Collaboration between project owners and contractors during the tender process in the construction industry

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Abstract

The construction industry is a complex industry, largely due to the size of the projects, the number of actors and its long timelines. (Wu, Zio, & Zhao, 2017). Research suggests that effective collaboration between project owner and contractor is essential for a successful project (Nordstrand, 2000). Improper collaboration may affect the time, cost and quality of a project. Planning is important in the early stages of a project according to Khosravi & Kähkönen (2015). The project owner and the contractor form contracts that act as regulatory documents. (Cheng & Li, 2002). Currently, these specifications are often a way for the project owner to control the contractor. Meanwhile the contractor tries to create loopholes in the documentation to enhance their flexibility (Cheng & Li, 2002 and Hwang & Ng, 2016).

A literature review was made at an early stage of the study followed by a qualitative approach. This approach was chosen to gain deeper knowledge within the field. (Easterby-Smith, Thorpe, & Jackson, 2015). Four case studies have been done with a total of eight interviews. The interviews were conducted through a semi-structured design. They have taken place in southern Sweden and have been implemented with large to medium-sized companies. Further on was the analysis conducted by hand coding as well as comparison with previous research.

In the research has the collected empirical data and the existing research pointed in the same direction. Project owners and contractors confirmed that it was a complex industry and that the cooperation under the tender process is under criticism, the problem with inadequate and incorrect contracts are very common. The study has focused mainly on how self-interest, attitudes and information exchange influenced the collaboration. During the interviews was it
found that these three factors were more or less linked to each other and they affected the collaboration between the parties considerably.

The result of the study shows that the documentation is a major problem for both parties. The reason why bad contracts and tenders occurs can be due to pressure, self-interest and ignorance. To improve this in the future, it is proposed that project owners and contractors should spend more time on the documentations in the tender phase. The factors that affected the partnership positively were transparency in communication, the willingness to help each other and solve problems. Most important was that the parties work towards the same goal created by common interests.
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1 Introduction

This chapter contains an introduction to the subject in the form of previous research as well as a problem discussion. This chapter also include the purpose of the study, the two research questions and the boundary conditions for the study.

1.1 Background

Trust in the construction industry has for a long time been a rewritten subject for researchers as well as for the actors in the construction industry. The industry is a complex industry with several various actors, rules and regulations. The complexity applies both for public and private building projects. The construction industry has with time started to realize that the industry needs to focus more on building trust between the different stakeholders. Additionally, having commitment, good communication, openness and trustworthiness are cornerstones in forming a collaborative culture in the construction industry (Shen, o.a., 2017).

Because of the troubles of creating a good relationship in the early stages during the negotiation phase have the industry tried to come up with strategies to facilitate this. Such as relational contracting, partnering and alliancing. They all are based on that the parties have common project objectives and align goals. These strategies don’t go much further than that they have common goals and work together to an end result. The problem of achieving a reliable relationship between the parties still remains (Suprapto, Bakker, & Mooi, 2015). The study done by Suprapto, Bakker & Mooi (2015) state that even though using these relational strategies like partnering etc. it often leads to practical problems, lack of management commitment, collaborative mind set and lack of common work culture.

To achieve the positive expectations of the relationship must both parties accept the risk of vulnerability in the relationship. Forming affective trust in the relationship requires shared beliefs, credibility, fairness, integrity and non-opportunistic behaviour between the parties (Suprapto, Bakker, & Mooi, 2015). Further on will the transparency of the work, no-blame culture and commitment from the managers facilitate with development of the relationship in positive manners between the contractor and owner. Senior management commitment is
another aspect that has been experienced as a critical part for a more cooperative partnership, they need to establish the right attitudes and commitment within the team (Suprapto, Bakker, & Mooi, 2015). To build a quality relationship is trust, commitment, collaborations and communication key aspects. These aspects are especially critical for shaping a successful relationship between project owners and main contractors. (Pal, Wang, & Liang, 2017).

1.2 Importance of the tender process

During the tender process is where the actors form their collaboration, this is a critical stage for building the future relationship. Research states that there has been too little research about managing relationships during in the tender process. The ability to influence during a construction project is greatest at the start of the project, it is also the most cost friendly time to change something within the project. The longer the project is running, the harder is it to change something smoothly, in addition, the cost of changing something is higher the longer a project is running. (Nordstrand, 2000). It is therefore important to get the right documents at an early stage that match everyone’s expectations. The image below illustrates the cost versus the ability to change during a project.

![Figure 1.1 Opportunities to influence a project cost vs. time](image-url)
1.3 Problem discussion

The construction industry has for a long time been a very traditional and delayed industry when compared to others. The operator’s collaborations are based on contracts that bind them to their responsibilities. One problem is that the actors focus too much on their own interests and not to the relationship’s best when binding the contract, conflicts easy arises then instead. The project owner often uses the contract to control the contractor to work in their preferences and to create a safer position for themselves if changes or disputes would appear during the project. Meanwhile the contractor sometimes aims for a contract with loopholes in, to make themselves more flexible in their own work and to their benefits. This results in problems and disputes between the two parties and preventing the formation of a good relationship (Cheng & Li, 2002). Instead of forming good contracts to align each other, the contracts are often used to assure liability and being able to assign blame to other parties if negative situations occur. The result of this is that the actors focus on their own goals in the contract without having the effect on the projects performance and common goals in mind. (Hwang & Ng, 2016). The construction industry is one of the largest industries, however it is a very slow industry to adopt and develop to the best practises for management and supply chain management. This proves that it requires extra focus to implement more effective and reliable collaborations to make the industry more adoptive (Pal, Wang, & Liang, 2017).

There have been very few previous studies on relationships between negotiators. During this process is it critical to build the base of foundation of the future relationship. The parties go into an agreement, but don’t want to expose too much information since it makes them feel more vulnerable. This is a barrier to improvement of the relationship (Greenhalgh & Chapman, 1998). Disputes between parties in the construction industry often arises but the most common conflict is between owners and contractors. (Chen, Zhang, & Zhang, 2014). The same article states that the conflict between these two parties has in general only negative impact on the project, both on the performance and the cost perspective. (Drexler & Larsson, 2000) also states that the working relationship between the contractor and owner have a significant effect on the performance of the project. In the construction industry does the length of the relationships vary from a day to years, the short and sometimes temporary work agreements result in the contractors having low
profit, the low profit sometimes force the contractor to be opportunists. (Meng, Sun, & Jones, 2011).

The article by Das & Rahman (2010) defines the word opportunism in this industry as a behaviour by an actor that on other expenses seek deals that serve their own self-interest. When the contractor becomes opportunist can they sometimes lie and make false declarations of such factors as price, time or quality (Meng, Sun, & Jones, 2011). The article Love, Davis, Cheung, & Irani, 2011 also acknowledge that the opportunism of the contractor can lead to time and cost over-runs because of disputes that occurs. The low profit, no trust and with incomplete contracts is sometimes happen that contractors cutting corners, holding in valuable information, hiding defects. (Guangdong , Jian , & Xianbo, 2017)

Study done by Suprato, Bakker & Mooi (2015) suggests that various contract types can have different affects to the relationship between the contractor and the owner. This is something that needs future research according to the authors (Suprapto, Bakker, & Mooi, 2015). The different contract types can be distinguished by considerations, motivations and risk sharing. It still lacks empirical research to provide with a model of how relationship factors relate to each other in order to improve the relationship between contractor and owner (Suprapto, Bakker, & Mooi, 2015). People in projects spend too little time and too little focus on addressing the social importance and outcomes of collaborating. There is also too little focus with learning to trust the other party. This result in relationship difficulties, communication barriers, higher risk of failures and higher costs for failures (Hartman, 2000).

There are only few studies that have explored the outcomes of cooperative relationships with its benefits in construction projects (Wu, Zio, & Zhao, 2017). These cooperation between the various partners are critical success factors in sustainable construction projects. Because of shortage of trust in the relationships and uncertainty in the contracts between the operators does failures and risks arise. Trust and uncertainty between operators are extra significant problems in the construction industry because of long project times, large size of projects, high contract costs and because there are so many parties involved in the projects. Failures such as, hiding defects and not taking responsibility for mistakes are failures that often arises in projects (Wu, Zio, & Zhao,
To be able to create value instead in the projects, are trust, understanding and communication cornerstones between the parties in the project. In order to shape a positively cooperative relationship does it require more effort from both the owner and the contractor (Wu, Zio, & Zhao, 2017).

