur, en bied uiteindelijk aan op schetsontwerpniveau. Dus dan weet de klant wat	Aanbesteden op schetsontwerpniveau	Aannemer vroeg betrokken in proces

			het kost, hoe het er ongeveer uitziet en vanaf dat niveau gaan we met de klant in gesprek ook		
L.3	Samenwerkingsvorm	L3.045	die twee type projecten (dertien in dozijn projecten en complexe binnenstedelijke bouwopgave) die wezenlijk anders van aard zijn en dus het klant risico en ook het aannemers risico wezenlijk anders is, wel op een zelfde manier aan worden gevolgen	Mis-match soort project en samenwerkingsvorm	Geschikte samenwerkingsvorm
L.3	Samenwerkingsvorm	L3.046	dan moet je wel daar toch echt de actuele marktontwikkeling van een aannemer daarbij hebben om dus tijdig inderdaad in je ontwerp te kunnen sturen en niet een bestek te hebben gemaakt. Terwijl je eigenlijk op SO of VO al een ander ontwerpkeuze had moeten maken. En dat vereist dus een andere contractvorm.	Mis-match soort project en samenwerkingsvorm	Geschikte samenwerkingsvorm
L.3	Samenwerkingsvorm	L3.047	Het misverstand bij UAV-gc is, dat je zegt inderdaad als klant hier heb je de autosleutels en het budget ga maar rijden, ik zie wel wat het wordt	Rol OG tijdens UAV-gc	Professionaliteit OG
L.3	Selectie criteria	L3.048	Referentie eisen, een hoop referentie eisen zie je dat een klant niet verder kan kijken dan zijn eigen project	Referenties	Onderscheidend vermogen
L.3	Selectie criteria	L3.049	veel relevantere selectie criteria zijn; omzet, hoeveel procent gaat dit project per jaar deel uitmaken van uw jaar omzet.	Omzet project in verhouding tot jaaromzet	Onderscheidend vermogen
L.3	Selectie criteria	L3.050	Prekwalificatie en het selectie criteria is gewoon een ja of een nee, voldoe ik of niet, maar daarbij kijken we uiteindelijk naar het eind resultaat: is het project voor mij interessant of niet	Voldoen selectiecriteria ja of nee	Win-kans
M.1	Contractvoorwaarden	M1.001	Het overdragen van risico's: Ligt er wederom weer aan de klant.	Professionaliteit OG	Professionaliteit OG
M.1	Gunningscriteria	M1.002	Maar toen hebben ze A de EMVI criteria aangepast, toen ging het van 30/70 naar 10/90 en dat met vier concurrenten.	EMVI scoring	EMVI beoordeling
M.1	Gunningscriteria	M1.003	Onze voorkeur gaat sterk uit naar uitvragen waar kwaliteit een significant (>30%) onderdeel van is.	EMVI scoring	EMVI beoordeling
M.1	Gunningscriteria	M1.004	Wat we dan wel heel vaak zien dat kwaliteit zich heel snel beperkt tot plannings- en budgetbewaking.	Beperking van kwaliteitsaspecten tot planning en budgetbewaking	Professionaliteit OG

M.1	Gunningscriteria	M1.005	Dus ik vind het eigenlijk niet erg als de kwaliteit er bij zit voor de tenderkosten maar je moet wel bewaken dat je opgegeven moment ergens naartoe werkt	Tenderkosten en gunnen op kwaliteit	Tenderkosten
M.1	Selectie criteria	M1.006	Opdrachtgevers die met voor bedachten raden bepaalde selectie criteria opnemen om al bepaalde partijen of een voorsprong te geven of bepaalde partijen expliciet uit te kunnen sluiten en dat verkleint de win-kans voor andere partijen	Win-kan	Win-kans
M.1	Overig	M1.007	Dus op die manier die drie aspecten (aard van de uitvraag, de omvang en de klant) bepalen zeker hoe een aanvraag aanvliegen, hoeveel tijd we er insteken en hoe interessant we hem vinden.	Samenvatting keuze (soort uitvraag, omvang en OG)	Professionaliteit OG
M.1	Overig	M1.008	Dat ze wel gewoon echt snappen wat ze vragen, de helft van de partijen snappen vaak niet wat ze aan de markt vragen	Professionaliteit OG	Professionaliteit OG
M.1	Overig	M1.009	Opdrachtgevers hebben vaak een handje van om veel risico's weg te leggen bij de markt, soms of het irreële af	Overdragen risico’s	Risico’s
M.1	Overig	M1.010	De omvang van de uitvraag dicteert veelal hoeveel tijd je eraan kwijt bent	Tijd geïnvesteerd in aanbesteding	Tenderkosten
M.1	Omvang project	M1.011	Dus de afweging qua kosten zit hem veel meer in de omvang van het werk/ de uitvraag. De aard (op basis van prijs of kwaliteit) van de uitvraag is uiteindelijk wel van belang voor hoeveel tijd we er uiteindelijk aan kwijt zijn natuurlijk. Maar dat is vaak relatief in verhouding.	Tenderkosten in verhouding tot omzet/omvang project	Tenderkosten
M.1	Overig	M1.012	De uitvraag moet proportioneel zijn of wij moeten er voor kiezen of op proportionele wijze een aanbieding te schrijven. Dan kan het of meevallen of ontzettend tegenvallen	Omgaan met tenderkosten	Tenderkosten
M.1	Overig	M1.013	Dus op die manier die drie aspecten (aard van de uitvraag, de omvang en de klant) bepalen zeker hoe een aanvraag aanvliegen, hoeveel tijd we er insteken en hoe interessant we hem vinden.	Samenvatting keuze (soort uitvraag, omvang en OG)	Win-kans
M.1	Planning	M1.014	Dan (expliciet gevraagd om projectleider tijdens de bouwvak) wordt die interessant want dan wordt het namelijk een risico	Risico door planning	Risico’s
M.1	Planning	M1.015	Het is in zoverre van belang dat het natuurlijk wel cruciaal is om te weten of je capaciteit hebt.	Capaciteit in order portefeuille	Ruimte in orderportefeuille