A popular strategy within the construction industry for achieving a more collaborative relationship is “partnering”, where the organisations work toward a common goal. This is a popular strategy between contractor and project owner. Research although explain that sub-contractors and suppliers are sceptical to partnering as a collaboration strategy. The suppliers and sub-contractors see it as a way for the contractor to control their profit margins (Bygballe, Jahre, & Swärd, 2010). The collaborative part with suppliers and sub-contractors seem to be a problem in general. Even though partnering is a common used strategy for better collaborations have research shown that partnering relationships are fragile (Alderman & Ivory, 2007).

The negotiation phase is a critical phase when trying to form a reliable relationship. The contract establishment can be perceived as the contradictory to the building foundations of trust (Bygballe, Jahre, & Swärd, 2010). At the same time is contract a way of making sure what you can expect from the other organisation, so in a way this builds trust and belief (Bygballe, Jahre, & Swärd, 2010). The problem is that the organisations during the negotiations are trying to get the most favourable terms in their own interests, this is not optimal for forming a reliable relationship. To instead increase both the project performance and to form a trustworthy relationship should the participants assure benefits for all partners (Bygballe, Jahre, & Swärd, 2010). According to Bygballe, Jahre & Swärd (2010) have there been too little attention to the partnership between multi-actors in construction projects, especially with sub-contractors and suppliers. The authors are questioning if the construction industry will develop into a multi-actor perspective as in other industries, such as automotive industry where it already is applied (Bygballe, Jahre, & Swärd, 2010).

To conclude our problem discussion have we addressed following important issues. According to both Greenhalgh & Chapman (1998) and Bygballe, Jahre & Swärd (2010) are there to few studies on how to improve the relationship between parties in the tender process. They state that the collaboration during the negotiation phase needs further research. Meanwhile Chen, Zhang & Zhang (2014) argue that there are many disputes
between parties in the construction industry, but most of them are between project owners and contractors. These problems still remain.

1.4 Purpose

The purpose of this study was to gain knowledge about the way project owners and contractors are affected in their collaboration by self-interest, attitudes and information exchanges during the tender phase of a construction project. The study also has the intention to discover what strategies and methods that are used in the collaboration between project owners and contractors during the tender process. Additionally, have we aimed to explore the important factors between the two parties that the collaboration is based on.

1.5 Boundary conditions

- This study will focus on the real estate part of the construction industry and not going into infrastructure.
- This research will only explore the relationship between private operators and not municipal and governmental actors.
- We will limit the study by only looking into projects that are carried out as turnkey projects.
- We will also narrow down the study by focusing on how to improve the collaboration between the project owner and contractor specifically during the tender process.
- No study on the rules and documentations will be conducted in this study.

Figure 1.2 Illustrating which part of the process this paper investigates.
1.6 Research questions

Managing self-interests, attitudes, information exchange during the tender process in collaborations between project owners and contractors in a turnkey project. The main research question:

RQ1: What effect has self-interest, attitudes and information exchange during the tender process on the collaboration between project owners and contractors?

The second research question:

RQ2: What are the most important base of factors during the tender process that the collaboration between project owners and contractors is based on?
2 Theoretical background

The purpose of this chapter is to provide the theoretical background to the topic, the theoretical background consists of previous research. The literature consists mostly of articles published on web of science, and statistics are gathered from credible sources within the industry. A literature study was conducted in the form of a traditional review, the literature was searched through its relevance to the subject. When a key article was found, a snowball approach was used. This means that other key articles are found by following the citation from the original article.

According to Easterby-Smith, Thorpe, & Jackson, 2015, there are two types of literature review, traditional and systematic. Having the traditional review described in a simplified way means summarizing a body of literature and then drawing conclusions on the subject. A distinction between traditional and systematic is that in the traditional review is defined by the sources that the reviewer thinks is relevant and interesting. In this study the traditional study was done to create a relevant research question and also discover gaps in the existing research. Most of the literature was taken from the web of science, as well as some from credible sources that create statistics about the construction industry. These sources are objective and do not produce for a specific company, which makes the sources credible and possible to use as references.

During the study, something called snowballing approach (also called tracing citation) was used. This means that when a relevant and interesting source was found, a snowballing approach was performed after this. This means that other key articles are found by following the citation from the original article. According to Easterby-Smith, Thorpe, & Jackson, 2015, this is an effective way to find relevant literature.

The following key words were used: client, project, owner, trust, tender/bid process, supply chain management, construction, collaboration, management, relationship, negotiation, long term relationship. These key words have also been combined to create a link between the different topics. In the case of web of science, the search engine is sensitive to different endings and similarities, therefore the key words used have also been used with different endings, for example, singular or plural. Different words can be used depending on whether the article uses US or UK spelling, for example bid / tender. Related terms have been investigated as well as synonyms to the different key words.
2.1 Managing the collaboration between project owner and contractor.

Two practises that improves the collaboration between contractor and owner are both "team integration" and “joint working” (Suprapto, Bakker, & Mooi, 2015). Team integration consist of practises and methods that provide a better working atmosphere where the knowledge and information exchange are enhanced. Meanwhile, joint working focuses on the managing of the tasks between the parties in the project (Suprapto, Bakker, & Mooi, 2015). Besides team integration and joint working are also risk allocation and problem solving effective methods for managing the relationships between contractors, owners, suppliers and subcontractors (Pal, Wang, & Liang, 2017).

To strengthen both the relationship and the project’s positive outcomes should the project owner and the contractor improve their resource integration and shape a more effective communication. It will lead to enhanced effects created by the relationship (Wu, Zio, & Zhao, 2017). To establish a better relationship between contractor and the owner should the owner establish a fair and beneficial allocation between the parties in the contract, including optimizing the resource input from both parties and aim to reduce the negative outcomes of moral hazard. To improve the relationship should the owner and contractor establish a trust process/mechanism to improve the information transferability and to improve the relationship. It is also the owner’s responsibility to strive to construct a favourable relationship for cooperation between the two parties (Wu, Zio, & Zhao, 2017). The relationship quality needs to improve between the project owner and contractor, it need improvements among management commitment, team integration, joint working and teamwork (Suprapto, Bakker, & Mooi, 2015).

One popular strategy within the construction industry for achieving a more collaborative relationship is “partnering”. Partnering is “a long-term agreement between two or more parties that aim to achieve common goals and to maximize the effectiveness of the organization’s recourses (Bygballe, Jahre, & Swärd, 2010). To build a more trustworthy relationship in general are tools as incentives and team-forming activities effective, it also improves the behavioural and cultural aspects in the relationship. To improve both the project performance and to form a trustworthy relationship should the participants assure benefits for all partners (Bygballe, Jahre, & Swärd, 2010). To make more informed decisions regarding the collaboration that they are about to go into, the parties should look
at the risk and the benefits. This will lead to less doubt and better trustworthiness among the partners (Alderman & Ivory, 2007).

2.2 Importance of collaboration

A relationship that contains trust, understanding and well working communication between the parties is of importance for the project to result in success. (Guangdong, Jian, & Xianbo, 2017). Another importance of collaboration in the construction industry are the knowledge transfer and learning process that are continuously ongoing (Huemer, 2004). Project teams are less likely to willingly share knowledge and information with other parties when the trust is lacking (Diallo and Thuillier, 2005; Henderson et al., 2016). Another article states that trust, communication and commitment were three key factors and that mutual objectives were important for the project success. (Pal, Wang, & Liang, 2017). To ensure a project’s performance to be effective is it important that all parties can benefit from the project. (Bygballe, Jahre, & Swärd, 2010).

Continuously, according to Suprapto, Bakker & Mooi (2015) is it hard to achieve formal long-term relationships because of the traditional acquisition process. Carrying out a beneficial project can improve the future relationship and it should be a common interest between both parties, owner and contractor, to have this as a goal. The senior management shared attitudes are an important factor for influencing the rest of the participants in the project for relationship expectations in the future (Suprapto, Bakker, & Mooi, 2015). Also, by improving the relationship between main contractors, project owners, suppliers and sub-contractors can it cause a significant cost reduction in the projects, improved performance and enhanced customer satisfaction (Pal, Wang, & Liang, 2017). If the both operators can focus on a common interest and forming a good collaborating relationship, then potential disputes can be handled before arising. Further on will it enhance the information transferability, help solving issues and the parties can use their resources much more effective together (Suprapto M., Bakker, Mooi, & Moree, 2015).

According to Byggtjänst (2018) the lack of communication between different parties in the construction industry is causing higher cost then necessary. The Swedish construction industry economy corresponds for between 275-325 billion SEK per year and stands for 12% of the total employment in Sweden with 450 000 persons working (Sveriges byggindustrier, 2018). Byggtjänst estimate that because of the failures in communication,
the total costs become 13 percent more expensive than necessary. It is clear that this cause large costs when comparing these 13 percent to today’s building volumes that represents 40 Billion SEK every year. The biggest shortcoming as stated in Byggtjänst, 2018 was incorrect documents in the tender process and that the parties get different information. As shown in the Figure 1.1, the possibility to change something with a project is better in the early stage of the project and the longer the time go, the possibilities to (Ryd, 2017). This is confirmed by one article that states that one main problem in the construction industry is that the contracts often are incomplete, and incomplete contracts are a critical factor that results in conflicts (Wu, Guangong; Liu, Cong; Zhao, Xianbo, Jian Zuo, 2017).

2.2.1 Actors in the construction industry
There are several actors within the industry, but the ones presented below are the operators that are relevant for this paper.

**Project owners**
Project owners are the ones that commence the project, finances the project and contracts it out to potential operators (Business dictionary, 2018). The project owners in the construction industry also has the responsibility that the project follows the specific regulations that might be required (Byggiherrarna, n.d.)

**Contractors**
Contractors are the operators that provide the project with the right resources and carry out the project. The resources are such as, goods, material, equipment and personnel that fulfils the requirements that have been agreed upon in the contract with the project owner. The contract also agrees upon price and timeframe of the project (Business Dictionary, 2018).

**Subcontractors**
Subcontractors are secondary contractors who works under a contract with one main contractor. These secondary contractors can work as consultants, distributors of material, production equipment or performing a specific task as installation. (Business Dictionary, 2018)
Architects

Architects are the ones creating the design of the building and other structures. Additional to the look of the building are the architects designing the project to be functional, safe, economical smart and make sure it suits the end user. The architects can be involved in all phases of a construction project, from requests from the client to the finishing of a project (Student Scholarships, 2018).

2.2.2 Project process

The image below is a simplified illustration of how the construction process is conducted in Sweden in general (Nordstrand, 2000). The section shown below is the part that will be relevant to this study.

![Simplified illustration of construction process](image)

Figure 2.1 Simplified illustration of construction process

2.2.3 Project delivery method

There are several contracts within the industry, but the ones presented below are the contracts which is the most common in the industry.

2.2.3.1 Turnkey contract

It is a contract when the contractor has the responsibility of both design and building. The turnkey contract also requires that the building contractor hire company’s or persons with special knowledge within the field. The contractor is also responsible for producing documents and building drawings. They will also stand for the building permits and other permissions. In the turnkey contract the construction company is responsible for the entire project, from the design to the handover of the keys (Byggipedia, 2018).
2.2.3.2 General contract

During this contract is the owner responsible for producing the documents and building drawings, this is often done together with architects and consultants. The contractor that was selected during the procurement, follows the documents and blueprints and then hires subcontractors. In general contract is the owner responsible for the documents and blueprints to be correct and the contractor for the construction is correct (Byggipedia, 2018).

2.2.3.3 Trade contract

In this contract, the owner is the coordinator of the construction. They first produce the documents with the help of architects and consultants. Then they hire all the parties like electrician, plumbing and builders to perform the different tasks. They have the coordination responsibility as well as the ultimate responsibility (Byggipedia, 2018).
2.2.3.4 Partnering

Partnering is no form of contract or a contractual form. It is more of a structured and planned method of working together. There are finished templates in Sweden in order to help the companies structure their collaborations.

2.3 How the construction industry differs from other industries.

The construction industry has always been a very traditional and slow adopting industry when compared to others. The reasons to why it is harder to manage the relationships in the construction industry is because of the long project time, the project size and it’s complexity. These aspects create uncertainty in the relationship and this is why it is a larger challenge with the collaboration in the construction industry.

2.3.1 Complexity

Each construction project is unique in its way and it can be difficult for the various players to predict in early stages what will be required in each project. In addition, the parties have limited resources in terms of time for planning and execution. (Kozlovska, Mackova, & Spisakova, 2016). The same source also means that the different actors must try to anticipate events and problems before they happen. In addition, changes that occur during the course of the projects leads to further changes. That means that those involved must be able to be flexible and be adaptive during the projet. The article Khosravi & Kähkönen, 2015 also proves that the majority of all construction projects have recently become more and more complex and unique. The authors believe that each project has its unique characteristics, which implies a challenge for the management aspect (Khosravi & Kähkönen, 2015). Leijten (2009) states that interdependency among many actors as a factor in why construction projects are so difficult. The author Baccarini (1996) states that complexity of the project affects the time, cost and quality of a project. If the planning is done with accuracy and before the construction starts, then the efficiency of time, cost and quality will improve. Planning is a key aspect in the early stages of a project according to Khosravi & Kähkönen (2015).
2.3.2 Change and additional work (CAW).

CAW is a work method used when changes and additional work are discovered and required during the course of the project. These CAWs are usually unforeseen. The reason why they are so unpredictable may be due to poor planning, lacking pre-work or unforeseen events. All CAWs involve an additional cost for the project owner, CAW’s costs are beyond the budget estimation because they were expected from the start. (Byggtjänst, 2018). There are rules for how CAWs may be used, for when contractors can claim compensation and when they cannot. These rules can be found in the Swedish rulebooks named AB 04 and ABT 06 (Byggtjänst, 2018). The rules for when, how and in which extension CAWs may be used will not be handled in this study.

2.4 Underlying factors for a reliable collaboration

Important to have kept in mind are the risk of the vulnerability in the collaboration. The operators need to have shared beliefs, credibility, fairness, integrity and non-opportunistic behaviour to establish affective trust between the parties. Other important factors are such as transparency of the work, no-blame culture and commitment of the managers to facilitate with development of the relationship in positive manners between the contractor and the owner. (Suprapto, Bakker, & Mooi, 2015).

The senior management’s shared attitudes are an important factor for influencing the rest of the participants in the project for relationship expectations in the future. It is important that the management team establish the right commitment and attitude within the team to establish a cooperative collaboration (Suprapto, Bakker, & Mooi, 2015). One large factor is the contracts, research shows that that incomplete contracts is a critical factor that often can lead to conflicts and disputes. It is important to have the contracts completed before continuing with the project (Wu, Guangong; Liu, Cong; Zhao, Xianbo, Jian Zuo, 2017). According to Cheng & Li (2002) does the project owner sometimes use the contract to control the contractor to work in their preferences. Meanwhile the contractor tries to establish a flexible contract, so they have loop holes that increase their own safety.

The actor’s focus on their own self-interests is another important factor to have in mind. In a lot of the situations does the actors not look at what’s best for the partnership, instead they focus too much on their own self-interests. This leads to a decreased collaboration instead of improving the collaboration. (Cheng & Li, 2002). The transparency of the work
and the information exchange are two factors that can be barriers for developing the collaboration between the parties. The actors are afraid to expose too much information, but this just prevents the potential benefits of the collaboration (Greenhalgh & Chapman, 1998).

Factors that apply specifically for the construction industry are its long project times, large size and the large number of actors. With these factors are trust and uncertainty factors that are extra challenging to manage. It also results in more failures and defects in the project if these factors are not rightly managed. Then further on the parties often avoid taking responsibility for the failures that are carried out (Wu, Zio, & Zhao, 2017).
3 Method

This chapter describes the methods that were carried out during the study. This includes the research design the study applied as well as the research approach. The chapter also describes how the data collection was collected, including sample selection and qualifying criteria for the empirical gathering. The research ethics are presented together with an explanation how trustworthiness is achieved.

3.1 Research design

The research design describes how we have organized our research activities (Easterby-Smith, Thorpe, & Jackson, 2015). Our research consists of a qualitative study by both having conducted a literature study and an interview study. The qualitative study has been carried out as a case study which is important in our case to understand the various views on the topic. First off, we did a literature study to identify the problems within our field and to form our research question. This was done by reviewing several credible studies within the subject. These studies were collected from databases, such as web of science and then we applied the snowball approach to find further key studies within our topic. We found specific themes that we needed to focus on in our research and we formed our final research question. Thereafter we have carried out the theoretical background which provide the main parts of the literature study and gives the important knowledge within our topic. The theoretical background, additionally to the interview study makes the scope of views on the topic even wider.

Going further into the study comes one major part of our research, the interviews which provided us with the various information to understand the situation and how this issue can be improved. Our research design for the interviews consist of the using the same questionnaire for all the people that we have interviewed. The interviews have had semi structured designs to get a deeper understanding from the interviews and to get saturated answers to our research questions. Our aim was also to collect various views on the topic from professional people in the industry, to make our data collection credible and more accurate (Easterby-Smith, Thorpe, & Jackson, 2015). From the interviews we gathered all the data to compare and analyse. Then we saw what the different viewpoints aligned on and what they had different opinions on. The interviews were displayed besides each other to easier analyse their answers. Finally, from the analyses we come up with our answers to
what effect self-interest, attitudes, information exchange on the collaboration in a turnkey contract between project owner and contractor. Additionally, we answer what factors that the collaboration is based on.