M.1	Procedure	M1.016	Terwijl wat wij wel merken is dat als je in gesprek komt dan kan je er een beetje proeven wat wil de klant nou echt wat hen beweegt, wat hun stuurt hem, waar zit hun probleem. En als dan dus zo'n uitvraag niet helder is dan tast je een beetje in het duister	Contact momenten	Onderscheidend vermogen
M.1	Procedure	M1.017	Drie is reëel vijf is veel alles boven de vijf is absurd.	Concurrentie	Win-kans
M.1	Procedure	M1.018	We hebben laatst eens een keer, toen zag ik een openbare EMVI aanbesteding voorbij komen, zonder voorselectie of wat dan ook. Daar heb ik dus voor bedankt.	Openbare aanbesteding	Win-kans
M.1	Samenwerkingsvorm	M1.019	En aan het einde van de rit is geld toch altijd de doorslaggevende factor. Dus in die zin is het interessant om zo vroeg mogelijk aan tafel te komen.	Betrokken bij voorkant/budgetmanagement	Aannemer vroeg betrokken in proces
M.1	Samenwerkingsvorm	M1.020	Dan zie ik vaak in de markt dan richting opdrachtgevers, ten minste in deze markt, dat bouwteam niet helemaal in de juiste vorm wordt gebruikt.	Bouwteam /betrokken bij voorkant	Aannemer vroeg betrokken in proces
M.1	Samenwerkingsvorm	M1.021	Dus in die zin vind ik samenwerken gewoon een cruciaal onderdeel, samenwerken met de OG ook, om in het voortraject een goede basis te leggen, in contractvorm dan. Ga je naar meer traditioneel contract zou ik nog steeds voor pleiten om geregeld contact te hebben met de OG, ook om bijzonderheden af te stemmen	Betrokken bij voorkant / contact met OG	Aannemer vroeg betrokken in proces
M.1	Samenwerkingsvorm	M1.022	Veelal is dat een opdrachtgever die er niet iets minder verstand van heeft, van wat er bij komt kijken en wat dat nou betekend, wat er allemaal gedaan moet worden.	Professionaliteit OG	Professionaliteit OG
M.1	Samenwerkingsvorm	M1.023	En dan is een bouwteam niets meer dan een verkapte manier om het risico van budget beheersing weg te leggen bij de markt partijen in plaats van bij de budget houder.	Risico budget beheersing	Risico's
M.1	Selectie criteria	M1.024	Opdrachtgevers die met voor bedachten raden bepaalde selectie criteria opnemen om al bepaalde partijen of een voorsprong te geven of bepaalde partijen expliciet uit te kunnen sluiten en dat verkleint de win-kans voor andere partijen	Win-kans	Professionaliteit OG
M.1	Selectie criteria	M1.025	De eerste vraag is wel of we er aan kunnen voldoen, hebben we de credentials en de referenties om mee te kunnen schrijven.	Voldoen aan eisen mbt referenties	Win-kans
M.1	Selectie criteria	M1.026	Dus in zoverre is die prekwalificatie cruciaal voor ons dat daarmee ook gewoon blijkt of het een interessant werk is voor ons, of wij een interessante partij zijn voor de opdrachtgever en of wij met een gezonde concurrentie die aanbesteding kunnen schrijven.	Rol prekwalificatie	Win-kans
M.1	Contractvoorwaarden	M1.027	Dus die past van alles aan, voegt van alles toe. Die legt dan inderdaad relatief veel risico's weg bij de aannemer	Risico overdragen	Risico's

M.1	Kwaliteit van de uitvraag	M1.028	vanuit de uitvraag moet gewoon absoluut duidelijk zijn wat de klant verwacht van de uitvraag. Om tot een eerlijke vergelijking te komen	Belang goede uitvraag	Professionaliteit OG
M.1	Kwaliteit van de uitvraag	M1.029	Dus als je geen goede uitvraag hebt, dan weet je niet waarop beoordeeld gaat worden, dan weet je niet hoe ze het onderlinge vergelijk gaan maken, dan weet je niet wat het uitgangspunt gaat zijn, en dan loop je zelf ontzettend het risico dat als je aan de lage kant gaat zitten dat je eigenlijk heel veel over het hoofd hebt gezien.	Belang goede uitvraag	Risico's
M.1	Overig	M1.030	Over het algemeen zal het dus altijd zijn een inschatting waarbij we proberen niet te ruim te gaan zitten, want dan prijs je jezelf de markt uit natuurlijk. Maar dan kunnen we er inderdaad voorkiezen om risico op te schuimen en daar een risico reservering aanhangen	Risico overdragen	Risico's
M.2	Contract type	M2.001	UAV is voor mij wel heilig. Dat is niet voor niks dat die er is. Daar is zeg maar in de Jip en Janneke taal omschreven hoe afspraken zitten	Belang standaard voorwaarden	Professionaliteit OG
M.2	Contract type	M2.002	UAV is voor mij wel heilig. Dat is niet voor niks dat die er is. Daar is zeg maar in de Jip en Janneke taal omschreven hoe afspraken zitten.	Belang standaard voorwaarden	Risico's
M.2	Contract type	M2.003	Type contract als het UAV-gc is, maar dat doen wij eigenlijk niet zoveel, dan zit het 100% in de risico's	Risico's van UAV-gc	Risico's
M.2	Gunningscriteria	M2.004	Ja die plan van aanpakken scoren we ook gewoon goed. Terwijl we eigenlijk opschrijven hoe we het doen.	Kwaliteit aspecten	Onderscheidend vermogen
M.2	Gunningscriteria	M2.005	Bij plan van aanpak: dan ga je ook veel dieper nadenken over dat plan. Wat kom je tegen, hoe gaat die aanrijd route zijn of welke risico's zijn er dus die analyse maak je dan vooraf. En dat is voor een opdrachtgever handig maar ook voor ons.	Voordeel selectie op kwaliteit	Onderscheidend vermogen
M.2	Selectie criteria	M2.006	Voldoe ik aan al mijn referenties, heb ik een plan van aanpak waarvan ik van denk dat ga ik goed scoren	Voldoen aan referenties	Win-kans
M.2	Kwaliteit van de uitvraag	M2.007	Is het op prijs en je maakt flut documenten, dan kan ik een paar vragen stellen die ik moet stellen om ook mijn inbreng te geven, maar dan ruik ik wel bloed.	Meerwerk	Prijsvorming
M.2	Omvang project	M2.008	Opbrengsten zijn zeker van belang ten opzichte van wel of niet deelnemen.	Omzet	Prijsvorming
M.2	Omvang project	M2.009	Dat heeft te maken met je AK (algemene kosten), hoe groot is je AK en daar wil je dekking op hebben. Dus ik moet grote bedragen hebben om de dekking te halen	Verhouding tenderkosten/omzet	Tenderkosten
M.2	Overig	M2.010	Alleen bij de één ben ik een week onderweg en bij die andere weet ik het meteen. Dat zou eigenlijk de opdrachtgever ook transparant in moeten zijn.	Transparantie mbt concurrentie	Professionaliteit OG

M.2	Overig	M2.011	Als een opdrachtgever dat doet en zegt ik heb een plafond bedrag want dan kan je niet als ik op 9 miljoen inschrijf zeggen het zit buiten budget. En dat vind ik eigenlijk best zuiver.	Plafond budget	Professionaliteit OG
M.2	Overig	M2.012	Risico's kun je beheersen en dan ga je ze afprijzen of kwantificeren in geld en dat is eigenlijk de slechtste want je betaald al te duur.	Risico's afprijzen	Risico's
M.2	Overig	M2.013	Alleen als het in calculatie, dat kost 10.000 euro, dat is redelijk standaard tarief.	Tenderkosten	Tenderkosten
M.2	Overig	M2.014	Dan weet ik in mijn concurrentie analyse, he heb ik geduchte concurrentie? Op het moment dat ik dat denk kan ik nog denken van doe ik mee of niet. Of moet ik heel scherp zijn, want als ik tot op het bod moet, dan heb ik vooraan die afweging.	Concurrentie	Win-kans
M.2	Planning	M2.015	Planning is risico: als werkbare dagen te kort zijn, en onhaalbaar. Maar dat gebeurt niet zoveel.	Onrealistische planning	Risico's
M.2	Planning	M2.016	Staart is relevant, kunnen we daar organisatie voor optuigen. Zeker in de tijd waarin we zitten krijgen we de spullen ingekocht en geleverd?	Belang leveranciers	Ruimte in orderportefeuille
M.2	Potentie voor nieuwe opdrachten	M2.017	Als je een plan hebt waar meerdere gebouwen achter elkaar zitten en je wint een tender. Dat ze uitspreken, voorneems te zijn overige plannen ook met jou te gaan doen. prima, dan pak je de begroting van blok 1, als daar prijzen in staan van bijvoorbeeld stuukwerk, dan neem je die over, alleen moet je dan wel afspreken welke index je mee neemt.	Voorneems meer opdrachten te laten vervullen/ prijsindex	Prijsvorming
M.2	Procedure	M2.018	Op het moment dat er 5 partijen mee doen en ik zie en andere calculator die het druk heeft die met 2 of 3 partijen zit. Dan zeg ik daar maken we wel een inschatting van, en die is nooit te laag, en daar hebben we meer kansen. Dus uiteindelijk is die opdrachtgever niet gebaat bij meer partijen.	Resultaat van meer concurrentie minder serieuze inschrijving	Prijsvorming
M.2	Procedure	M2.019	Want als er twee zijn, dan vragen wij ons af dan van goh ja twee dan is het misschien toch wel zo leuk om wel mee te doen. Want twee is betere kans, statistisch	Concurrentie	Win-kans
M.2	Procedure	M2.020	Ik vind deze tijd drie harstikke netjes. Ik vind bijna dat als men moet aanbesteden, aanbestedingsplichtig zijn, drie prima. Zijn het er meer, je zoekt maar een ander slachtoffer.	Concurrentie	Win-kans
M.2	Selectie criteria	M2.021	Maar als ik een project kan laten zien van het veelvoud en omvang, utilitair/kantoor dan vraag ik mij af wat is het verschil.	Striktheid mbt referenties	Onderscheidend vermogen
M.2	Selectie criteria	M2.022	Ook goede partijen uitnodigen want als ze ons uitnodigen en jantje op de hoek, dan kan die best als percentage een heel goed solvabiliteitsgetal hebben maar als een project van 2 miljoen en je hebt 20.000 euro op de rekening staan, dan gaat dat niet goed komen	Partijen uitnodigen	Professionaliteit OG