3.2 Research approach

The epistemology of this study follows the theory of social constructionism. Social construction is used during the data collection in the interviews, in order to gain a general understanding of the subject and to be able to go into more depth. According to Easterby-Smith, Thorpe, & Jackson, 2015 is social constructionism good for case studies, partly because the interviews mostly consist of words and that it describes human feelings and experiences.

Our research has carried out multiple case studies on the topic, exploring what various companies’ opinion were on the subject. In the case studies have we looked at a smaller number of companies but more in depth of what they have to say. The data has been collected both by an interview study and a literature study. With the literature study have we looked at what the existing literature says about the subject, comparing this with our interviews to get a clearer vision on the topic. The literature study consists of public domains, company reports and journal articles.

3.2 Data collection

3.2.1 Sample selection

Our research design consists of a convenient sampling design and snowball sampling. The convenient sampling means that the samples are selected just as the name suggests, easily accessible (Easterby-Smith, Thorpe, & Jackson, 2015). The first sample in this case were assisted by personal contacts within the construction industry. When a study is adapting the convenient sampling, it may be that it becomes a mirror of the researchers’ personal network rather than a representative sample. (Easterby-Smith, Thorpe, & Jackson, 2015) To avoid this, the selected samples have been run through a number of criteria. The samples had to meet the predetermined criteria, otherwise they would not be included in this research. The criteria are presented under the next heading 3.2.2.1. After the first contact with a qualifying sample, this contact was asked to name another individual with the same position or equivalent criteria. This is so-called snowball sampling; this method is
very effective and works well when there are not too many individuals meeting the criteria (Easterby-Smith, Thorpe, & Jackson, 2015).

3.2.1.1 Qualifying criteria

The following criteria were chosen for our research, this will ensure that the scope of the research does not become too wide which will make our research more qualitative. It also makes the information we collect more credible and as relevant to our topic as possible. Additional to these criteria’s we made sure that the people we have interviewed had enough experience within the field to have valuable outputs of information.

1. Companies located in south of Sweden.
2. Private companies.
3. Owner/construction company that have within three years been part of a tender process.
4. Owner/construction company that have within three years been part of a tender process with another private actor.
5. Size of the companies: Medium and large companies.

Swedish follows the European Commission's guidelines regarding the definition of company size. We have therefore categorized the companies in this study along these guidelines. The guidelines are presented below in table 3.1.

<table>
<thead>
<tr>
<th>Size of company</th>
<th>Number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro</td>
<td>0–9</td>
</tr>
<tr>
<td>Small</td>
<td>10–49</td>
</tr>
<tr>
<td>Medium</td>
<td>50–249</td>
</tr>
<tr>
<td>Large</td>
<td>249–</td>
</tr>
</tbody>
</table>

Table 3.1 Company sizes definition.
Source: (European Commission, 2018)

3.2.1.2 Motivation of chosen criteria

Private companies were chosen as qualifying criteria because the regulations differ between private and public actors. Medium and large companies handle tender processes differently,
for example, a medium sized private company handles often tender processes more frequently than smaller companies. The reason why companies were chosen in southern Sweden were due to availability. The research was done in Jönköping at the Jönköping University, which also was the base for the researchers. The participating companies would have participated in a tender due to the last three years. The information collected must be correct and reasonable, a time frame was set to get data that is modern.

3.2.3 Interviews

According to Easterby-Smith, Thorpe, & Jackson, 2015 is it beneficial to conduct interviews in person compared to telephone interviews or skype interviews. This is because, during an interview that takes place face to face, the interviewer can also perceive body language and it is easier to establish trust between the two parties.

The interviews took place in the company’s premises, which can contribute to a more revealed and honest gathering when the interviewee is in well-known areas. Prior to the interview, the interviewees were asked if it was alright that the conversation was recorded, recording is a good way of ensuring credibility (Easterby-Smith, Thorpe, & Jackson, 2015).

The people that we have interviewed received brief information about the interviews, just so they could prepare themselves briefly before the meetings. The reason for this was because we wanted to get as much information out of the interviews as possible. The participants to the interviews were chosen from compassing the quality criteria’s and having the right experience to give us credible information for our topic. The interviews have been performed as semi-structured interviews where we have prepared more open questions to create open dialogues with the interviewees on the subject to avoid “yes” and “no” answers. We had a set of question prepared for the interviews but in a flexible manner, as supposed in a semi-structured interview. In this research, four cases have been conducted, therefore a semi structured approaches were adapted. (Easterby-Smith, Thorpe, & Jackson, 2015). The interviews go more in depth to provide good data for qualitative analysis. Before the interviews have we as researchers also looked into interview techniques, to utilize the interviews as much as possible.

The article by Kvale 1996 expresses the importance of interviewing and asking questions with good background knowledge and insight within the subject. Mainly because we then could ask relevant follow-up questions and to understand the interviewee and thus not
need to interrupt unnecessarily. The personas who conducted the interview each have their bachelor within the subject that it is concerned and thus were well-acquainted with the terms and languages used in the industry.

This is one of three important factors according to the article Shensul, Schensul, & LeCompte, 1999, these three factors are important to ensure a good quality.

The three factors are:

a) Keep a good flow of the interviewer’s story
b) Keep a positive relationship with the interviewee.
c) Avoiding bias from both the interviewer and the interviews

(Shensul, Schensul, & LeCompte, 1999) & (Qu & Dumay, 2011)

3.3 Data analysis

Analysing case studies is often referred to OTTR, that means “observe”, “think”, “test” and “revise” according to (Texas State Auditor’s Office, 2015). The data that we have collected from the interviews have been observed. Further on has the data been analysed by hand coding, hand coding is used when there is a rich amount of qualitative data. The data is analysed into codes and themes (Easterby-Smith, Thorpe, & Jackson, 2015). We have also thought about if there is any missing information from our data gathering that we need to search for additionally data. We have then finally revised the data to analyse and review our findings. In our analysis we verify that the data support our theoretical background and that they are applicable. We have compared our findings to see what has been agreed upon and what differences that has been pointed out between the findings.

Data overload is often a problem in case studies according to (Kohn, 1997), we have made sure to only use the information that we have found useful for our research. Data displays are often carried out to summarize and compare larger amount of information (Kohn, 1997). We have displayed our interviews besides each other to easier compare what differs in their answers and what they have aligned on, so called cross-case analysis. From analysing our literature review have we found and created themes into our research.

3.4 Research ethics

In our research have we followed the key principles in research ethics by Easterby-Smith, Thorpe & Jackson (2015). Before each interview began, the person that was going to be interviewed was informed about the ethical principles. This meant that the participant
throughout the interview had the opportunity to end the interview, the interviewee was additionally informed about how the information from the interview were going to be used. The request for recording was also made before each interview. It is important to protect the anonymity of all the individuals that has participated in our research. Protect their identity and keep the company anonymous, this in order not to reveal important strategic benefits as just those companies use. We have also made sure to keep everything confidentially that our participants have requested, we protect the information that they have provided. During the interviews and the data collection, participants have been asked if they want to participate in the first position. During the interview, participants have had the opportunity to end the interview whenever they want. We have made sure to be honest with all our findings and to be transparent in our research. We stay honest to what we have read, and we only cite what we have read as Easterby-Smith, Thorpe & Jackson (2015) refers to. To avoid any misleading in our work have we made sure to establish credibility and no false reposting in our data transfer. A key aspect in our research ethics is to ensure no plagiarism, it has been established by correctly identifying and naming the sources used in the study. Finally, we have ensured that the participants in our research will come to no harm and respective their dignity.

3.5 Trustworthiness

In terms of trustworthiness, Guba, 1981 has set up four quality criteria to ensure trustworthiness, credibility, transferability, dependability and confirmability. Credibility can basically be described as the confidence in the “truth” of the findings. This means that the study is described in great detail and that underlying thoughts is shown as well. Studies with high credibility have been investigated with what was meant to be explored. Meaning that relevant and safe data has been used during the study. (Shenton, 2004 & Guba, 1981). By conducting a meaningful sampling, only skilled and relevant individuals in the construction industry have been interviewed. This is one of the steps of merely examining what sought to be investigated, the article by Graneheim & Lundman, 2004 suggests that sampling criteria are important for strengthening credibility for the selected candidates.

Transferability means that the findings made in the study can be duplicated in other contexts as well, by achieving a detailed and clear description of the methods used and how they are used. The article by Shenton, 2004, Cole & Gardner, 1979 and Marchionini & Teague, 1987 states that it is important that the limitations made during the course of a
study are documented and well written so that the same survey can be done by others. The limitations in this study are reported in the area it concerns, and criteria for the limitations is also documented.

Dependability means that the findings that have been made can be repeated. This means that if the study were to be carried out again the same would result. In order to achieve this, interview questions should be reported, and a clear presentation of empirical data should be presented. To enhance the dependability, an audio file can be used to record the interviews (Guba, 1981 & Shenton, 2004). In this study the interview questions are presented as an appendix and all interviews were recorded with the participants’ knowledge and approval. Last but not least of this chapter comes the confirmability. This explains how neutral the study will be. For example, to get a high confirmability is it important that the interviewees not are affected by the researchers. It is also important that the writers’ opinions, personal interests and bias do not affect the results of the research. It is further on important that the results are formed by the participants and not by those interviewing. (Shenton, 2004) In order to achieve high confirmability, it is important to understand the own influence the writer has on the others. In order to further confirm the credibility, an external perception of personal interests in the project can be read / listen to detect errors. During the study, external persons have read and commented on the report, and a supervisor from Jönköping International School has been guided the study during the process.
4 Empirical Data

This chapter presents the empirical data collected through a total of eight interviews involving four companies. The empirical data describes the opinions and views of the participants without any analytical parts included.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Years of experience</th>
<th>Owner/Contractor</th>
<th>Profession</th>
<th>Size of the company</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>20</td>
<td>Owner</td>
<td>Project Manager</td>
<td>Medium</td>
<td>A</td>
</tr>
<tr>
<td>A2</td>
<td>10</td>
<td>Owner</td>
<td>Site Manager</td>
<td>Medium</td>
<td>A</td>
</tr>
<tr>
<td>B1</td>
<td>9</td>
<td>Contractor</td>
<td>Project Engineer</td>
<td>Large</td>
<td>B</td>
</tr>
<tr>
<td>B2</td>
<td>25</td>
<td>Contractor</td>
<td>Project Manager</td>
<td>Large</td>
<td>B</td>
</tr>
<tr>
<td>C1</td>
<td>17</td>
<td>Owner</td>
<td>Project Engineer</td>
<td>Large</td>
<td>C</td>
</tr>
<tr>
<td>C2</td>
<td>21</td>
<td>Owner</td>
<td>Project Manager</td>
<td>Large</td>
<td>C</td>
</tr>
<tr>
<td>D1</td>
<td>5</td>
<td>Contractor</td>
<td>Site Manager</td>
<td>Medium</td>
<td>D</td>
</tr>
<tr>
<td>D2</td>
<td>10</td>
<td>Contractor</td>
<td>Project Manager</td>
<td>Medium</td>
<td>D</td>
</tr>
</tbody>
</table>

Table 4.1: Participant information

Eight people from four different companies were interviewed on a deeper level, these people consist of both project owner's and contractor's. It is important to understand both perspectives from both the project owner and the contractor, therefore both parties were interviewed.

<table>
<thead>
<tr>
<th>Company</th>
<th>Actor</th>
<th>Size</th>
<th>Number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Project owner</td>
<td>Medium</td>
<td>240</td>
</tr>
<tr>
<td>B</td>
<td>Contractor</td>
<td>Large</td>
<td>158</td>
</tr>
<tr>
<td>C</td>
<td>Project owner</td>
<td>Large</td>
<td>210</td>
</tr>
<tr>
<td>D</td>
<td>Contractor</td>
<td>Medium</td>
<td>110</td>
</tr>
</tbody>
</table>

Table 4.2: Company information
Qualitative interviews are more beneficial compared to quantitative interviews when the researcher need to know more in depth about the participants thoughts and feelings. (Easterby-Smith, Thorpe, & Jackson, 2015) This resulted in that the interviews were chosen to be longer and deeper but with a fewer participants.

![Diagram of Project owners and Entrepreneurs](image)

Figure 4.1. Sectioning of interviews

The first idea was that three companies would be chosen, which had succeeded well in collaboration and three that succeeded less well. This was to get a good spread on the sample selection and get a wide perspective. In the early contact with the companies, it was found that all of the chosen companies have had experience of good collaboration and poor collaboration.

Four companies where interviewed and two participants were interviewed per each company as shown in figure 4.1. After that the third participant had been interviewed, the same answers started to occur. When the fourth company had been interviewed the answers aligned to a high level. As the results of the interviews began to resemble each other, the collection of the empirical data was finished after the eighth interviews.

Below, the empirical data is reported under each question. The interviewees will be presented in the form of A1, A2, B2, etc. The referencing can accord in text, example A1 and A2 believes” and as well as after statements. If two or more people say the same, it will be reported by placing their numbers in brackets after the statement, example (A2, C1, D1). During the interviews there was a term "CAW" that occurs a lot, it stands for Change
and Additional Work. This is something that contractors use if changes occur during the course of construction. C2 explain CAW in a simplified form as following: “We (project owners) provide a request document that the contractor then makes a bid from. An example of such situation, during a project, it appears in that the request document did not have external doors requested. The contractor is then entitled to a CAW because of the doors was not included in the basic inquiry. The CAW is sent to the project owner and the project owner has to pay for it.

4.1 RQ1: What effect has self-interest, attitudes, information exchange on the collaboration in a turnkey contract between project owner and contractor?

4.1.1 Self-interest
At the early stage of the interview phase, it was found that the project owners experienced more uncertainty and unreliable experience during the tender process and also afterwards. Participant A1 expressed that the uncertainty depends on which contractor who submitted the tender, but it was always the case that the contractors looked to their own best. A1 stated that it is a must for a company’s survival. However, A1 claims that it has in the recent years have the companies become more aggressive towards each other because of their own interest. "The company does not hesitate to throw another company under the bus for the pursuit of money" (A1). C1 and C2 who also speak for the project owner side mean that contractors sometimes submit tenders that they know are insufficient. The contractor understands in an early stage that the project owner has forgotten important factors in the request document but choose to keep it secret. "A contractor can submit a tender of approximately 100 million SEK, and as time passes a lot of CAWs starts to occur and the total amount of the project will end at 130 million SEK" (C1). This is one of the strategies used by contractors to get more money in some cases, the contractor leaves a bid so low that they would financially lose money but will be compensated by CAWs (A1, A2, C1, C2). B2 confirms what the project owners said, some shares of the work consist of CAWs. B2, one of the contractors claims that it is not as extreme as the project owners are experiencing. "If we see that there are missing parts in the specifications or if things are missing in the request document, we often contact the project owner, so they have an opportunity to make changes at an early stage. Sometimes it may result in that we are assigned with a project because we were honest" It is important to find a proper balance between looking for their own interests and at the same time getting a joint venture that
favours both parties. (A1, A2, B1, B2). The problem with incomplete documentation can be seen as good opportunities for contractors. One of the contractors is claiming that the relationships is affected much by previous experiences if they have collaborated before (D1). Own interest can also be shown by the companies taking on jobs they sometimes do not have the capacity to handle. D2 believes that sometimes companies accept more projects than they can manage, could be in the aspects of resources or economically. "We do this to make sure we have enough jobs. When we have too much to do, we prioritize the projects with lower revenues less" (D2). A2 believes that time pressure and the tight economy in projects make companies work for themselves and not for the project's results. "Some construction companies that I have worked with have promised incredibly much during the first contacts in their tenders, but they do often not live up to the expectations. They also get away with it by finding gaps in the regulations. This means that the trust is generally low during the tender process (A2). C1 has also found that the definition of truth is not the same for all. "It took me a couple of years in the industry before I realized that everyone has their own definition of facts and truths. At a construction meeting, two people can hear the same story and they perceive it completely different. This means that everything has to be confirmed in written form, if it is not written on paper, it has never been said. This I learned the hard way. The few deals I made without documentation in the beginning of my career then proved completely useless when something in the project was changed. It was as it never had been said and because there was no evidence, the contractor got away with it."(C1)

Everybody who participated in the interviews pointed out at some point during the interview that much in the tender process depends on the individuals (A1, A2, B1, B2, C1, C2, D1 & D2). Some individuals for an example, promise things they cannot deliver (A2). "Some people's reputation are decisive, it can be both good and bad. If it's a negative reputation, then I am extra careful and double-check all that the person says (C1). The same person also expresses this as: "For some in the industry, it is worth winning every war at any price. If so, they submit a tender that they would lose money on without the CAWs. The result of this is that the contractor then creates costs (CAWs) during the construction period that we project owners did not count for when we created our budget". According to A2, contractors sometimes can justify their bad moral by claiming that it must be good economically. "It's okay to lie, hide mistaken and blame others as long as one's own business is still doing well. This does not apply to all companies, but it occurs" (A2). "Since
I started my career, I find that there are smaller margins in projects, especially regarding the profitability of contractors. The margin and time of a project have changed a lot, time and money are almost the same thing in this industry. If you save time you save money" (C2). This statement is also supported by A1, A2, C1, D2. Although it is stated by all that there still are many good collaborations in the industry as well (A1, A2, B1, B2, C1, C2, D1 & D2). "If both parties find similar values and work towards a good end product and not just money, then we would come a long way" (B2). D1 and D2 think that straightforward directives, open communication are good values for the other party. "The worst thing is when lies occur, people give parts of the truth, deliberately omit important parts and keep information hidden. In some cases, we have resolved conflicts in court, this is an incredibly demanding and elaborate process" (D1).