M.2	Selectie criteria	M2.023	Als wij niet voldoen doen wij niet mee	Voldoen aan selectie criteria	Win-kans
M.2	Tenderduur	M2.024	Tenderduur kan een risico worden want als hij te kort is moet je heel veel inschattingen doen en als je die inschattingen hard moet maken dan heb je gewoon een groot risico input.	Risico	Risico's
M.2	Tenderduur	M2.025	We krijgen ook tenders van 3 weken, dan vind ik ook niet dat ze opzoek zijn naar de beste partij.	Juiste tenderduur	Professionaliteit OG
M.2	Contract conditions	M2.026	Het (belang van contract voorwaarden) heeft veelal te maken met risico's die de klant doorlegt aan ons	Risico's	Risico's
M.3	Contract type	M3.001	Als hij maar past bij het project en bij de samenwerkingsvorm.	Match tussen type contract, samenwerkingsvorm en project	Geschikte samenwerkingsvorm
M.3	Contract type	M3.002	Dan (bij gebruik verkeerde type contract) doen we er wel aan mee maar we zorgen dat we het risico gewoon indekken en we zorgen ook dat we echt wel in gesprek gaan met de OG	Risico's afprijzen / contact OG	Risico's
M.3	Contractvoorwaarden	M3.003	Als je moet rekenen op basis van een bestek, dan reken jij op basis van dat bestek. Dan ga je niet allemaal toeters en bellen erin bouwen om die risico's te beperken. Dan zit het of aan die kant in de prijs of het zit in de opslag	Afprijzen risico's	Risico's
M.3	Contractvoorwaarden	M3.004	Als we de OG niet kennen of we zien dan dat dat een probleem gaat worden. Nee ik denk dat we dan wel in zouden schrijven maar gewoon een hoge risico opslag, want dan wil je het gewoon minder graag.	Afprijzen risico's	Risico's
M.3	Gunningscriteria	M3.005	Ik vind het idee goed en ik vind het ook heel goed, het zou ook inderdaad niet alleen om prijs moeten gaan, maar de manier waarop dat beoordeelt wordt vind ik een hele trickyen	EMVI scoring/beoordeling	EMVI beoordeling
M.3	Gunningscriteria	M3.006	en dat gaat echt op substantiële kortingen dus eigenlijk maakt de hele calculatie helemaal niet meer uit	EMVI scoring	EMVI beoordeling
M.3	Gunningscriteria	M3.007	een integrale beoordeling, met het hele beoordelingsteam van prijs en kwaliteit in één	Integrale beoordeling	EMVI beoordeling
M.3	Kwaliteit van de uitvraag	M3.008	Wij doen heel veel restauratie/renovatie en daar is het gewoon onmogelijk om de stukken al fantastisch uit te werken. Dus daar gaan wij ook liever in transparantie samen in. En daar zien we toch dat dat onderschat wordt vaak, door de OG, hoeveel daar nog naar boven kan komen.	Onzekerheden in stukken	Prijsvorming
M.3	Kwaliteit van de uitvraag	M3.009	Wij doen heel veel restauratie/renovatie en daar is het gewoon onmogelijk om de stukken al fantastisch uit te werken. Dus daar gaan wij ook liever in	Onzekerheden in stukken	Professionaliteit OG

			transparantie samen in. En daar zien we toch dat dat onderschat wordt vaak, door de OG, hoeveel daar nog naar boven kan komen.		
M.3	Kwaliteit van de uitvraag	M3.010	Wij weten wat er allemaal nog komt en dat weet vaak zo'n OG niet. Maar vaak doet een OG het maar één keer. Vooral bij dat soort renovatie klussen, dat zijn vaak de mensen die erin gaan.	Soort OG	Professionaliteit OG
M.3	Kwaliteit van de uitvraag	M3.011	dat is voor ons niet een reden om wel of niet mee te doen. We weten ook van sommige partijen, ze zijn ervaren of je weet van sommige partijen dat de uitvraag daar slecht van is en dan weet je inmiddels wat de omwegen zijn of hoe je dat moet lezen	Omgaan met slechte documenten	Professionaliteit OG
M.3	Samenwerkingsvorm	M3.012	in elke aanbesteding, in welke vorm dan ook. Er wordt altijd geprobeerd zoveel mogelijk risico's bij de ON te leggen	Risico's overdragen	Risico's
M.3	Kwaliteit van de uitvraag	M3.013	maar de stukken vind ik dus wel, dus de tekeningen en dat soort dingen, ja daar schat je het risico van in en daar geef je een prijs aan.	Afprijzen risico's	Risico's
M.3	Omvang project	M3.014	Onderaan de streep heb je gewoon een winst en risico percentage. Het vertalen naar het percentage dat is bij ons echt een gevoelsding.	Winst/risico percentage	Prijsvorming
M.3	Omvang project	M3.015	En we proberen ons dus niet vol te zetten met die hele grote. Want dat risico wil je gewoon ook niet te vaak nemen.	Risico van grote projecten	Risico's
M.3	Omvang project	M3.016	Wij hebben een voorkeur voor een goede mix.	Portfolio management	Ruimte in orderportefeuille
M.3	Planning	M3.017	Als er een strakke planning bij zit? Nou ik vind het eigenlijk een groter risico als er geen planning bij zit. Dan weet je helemaal niks, dan weet je niet wanneer ze gaan beginnen.	Planningsrisico	Risico's
M.3	Planning	M3.018	Voor ons is daar gewoon hebben wij dan de mensen. Dus het is wel fijn als dat erbij zit en anders gaan we daar om vragen	Ruimte in orderportefeuille	Ruimte in orderportefeuille
M.3	Potentie voor nieuwe opdrachten	M3.019	Ik kijk alleen in de voorfase en al naar referentie projecten	Opbouwen van referenties	Onderscheidend vermogen
M.3	Procedure	M3.020	Alleen het (gebruik dialoogfase) kost ontzettend veel tijd voor de partijen die er aan mee doen. Dus daar betaald de OG uiteindelijk ook voor, maar ik denk wel dat hij krijgt wat hij verwacht had en dat is volgens mij uiteindelijk waar iedereen het blijst van wordt	Tenderkosten concurrentie gerichte dialoog	Tenderkosten
M.3	Procedure	M3.021	En dan denk je als we dan 5 zijn, ja dat is weer per project weer een inschatting. Dus het is niet zo dat ik zeg van als er 5 door gaan dan doen we	Concurrentie	Win-kans