As all operators look to their own best in the tender process (A1, A2, B1, B2, C1, C2, D1 & D2). D2 means that the operators rarely do anything for the other part’s sake, this applies to the situations of both project owners and contractors. Interviewee B1 explains that sometimes their company just leave a tender on a project that they are not interested in just to create a relationship with a promising project owner. This strategy is for own self-interest but an efficient way to build relationship with project owners, it complicates the tender process although with misleading bids. C2 means that the self-interest lowers the quality of the project since the project owners and contractors want to lower the costs as much as possible.

4.1.2 Attitudes
B1 thinks that the attitudes have been improving among both contractors and project owners the last ten years, but it still needs further improvements. B1 means that operators need to have the right attitude towards the project owner since they can’t afford having a bad reputation of collaborating in smaller regions of Sweden. Comparing to larger regions in Sweden does B1 perceive that the attitudes towards collaborations get worse. This is the case because there the actors don’t need to care about their reputation as much. D1 & D2 think that the relationship building is fairly prioritized. Although A1 & C2 has a different view on this, they believe that the attitude to prioritize the relationship building more during the tender process should be better. Many of the interviewees (A1, B1, B2, C2 & D2) agrees that it would be good if the project owner and the contractors could meet during the tender process. They believe with this attitude that it would benefit the
trustworthiness of the relationship during the tender process a lot. D1 further on thinks that the attitude about doing favours for the other party would enhance the collaboration a lot. D1 additionally thinks that this attitude needs much more improvements. B1 states that sometimes it can be difficult to know what the client and the project owner really want. "Sometimes it's not certain that the project owner even knows what he / she wants. Sometimes these projects can be really successful because we are genuinely discussing proposals. We as contractors can contribute our knowledge and experience and the customer can put his/her thoughts on paper. This makes it easier for us to manage the project and then it feels that both parties create a common goal "(B1)

C1 means that the attitude is important when you come across and work together. "I've been working on a project where the whole project gone completely wrong, but the individuals involved have still maintained a profound and good attitude." This also agrees with A2 who states, "It is incredibly important to be service minded and committed, making the work easier for all. Trying to solve problems in the best way for both parties. And to be responsive and humble, above all humble. Nobody is ever completely faultless "(A2). According to (A1, A2 and C1), humility and mutual respect are important. "It is important that both parties understand that errors can always occur” (C1). Then the most important part is how they act when they realize that they have made a mistake. If they are honest and acknowledge their mistakes early, then it is usually easy to solve the problem together.” (C1)

4.1.3 Information exchange

B1, B2, C1 and D2 states that the communication between the project owner and the contractor are crucial during the tender process. This is the foundation of the future collaborations. D2 means that the project owner must inform exactly what’s the expected with the quality and to be more specific in the specifications. Otherwise this is a big factor that can lead to CAWs, clear communication in the tender process are therefore crucial (D2). B2 believes that a more traditional approach would create a better information exchange during the tender process. The traditional approach means that the project owners and the contractors meet face to face during the tender process. This also ensures trustworthiness according to B2 since the operators can show reference projects, strong competence for the projects and other relevant parameters. D2 explains that their company tries to meet project owners more often to improve the relationships between the operators and to meet more new project owners. A2 refers to the transparency in the work
during the tender process as a key factor to enhance the relationship building. A2 explains further that this is important with both the specifications and in the communication. The transparency is needed because often the conflicts are built upon misunderstanding of expected quality, misunderstandings in documentations or in the communication.

4.1.3.1 Documentation
C1 mentions that documenting about what is expected from both the contractor and the project owner is crucial. It is not enough to explain it verbally, then it is a big chance that it might result in CAWs in the end. The expectations and criteria’s must be set in the documentation during the tender bid, already from the beginning. The statement above does the contractors B1, D1 & D2 also agree with from the contractors’ perspective. Early stages and its documentation are not prioritized at the moment, this is confirmed by participants A2, C1 and C2. They all think that too little time is spent by both contractors and project owners during this phase. "It is currently more important to get started quickly rather than get started properly" (C2). Some of the contractors say that they sometimes feel that the project owners deliver a bad request document on purpose. (B1, B2) "I do not know if it is due to shortcomings in experience and knowledge, or inadvertently, but some documentation is really unclear and fuzzy. This makes the handling of the tenders much more difficult, and the project owner also believes that we can create a correct bid in 30 seconds. " (B2). All interviewees agreed that the documentation currently is inadequate, however they consider it to be inadequate in different ways. A1, A2, C1 & C2, all project owners, mean that the documentation from them may sometimes be incomplete and therefore a dialogue with the contractors are important. Contractors B1, B2, D1 and D2 believes that one part of the problem is the incomplete documents, that need to be discussed with the project owner otherwise will it create disputes. However, common denominator is that the documentation can and should be better. D1 suggests that in general, the simpler the tender is, the less knowledge the project owner has. "Some offer that we have received has been no more than a sketch with just a few lines, and then we get two weeks to create a whole project with everything that should be included. A reasonably smart person should understand that it will become a problem." This is in line with what D2 express." When we sometimes see the request document that is too bad, we choose to refrain from even submitting a tender. It is usually problematic to work with such customers (project owners).
4.2 RQ2: What are the most important base of factors that a collaboration is based on?

4.2.1 Critical factors

All (A1, A2, B1, C1, C2 & D2) find that incomplete tenders are one of the main critical factor that leads to less successful collaborations. Everybody also agrees that a complete tender is another main factor for a successful collaboration. Additionally, all interviewees (A1, A2, B1, B2, C1, C2, D1 & D2) feels that clear communication is another critical factor for a good working collaboration. This includes both clear answers and clear questioning. A1 means that it is important that the contractors ask questions if they see something that is missing in the specifications or if something is unclear. Unfortunately, the case often is the opposite, the contractors might ignore if there is something missing just because it will create CAWs in the end. Many of the participants (A1, A2, B1, B2, C1 & D2) find that self-interest is another critical factor for the collaboration. A2, B1, B2 and C1 additionally adds that the individual plays a significant importance to the collaboration. They mean that the collaboration can depend a lot on which person they are communicating with. Another critical factor that D1 pays attention too are the technical factors from the specifications in the tender process, such as drawings that are incomplete which can create many issues in the collaboration. B1 thinks that being professional, having complete specifications, being service-minded and the right individual on the right place are some of the most important factors for having a successful collaboration already from the early stages in the tender process.

According to B2, the interviewee believes that the attitude of the various actors plays a key role. "The project where the project owner knows one solution to something but at the same time is open to suggestions to create smart solutions usually seems to be a good combination."(B2) This is also supported by the project owner A1, who argues that open communication is one of the most crucial factors a contractor may have. "Some projects do not go as expected, it can be due to many factors that no one could have predicted. For example, challenges of a material in the ground, this can cause unexpected costs. I appreciate if the contractor is keeping an open and honest dialogue with me, so I know that CAWs will come in the future. Some contractors will not say anything and then there will be a big lump sum at the end of the project". Contractor B2 also says that it is important to have a good dialogue, "my experience tells me that it's good to inform the project owner as
soon as possible about CAWs. Nobody likes to be surprised at the end of a project"(B2).
A1 states that the transparency is a key factor to enhance the relationship between the
project owner and the contractor during the tender process. Transparency in both
documentations and communication would avoid a lot of the future conflicts since
misunderstandings of expected quality, specifications and communication often are reasons
to the conflicts. Open dialogue and honesty were something that all participants (A1, A2,
B1, B2, C1, C2, D1 & D2) expressed was important, partly because honesty is a shortage in
the industry in general today. "If the relationship between the parties was to be more
transparent, many unnecessary and infected discussions could be avoided. I know many
times I wish I had known at a previous stage what problems the project the owner was
facing, then I could offer my help earlier "(B1). B2 mentioned that a factor that could
improve the collaboration would be face to face contact, today there are few personal
contact contacts during the tender process. The face to face contact would help build
better trustworthiness between the parties and generate a better understanding for each
other (B2). C1 stated additionally that knowing the parties better would help a lot in the
tender process, to make clear what expectations the both operators have. A1 & A2 states
that a major factor in order to have a good collaboration is the trust between the project
owner and the contractor during the tender process. Otherwise are there risks that the
operators look too much to their own interest and don’t think about the other party at all
(A1). A2 expresses further that it is important to have a well working work climate and
respect for each other. It too often becomes just about the money (A2).