			niet mee. Vaak vallen er, in deze tijd sowieso, van te voren besluiten er 2 of 3 om niet in te schrijven.		
M.3	Samenwerkingsvorm	M3.022	Bij elk project kan je weer een bepaalde samenwerkingsvorm kiezen. Wij hebben daar ook een voorkeur voor per project.	Geschikte samenwerkingsvorm kiezen	Geschikte samenwerkingsvorm
M.3	Samenwerkingsvorm	M3.023	Dan zien wij dus dit hadden ze in bouwteam moeten doen, maar ze doen het traditioneel. Daar gaan wij dus veel meer tijd nog aan moeten besteden dan de opdrachtgever verwacht en daar gaan we ook nog veel meer tijd van de OG nog vragen, want er komt nog een heel proces door. En dan ben je dus duurder, want dat gaan we ook incalculeren. En dan is het voor ons dus een afweging gaan we dan daar aan meedoen,	Onjuiste samenwerkingsvorm	Geschikte samenwerkingsvorm
M.3	Selectie criteria	M3.024	We zien wel dat er professionele partijen, zoals ingenieursbureau X, als die zo'n traject begeleiden dan zit dat vaak goed, dan is daar goed over nagedacht, dat zie je al in de selectiecriteria.	Professionaliteit OG	Professionaliteit OG
M.3	Award criteria	M3.025	Het lijkt een soort spelletje, dat zie je soms. Want het worden een soort vink lijstjes en score dingetjes en invullen. Maar uiteindelijk gaat het gewoon om wie je het gunt, oud-hollands.	EMVI scoring	EMVI beoordeling
M.3	Selectie criteria	M3.026	Soms onproportioneel en soms heel goed, met wat ik net zei met zo'n ingenieurs bureau x die begeleid dat goed en daar zie je dat heel goed	Referentie en selectie criteria	Onderscheidend vermogen
M.3	Selectie criteria	M3.027	Soms onproportioneel en soms heel goed, met wat ik net zei met zo'n ingenieurs bureau x die begeleid dat goed en daar zie je dat heel goed	Kwaliteit selectie criteria	Professionaliteit OG
M.3	Selectie criteria	M3.028	En soms we hebben het ook weleens gehad dat we dus niet konden voldoen daaraan, omdat het zo specifiek was, maar dat mag helemaal niet he	Te strenge eisen	Professionaliteit OG
M.3	Selectie criteria	M3.029	Het speelt dus heel veel mee want ik denk dat je daar dus heel veel partijen mee uit kan sluiten. En als je het nou hebt over de knoppen waar ze aan kunnen draaien, is dat natuurlijk een mega	Uitsluiting van partijen	Professionaliteit OG
M.3	Tenderduur	M3.030	Omdat je gewoon een planning hebt van de calculatieafdeling, soms zit dat ook gewoon vol en ze hebben tijd nodig.	Beschikbaarheid calculatoren	Ruimte in orderportefeuille
M.3	Tenderduur	M3.031	Ik denk dat het per aanbesteding niet zo heel veel uit maakt hoeveel tijd. Behalve als je een design & build en zo'n dialoog, weet je dat kost, dat geeft meer doorlooptijd en iets meer tijd wat mensen er ook echt aan moeten besteden	Benodigde tijd voor aanbesteding	Tenderkosten

M.3	Prijsmechanisme	M3.032	Wij merken dus de laatste tijd dat er private partijen zijn die dat heel fijn vinden, dus ze gaan eerst een aanbesteding doen op hele vage gronden en dan moet je wel urenlonen en dat soort dingen door geven.	Op basis van regie	Prijsvorming

Appendix I – Example of risk register

This appendix provides an example of a risk register in Table 13, which can be used to assess the project related risk of a tender design.

Table 13

Example of risk register

Cause	Risk event	Consequence	Probability (1-5)	Impact (1-5)	Risk (1-25)	Strategy contractor	Strategy client
Contract states that the contractor is responsible for the permits	Rejection of the permit	Changes have to be made in the design	2	2	4	Reduce by checking design thoroughly with laws and regulations	Accept
The project has to be finished in a tight deadline	Due to various setbacks the project cannot be delivered on time	Fines will have to be paid	3	3	9	Include fines in risk premium	Reconsider, what would it cost to postpone the deadline slightly
Contract states the contractor is unlimited liable for damages	Damages occur which the contractor needs to reimburse but is not able to	Stop project and bankruptcy	2	5	10	No bid	Reduce by limiting the liability
Current situation regarding the building is unclear	The building requires more work than anticipated	Not able to finish project within budget	3	4	12	No bid	Reduce by clarifying current situation of building

Appendix J – TDTM Practical Application

In order to illustrate how the Tender Design Test Matrix (TDTM) can be used to assess a tender design this appendix contains two real life cases from the Netherlands. The information about these projects have been gathered through the public publication of TenderNed. For some unknown facts assumptions have been made to illustrate the functioning of the TDTM.

J.1 Example project 1

Project name:	Herontwikkeling Stadskantoor 1
Client:	Municipality of Tilburg
Description:	Redevelopment of 17 000 m^2 municipality office with possibly 7000 m^2 shops. The building would be partly dismantled to the concrete shell (stripped), than rebuild with new facades, interior and installations. A preliminary design has been made with a design team, the contractor is responsible for the final design, engineering, execution and maintenance period of 15 years.
Collaboration form:	Design Build Maintain
Contract type:	UAV-GC 2005
Procedure:	Competitive Dialogue (4 participants)
Prequalification:	- General grounds for exclusion - Minimum level of ability: solvability, bank guarantee, insurance, concern guarantee, reference projects with regard to design, stripping, execution and multi-year maintenance - Selection criteria: based on reference projects
Award Criteria:	Best value for money principle with 70% price and 30% plan of approach (discussing aspects such as the task of the DBM contractor, the quality and the communication and cooperation with the client)
Tender compensation:	40 000 euro
Pricing mechanism:	Fixed price (assumption)
Budget ceiling:	38 million euro
Number of participants:	2 participants, both applied above budget ceiling

J.1.1 Positioning the project in the TDTM

The general position of project 1 in the TDTM is for both the risk/reward axis as the cost/chances axis in the white elephant quadrant. Figure 27 displays the estimated location of the results.

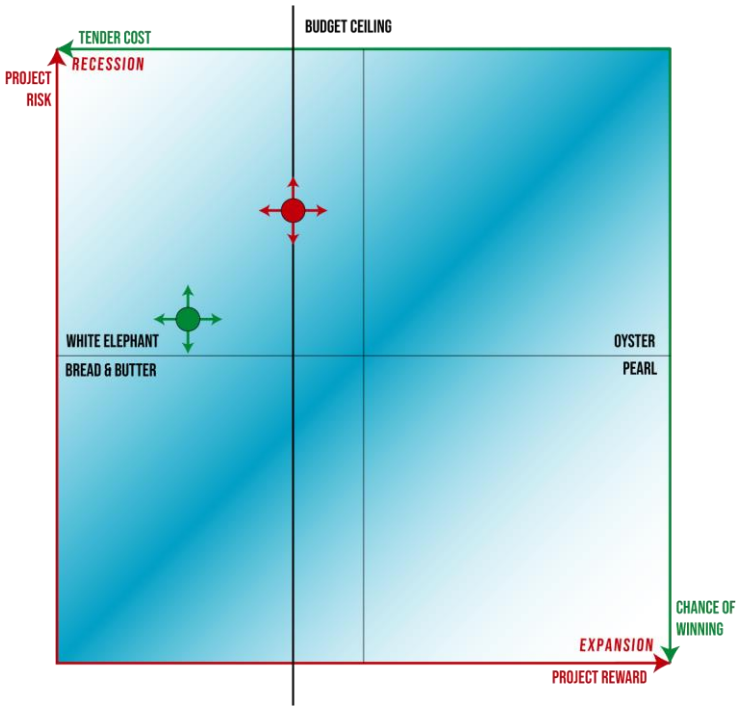

Figure 27: Tender Design Test Matrix Project 1

J.1.2 Project risk

By studying the guideline of the tender developed by the municipality it is already possible to identify several issues leading to project related risks for contractors. For example the client has stated the following in the guideline: *'It is mandatory for the DBM contractor to further develop the design with the use of BIM and the entire design liability is transferred to the contractor.'*

The use of BIM itself should not be a problem, many contractors know and like to work with BIM as long as it does not contain too many mistakes. However the transfer of the design liability, thus relating to the attribute contract conditions, is an additional risk for the contractor. Since the collaboration form is a DBM, part of this designing is done by the contractors so it is considered fair that this liability is transferred. However there might been decision already made during the preliminary design which the contractor than becomes liable for, thus leading to a risk. The chances of this risk eventuating are low however the impact will be high.

Another risk for the contractor is the fact that the size of the project is uncertain. There are two possible variants for the design. One of which entails a more extensive scope during the

execution phase. Additionally the client makes it clear that it is a phased project and that they are not obligated to continue the work with the selected contractor. In the case of termination of the contract, after for example the design phase, the contractor will not receive any compensation. This definitely contributes to the assessment of the project risk for the contractor since the project size is flexible the risk the contractor is willing to take might be less.

The guideline furthermore states that the municipality still had to decide on assigning money to the redevelopment, thus the project planning is uncertain. In other words at the moment of contractor selection there was still uncertainty about if the project would be accepted by the council. If the budget is not assigned to the project the contractor might have endured useless tender costs leading to an additional project risk.

With regard to the collaboration form and contract type, a DBM with UAV-gc 2005 is selected. The most important question is whether these forms fit the project. Since the project entails an existing building it can be wise to use an integrated approach because the current status of a building might be uncertain. By using an integrated approach a contractor can firstly assess the situation and thereafter use this information during designing. However in this case the preliminary design has already been made and the role of the contractor is to further develop this design into a detailed design. Therefore the collaboration form leans more to engineering and construct with maintenance.

By including a maintenance period the client aims to ensure quality, however this might make the project less accessible for some contractors. Since there are also other ways to ensure the quality it might have been better to use the design and build or in this case engineering and construct collaboration form. So there might be a small mismatch between the project and the collaboration form and the name which is given to the form. This might be confusing to contractors and they might consider this a risk and doubt the professionalism of the client.

Thus overall there are some major points which negatively influence the risk a contractor experiences in this project. Therefore the risk of this project can be assessed as high as can be seen in the TDTM in Figure 27.

J.1.3 Project reward

In order to assess the project reward there are two main considerations, the project size including possibly a budget ceiling and the potential for new projects. The potential for new projects would in this case refer to the value of executing this project in order to use it as a reference project for future projects. The project is an integrated large scale renovation of an

office in a densely populated area with reasonably high sustainability goals. Therefore it can be seen as a valuable reference project.

On the other hand a budget ceiling was being applied during the award phase, which was at the start of the selection phase unknown and not yet available. It turned out that this budget ceiling was not adequate to what the project included and it was not possible for the contractors to have a fair risk/revenue percentage. Therefore the two contractors who eventually made a bid, went over the budget ceiling.

To conclude the possible reward was limited by the client and therefore there was no balance between the risk a contractor had to take in this project. Making the project a white elephant with regard to the risk/reward balance. Although the potential for new projects has some positive influence on the reward this does not compensate sufficiently for the financial shortcoming of the budget.