4.2.1.1 Time
B1 and D2 both pointed out how important it was with enough time to make the bids in
the tender process. "If you spend 3 weeks on a tender, the offer will get a completely
different quality compared to if it has been completed in 1 week." D2 explains further that
if there is more time there is also the opportunity to call the project owner and ask
questions and discuss the tender. This is in line with what C1 says: "In the projects where
have good economy and without stress, the preparation of documentation, directions,
requirements, etc., was of a very high quality. This enabled us to get fair and correct bids
from the contractors ". B2 states that to improve the relationship during the tender process
does it require to have the appropriate time to be able to provide accurate construction
documents, this is crucial according to B2 for having a successful project and relationship
during the project. It requires more understanding from the project owner that the
contractors need more time during the tender process for the project quality and the relationship quality to improve. D1 says: "At the moment, everyone is under pressure on many levels, everyone from the project owner to the wood panel supplier. I think this is because money and time are so pressured." B1, B2 and C2 consider that the time generally is a major reason to why the failures occur. Many errors in the tender process could have been avoided by providing more time from the project owner to the contractor in the tender process. Time is integrated into everything. The time was mentioned by A1, B2, C1 and C2 as an important factor regarding collaboration. "Time is money in this industry, like many other industries. Which means that when there are shortages of time, then the quality is getting inferior. Additionally, it also has a negative effect on the working environment, cooperation, etc." (A2).

4.2.1.2 Common interest

Many of the participants (A1, A2, B2, D1 and D2) mentioned that they experienced good results and well-functioning collaborations when everyone in the project had the same values and goals in the project. B1 and D2 both mentioned that it is an advantage if both parties have something to win from the project. According to C1, this can be attributed to a good economy in the project. A1 expressed, “The best strategy is to start a dialogue between the contractors and us (project owners) as early as possible in the project. We can then start to discuss about the best solutions and working methods for the project. Everyone has different experiences and skills. If we merge our knowledge and establish shared commitments, then many problems can be discovered at an early stage, i.e. the tender process” (A1). A2 mentioned that there are different ways of working. "I understand that your work concerns turnkey contract, but I want to mention partnering. In partnering, the partners collaborate in a completely different way, then we become more like a unit instead of different companies". D2 thinks that the attitude to help with problems is an important property. This goes both ways, important for both the contractor and the project owner. "When the project owner has had a good attitude to the collaboration, we have had much better problem solving in the project. Sometimes when we (contractors) propose changes, the project owner can be very vigilant and doubtful. When the project owners know we share the same interests as them, they are much more collaborative". All participants (A1, A2, B1, B2, C1, C2, D1 & D2) mentioned that the construction industry and negotiations and documentation are incredibly complex, and therefore it’s important to help each other. D1 experienced that the industry sometimes
acts as domino effect, in case a person/company/organization does not do their part, then several other actors will be affected as well. "Mistakes can be made by anyone, but it is important that you try to solve them afterwards. If all actors have the same goal with the project, then you work together for the same results and then everyone be willing to go the extra step to solve the problems" (D1). D2 explains that their company try to find a price of the project during the tender process that will suit both parts. Since the price is one of the major concerns in the tender process is this important to make both party happy about it for a good collaboration (D2).

4.2.2 Barriers for the collaboration
From the interviews have several different barriers for a good collaboration been identified. B2 states that the complexity of the project sometimes can be a challenge in the tender process. Sometimes there are too many actors, which makes it hard to establish a well working collaboration between the operators. Another challenge is the documentation, B1 explains that if something is left out from the documentation it can lead to conflicts between the contractor and the project owner. If a specific task is not included in the documentation it often leads to additional costs (CAWs). Neither of the parties wants to take responsibility for these CAWs and it instead leads to conflicts. This is why documentation can be a barrier for a good collaboration (B1). A1, A2, B2 and C1 all agree that CAWs can be a large barrier for the collaboration between the contractor and the project owner in the projects. Not only for the current collaboration but also for the future relationship. B1 explains further that the complexity of working with people internationally is much more challenging. This you notice from the early stages in the tender process, many countries outside Sweden have much more strict directives that are required in the tender process. B1 therefore states that the collaboration with project owners abroad are much more complicated because of the higher requirements (B1). D1 also finds it hard to develop the collaboration with the project owner during the tender process because the project owner is choosing between several contractors.

A1, B2, C2 & D1 states that the relationship building is not being prioritized enough during the tender process. B2 explains that the relationship building was more prioritized back in days, then is a more traditional tender process where you met each other and accounted relevant information for the project. B2 explains that the relationship building was more prioritized back in the days. Then it was more of a more traditional tender
process where you met each other and accounted relevant information together for the project. Then you also start to form the relationship in a better way. Today the relationship building during the tender process is a barrier for the collaborations between the project owner and the contractor (B2). D1 stated that unclear documentation from the tender process can sometimes be a strategy for the operators to escape a situation or to avoid costs. This becomes as a problem for the collaboration and is a substantial risk to potential conflicts between the parties (D1). B2 expresses also in the interview that the specifications from the project owner are sometimes so lacking that it becomes as an obstacle for the collaboration.
5 Analysis

This chapter will present the analysis of the empirical data. The analysis was performed by comparing the information from the empirical data with the theoretical background and the problem discussion. The analyse will present what effects self-interest, attitudes and information exchange has on the collaboration. The analyse will also present the most important base of factors for the collaboration between the project owner and the contractor during the tender process. The analyses have been done through hand coding which have been divided into following themes.

5.1 RQ1: What effect has self-interest, attitudes, information exchange on the collaboration in a turnkey contract between project owner and contractor in the tender process?

Table 5.1 below summarizes the main concern regarding the analysis for RQ1.

<table>
<thead>
<tr>
<th>The major concerns RQ1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self interest</strong></td>
</tr>
<tr>
<td>• Lies and hidden information.</td>
</tr>
<tr>
<td>• Opportunism.</td>
</tr>
<tr>
<td>• Contracts with loopholes that results in CAWs.</td>
</tr>
<tr>
<td>• Creates uncertainty.</td>
</tr>
<tr>
<td>• Main reasons: Time pressure, money and opportunism.</td>
</tr>
<tr>
<td><strong>Attitude</strong></td>
</tr>
<tr>
<td>• Positive attitude: Transparency, responsability, willingness to help, problem solving, honest and open communication.</td>
</tr>
<tr>
<td>• Negative attitude: Lies, do not acknowledge mistakes, try to hide errors, avoid responsibility and hide information.</td>
</tr>
<tr>
<td>• Individual differences.</td>
</tr>
<tr>
<td><strong>Information exchange</strong></td>
</tr>
<tr>
<td>• Incomplete and insufficient documentation.</td>
</tr>
<tr>
<td>• Mistakes in the specifications creates consequences during the project.</td>
</tr>
<tr>
<td>• Consequences: Disputes, time delays, additional costs and inferior quality of the project and the collaboration.</td>
</tr>
<tr>
<td>• Different individuals promise different things.</td>
</tr>
</tbody>
</table>

Table 5.1 Summary of the major concerns for RQ1
5.1.1 Self-interest

It is clear after having compared the empirical data and the theoretical background that both the project owners and the contractors look only to their own interests when forming the contracts. According to the empirical data, the trust from the project owner towards the contractor was perceived lacking during the tender process. Many of the interviewed project owners believed that the contractors only looked to their own best. This is in line with previous research by Hwang & NG, they mention that some actors focus so much on their own interest that they ignore what effect this has on the project and the goal of the project.