J.1.4 Tender costs

During the selection phase the contractor has to deliver several documents in order to proof the minimum levels of ability. The documents required are in line with what can be expected for such a project, so the tender costs in relation to this regard are average. For the selection criteria reference projects need to be described for all the different disciplines. A maximum of 25 pages was allowed to elaborate on maximum of four reference projects. The effort of selecting and describing appropriate reference projects increases the tender costs.

During the award phase one round of a competitive dialogue will be conducted. Since the documents for the award phase have not been published it is uncertain what had to be included for the final bid. However since a dialogue is held and an integrated collaboration approach is used it is very likely that a design effort had to be made. Inviting four participants to have a dialogue and make the same design effort increases the tender costs significantly. Although a compensation is given to the parties which make a valid bid but are not awarded the contract, this is not in proportion to the tender costs.

The tender duration of the award phase is approximately 8 weeks including the dialogue sessions. With the assumption that a design effort is included in the final bid, the tender duration is somewhat short. Thereby increasing the number of people which have to work on the tender making the process less efficient and thus increasing tender costs. Lastly the pricing mechanism utilized for the award phase is unknown. However it is assumed that fixed price is used as in most comparable projects in the Netherlands. As compared to unit prices this

increases the tender costs, however fixed price is seen as normal thus no additional tender costs are considered for this attribute.

To conclude the tender costs for this project are considered a little above average mostly due to the integrated project approach. Again since the size of the project at the beginning of the tender phases was still unknown the ratio between the tender costs and project size is flexible. Taking the lowest project size in comparison to the same tender costs increase the place on the tender costs axis a little further to the left as can be seen in Figure 27.

J.1.5 Chance of winning

The first consideration is whether or not a contractor will be able to fulfill the prequalification requirements, thus the minimum level of ability requirements and the selection criteria. If the minimum requirements are not fulfilled the chances of being invited to participate are zero. Looking at the minimum requirements they are as can be expected for such a project. Thus this does not limited the chances of winning for an average contractor in the targeted population.

After the selection phase, four participants have been invited to participate in the dialogue sessions. The overall chances of winning were around 25% for each contractor. However as followed from this research three competitors is considered most desirable. Thus the chances of winning with regard to the tender procedure can be assessed as a little below average for this project.

The award criteria are based on the best value for money principle. Although the exact award criteria are not available, it is stated that 70% will be based on price whereas 30% is quality based. For a large, integrated project like this one the weighing of price is considered quite high. Making it harder for the contractors to differentiate themselves thus also virtually decreasing their chances of winning.

Overall the chances of winning for this project are thus considered a little below average. Therefore the tender risk is located in the white elephant quadrant.

J.1.6 General conclusion Project 1

Overall this project has not been a success since only two contractors made a bid which were both above the budget ceiling. By looking at the location of the points in the TDTM this can be explained. First of all the project contains considerable project risks for the contractor, this in combination with a low budget ceiling puts the risk/reward point in the white elephant quadrant. If the economy was in recession contractors might have been willing to participate for that price.

However currently the economy is in expansion and therefore the budget has to enlarged and or the project risks should be reduced.

The project risks could in this case mostly be reduced by providing the contractors with more certainty. Making sure the budget is available before contractors are selected and likewise already decide on the version of the design. Furthermore the contract conditions should be assessed to avoid extremely negative conditions for the contractors.

The green point on the costs/chance axis is also located in the white elephant quadrant. Again this might lead to no or limited amount of contractors willing to participate. An easy way to make the tender more attractive is to improve the chances of winning by selecting three contractors instead of four. Additionally the tender costs could be reduced by limiting the effort for contractors in the selection phase.

J.2 Example project 2

Project name:	Renovatie Terra Nigrastraat 10 Maastricht
Client:	Rijksvastgoedbedrijf
Description:	Large scale renovation of tax office in Maastricht with 4 floors and 13.000 m^2
Collaboration form:	Design & Build
Contract type:	UAV-GC 2005
Procedure:	Competitive Dialogue (3 rounds, 3 participants)
Prequalification:	- General grounds for exclusion - Suitability requirements: architect which is registered, quality management system NEN-ISO 9000 or similar, experience with successful management of multidisciplinary teams - Selection criteria: based on reference projects, 50% architectural design, 30% design with quality assurance, 20% continuity of primary process
Award Criteria:	Best value for money principle with possibility to have a discount of 2.8 million on the price based on the quality aspects of the design, quality assurance, verification and assurance of continuity
Tender compensation:	Originally 25 000 euro after reconsideration 35 000 euro
Pricing mechanism:	Fixed price
Budget ceiling:	6 900 0000 euro
Number of participants:	3 participants selected

J.2.1 Positioning the project in TDTM

The general position of project 2 in the TDTM is for both the risk/reward axis as the cost/chances axis in the bread & butter quadrant. Figure 28 displays the estimated location of the results.

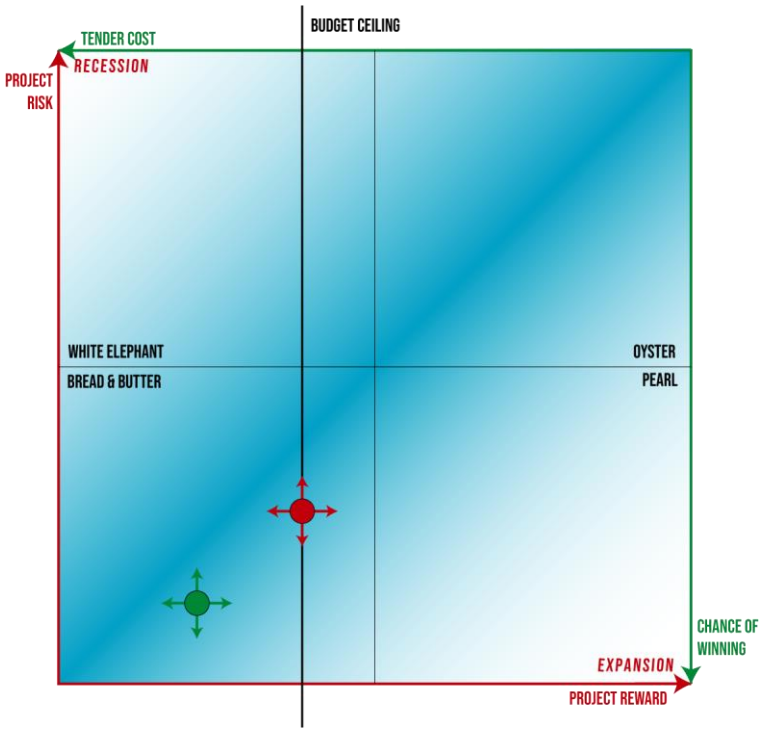

Figure 28: Tender Design Test Matrix Project 2

J.2.2 Project Risk

In order to assess the project risk of this project all the relevant attributes have been considered. To start it is important that a suitable collaboration form and contract type have been selected. The design & build approach in combination with the UAV-gc 2005 standard conditions are applicable in this project. By selecting an integrated project approach the client has transferred the design responsibility to the contractor. Therefore the project risk for the contractor is higher than in traditional cases, however this approach also increases the project size and the contractor is transferred risks he is able to manage himself. In this case the design & build approach is a logical choose since it concerns an existing building making it more complex than a new build.

With regard to the project planning the client has aimed to be finished approximately two year after the project has been awarded. If this and intermediate deadlines are not accomplished a discount will be provided to the client. Although the impact of delays in the project are thus considerable the changes of occurrence are not that high due to the realistic planning. Therefore the project risk with regard to the project planning is limited.

With an integrated project approach, often with an design effort during the award phase, it is important to have sufficient time to prepare the bid. For this project approximately 20 weeks were available for the award phase including the three dialogue rounds. This should be sufficient time to elaborately design and prepare a bid without having to rush. Therefore the chances of additional project risks should be limited.

With regard to the quality level of the tender documents it is clear that everything has been thoroughly thought through by the client. The documents are elaborate and are aimed at avoiding uncertainties for the contractor and thereby reducing additional project risks as much as possible. As for the contract conditions the client takes it responsibility by for example being responsible for acquiring all the permits. Furthermore the standard conditions are mostly followed and only a limited amount of logical deviations have been defined.

As explained before the project risk are regarded in relation to the project size. The (financial) size of this project is clear and fixed. Therefore it is possible to assess how much risk a contractor is willing to take as compared to the project size.

Overall based on this tender it can be concluded that this project has a very limited project risk. The size of the project is reasonable with approximately 7 million. Therefore the project risk can be placed a little lower than average, as can be seen in figure 28.

J.2.3 Project Reward

Like project 1 this project has a budget ceiling and thereby limiting the possible reward of a contractor. The budget ceiling for this project as compared to the size is regarded as a fair budget, which thus includes a fair reward for the contractors. On the other hand the project does not have much distinctive power as a reference project. It is a normal renovation, not very large or complex and without any high sustainability goals.

Therefore the maximum reward based on the budget ceiling is located a little lower than average. Meaning that the project risk/reward is located in the bread and butter quadrant of the TDTM as can be seen in Figure 28.

J.2.4 Tender costs

During the selection phase the client makes use of standardized forms to fill in the reference projects with a maximum of 4 to 8 pages to elaborate per reference project with a maximum of

three reference projects. By making use of a standardized form the effort for the contractor is reduced, however the further elaboration still requires work thus induces tender costs.

With regard to the award phase an extensive dialogue phase is conducted. Although this will increase the tender costs it might reduce the project risks because the contractor can test his solution with the client and discuss how several risks should and could be managed. Furthermore the client has again aimed to reduce the effort to prepare the bid for this project as much as possible by using standard forms to fill price. Also the client defined exactly what is should be included in the bid. This does not only limit the tender costs as much as possible it also makes it easier for the client to compare the different bids. However mostly due to the collaboration form (design effort) and tender procedure (three dialogue rounds) the tender costs for this project are significant.

J.2.5 Chance of winning

As the result of the selection phase the client has selected the three most suitable contractors to participate in the award phase. As followed from this research three is the desirable and minimally allowed amount of competition in public procurement. Therefore the chances of winning can be considered as high.

The selection criteria are furthermore considered as fair. The maximum discount on the price due to high scoring on the qualitative award criteria can amount to 50 percent of the ceiling budget. However due to the quality criteria used it is quite likely that the differences in quality between the different contractors is limited and that in the end the price will be the deciding factor. So in order for quality to really make a difference it is important to use criteria on which a contractor can be distinctive.

Overall the chance of winning for the contractors is considered quite high. However due to the fact that quality will probably play an insignificant role in the awarding decision the chances of winning is regarded a little less positive. Putting the tender risk in the bread and butter quadrant.

J.2.6 General conclusion Project 2

This project is for both axes considered to be a bread and butter project. During times of economic expansion it might be hard to find a suitable contractor. However this is easily fixed because the project risk are already considerably low, the key is to disregard or heighten the budget ceiling. In this way contractors are able to determine their own reward. Because price is still included as an award criteria, the client does not have to fair extremely high prices. Competition between contractors still exists. It is also possible to try and make the project itself

more attractive with regard to potential for future projects. For example higher sustainability goals could be set.

The point on the green axis is also located in the bread and butter tender area. Which in itself can be fine. However again in periods of economic expansion it might be advisable to make the tender more attractive by in this case trying to reduce the tender costs. This can for example be achieved by having a more lean selection phase or reducing the number of dialogue rounds.