Bygballe, Jahre, & Swärd, 2010 expressed that it is a problem that organizations and companies try to create as favourable contracts as possible for themselves. This can result in poor cooperation. The participated project owners from the interviews explains further that they often experience uncertainty and fear of cooperation with contractors. This was felt mainly because the contractors had the opportunity for CAWs and it enables the contractors to enter unreasonably low prices in the tenders, postpone work or demanding money in the end of the project. This is also reinforced by the study of Cheng & Li, 2002, they argue that the contracts are used as a governing tool for the project owners to make them feel safer in the future project. The result of this is that the contractors have instead found loopholes in the contracts to avoid this control. It means that the contractors can sometimes demand more money, not completing their work or carry out the work with lack of quality. The article Das & Rahman, 2010 argues that some contractors can be opportunists, which means that they act in a way that is at the expense of the other party. One of the interviewed contractors mentioned that contractors sometimes even accept jobs they cannot handle, they might not have enough time, money or resources. The contractor becomes opportunist and they can sometimes lie, make false declarations of for example price, time or quality (Meng, Sun, & Jones, 2011). Reasons for the contractors wanting to do the project anyway can be because they want to build a relationship with the project owner or just because of the incomes.

5.1.2 Attitudes

All of the interviewees mentioned that the collaboration depends much on which individual you interact with. We, Zio & Zhao (2017) confirms this and state that some individuals sometimes lie, do not take their responsibility, try to hide errors, causing
conflicts and unpleasant disputes. The same writer claims that trust, supportive and communication are crucial attributes for a better collaboration. This goes well with what the interviewees expressed in the empirical data. According to most of them, having understanding, respect, attitude to fix the problems and an integrity to act right is all cornerstones for collaboration. They mean that it is important of being willing to help, sharing knowledge and also informing other parties about possible problems was something that many interviewed thoughts also was lacking. According to the article Greenhalgh & Chapman 1998, the lack of confidence and trust in the other party sometimes makes people hold on to information and unwilling to solve problems. This was also stated from the majority of the interviewees. In the empirical data, it also emerged that the desire to co-operate and help each other is important to continue throughout the project after the tender process. This is consistent with (Huemer, 2004), who believes that knowledge transfer and the willingness to share information should be carried out throughout the entire building process. As mentioned in the beginning of the paragraph, all the interviewees find that it is important that the right individual is in the right place. An individual with the right attitude was considered cooperative, honest and transparent. According to Suprapto M, Bakker, Mooi, & Moree, 2015 this commitment and attitude was desirable from both sides to establish a good teamwork. Suprapto, Bakker, Mooi and Moree describes further that the attitudes must be shared between both the operators (2015). This has also been stated from both parties of the interviewees, but mostly from the project owners. It was expressed that it is important to have shared attitudes to be on the same page and to work towards the same goal. In the study is it additionally mentioned that the right commitment and attitude should be established from the senior management (Suprapto M., Bakker, Mooi, & Moree, 2015), this was not something that specifically the interviewees were pointing out. Wu, Zio & Zhao elaborates that it often is the case that parties in the projects avoid taking responsibility for the failures that occur, they mean that this kind of attitudes have a significant impact on the collaboration (2017). Majority of the people that participated in the interviews has also stated this often being the case, that either the project owner or the contractor does not take the responsibility for their faulty actions. They refer that these faulty actions often are from documentations in the tender process. Instead of taking responsibility for these actions are the operators instead blaming it on something or someone else way too often. These are attitudes among both project owners and contractors that the interviewees mean must improve.
5.1.3 Information exchange

The exchange of information was shown to be lacking during the tender process for various reasons. Self-interest is one of the reasons and it has been analysed in paragraph 5.1.1. Some of the interviewees indicated that time pressure was also a contributing factor to the information exchange, as a result did information sharing, and knowledge reversal got less prioritized. Others believed that the information exchange was negative affected because the parties never have face-to-face interactions in the negotiations. According to Suprapto, Bakker, Mooi, & Moree, 2015, is it important to create shared beliefs, credibility and integrity in order to create a good collaboration and information exchange in the early stages of the project. Most of the interviewees expressed that creating enough time during the tender process creates better information exchange, additionally do they state that transparency was crucial for the information exchange in the tender process. This goes in line with the information presented in the theoretical background by (Greenhalgh & Chapman, 1998; Pal, Wang, & Liang, 2017; Wu, Zio, & Zhao, 2017 & Diallo & Thuillier, 2015). According to Wu, Zio, & Zhao (2017), can increased transparency create an increased sense of trust among the various parties. This is confirmed by the interviewees who felt that the flow of information was improved a lot when the trust was established. When compared to the study by Guangdong, Jian, & Xianbo (2017), is it clear that understanding for each other and communication are key factors for the collaboration in the project. The information should be spread out to the entire organization. The interviewees further on explained that important information sometimes disappears on the way in the information exchange, this may be due to the fact that there are many players involved. The exchange of information was shown to be lacking during the tender process for various reasons. Self-interest is one of the reasons and it has been analysed in paragraph 5.1.1. Some of the interviewees indicated that time pressure was also a contributing factor to the information exchange, as a result did information sharing, and knowledge reversal got less prioritized. Others believed that the information exchange was negative affected because the parties never have face-to-face interactions in the negotiations. According to Suprapto, Bakker, Mooi, & Moree, 2015, is it important to create shared beliefs, credibility and integrity in order to create a good collaboration and information exchange in the early stages of the project. Most of the interviewees expressed that creating enough time during the tender process creates better information exchange, additionally do they state that transparency was crucial for the information exchange in the tender process. This goes in line with the information presented in the theoretical background by (Greenhalgh &
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5.1.3.1 Documentation
From comparing both the theoretical background and the empirical data that we have collected do both state that the project owner tries to control the contractor by the specifications and regulations in the contract. At the same time do both the theoretical background and the interviews state that the contractors try to create a contract with loopholes that can benefit them later in the project. There is clearly not enough of a collaborating spirit when shaping the contract. From the literature is it expressed that both parties during the tender process does not want to expose to much information in the specifications since it makes them feel more vulnerable. One of the interviewees among the project owners agrees on this statement and elaborates that people sometimes even lie in the documentations to create benefits for their own sake.

The interviewees all agreed that the documentation during the tender process was inadequate. This was experienced by both the project owners and the contractors. Many of the problems that occurred later during the construction period were often because the document was incomplete in the tender process. This is also referred to in the study done by Wu, Guangong; Liu, Cong; Zhao, Xianbo, Jian Zuo, 2017, they argue that bad and insufficient documentations during the tender process might create conflicts at a later stage. Two of the interviewees referred to that they have been involved in a few horrible collaborations with lacking documentations, so bad that it resulted in court. The fact that
disputes arises during the construction project is commonplace according to Chen, Zhang, & Zhang, 2014. Three of the interviewees suggested that these disputes often occurred because of poor cooperation and documentation in the tender process. Many of the arguments and mistakes that occur during construction projects are consequences of the tender process confirmed by both the theoretical background and the interviewees.

5.2 RQ2: What are the most important base of factors during the tender process that a collaboration is based on?

5.2.1 Critical factors
Almost all interviewees stated that trust and transparency are critical factors during the tender process to form a good collaboration. They although describe it challenging to form this trust at such early stage when not actually having any face to face interaction. It was described that transparency and honesty are very important factors to establish this trust between the contractor and the project owner. Without these factors do the interviewees mean that it is challenging to form a good collaboration between the contractors and project owners during the tender process. Suprapto, Bakker & Mooi (2015) agrees with this in their study, they express that trust, transparency and commitment are crucial factors to form a good collaboration between the operators. Other factors that have been addressed as challenging for the collaboration specifically in the construction industry are the projects long project times, large sizes, many actors and the complexity in general (Wu, Zio, & Zhao, 2017). The long project times and high number of actors were also referred to as challenges from some of the interviewees. They state that it requires well established collaboration to manage these factors.

Another factor that has been highly pointed out by the interviewees are the communication in general. The collaboration during the tender process between the project owner and the contractors depend a lot on the communication, many of the interviewees mean that it important that everybody is very clear in the communication to avoid misunderstandings since this has large impacts on the collaborations and the project itself. Byggtjänst (2018) also elaborates with this as a key factor which if not handled right can lead to very negative consequences and huge expenses.
5.2.1.1 Time
The empirical data showed that one of the factors that played a major part in the tender process was the time. Time management during the tender process was stated often lacking. This was considered by the interviewees due to the fact that both contractors and project owners were too eager to start construction and not enough time for planning was provided. The interviewees stated additionally besides the planning that it was not enough time for the projecting and not enough time for to make accurate specifications enough for the tender bid. The interviewees stated additionally besides the planning that it was not enough time for either the projecting or to make accurate specifications enough to the tender bid. This is in line with the study made by Khosravi & Kähkönen, 2015, they state that careful and accurate planning is crucial for a successful outcome in the projects. Sloppy tender documents and requests are a problem experienced by both contractors and project owners. This has many of the interviewees also agreed with, they refer to that a lot of the problems could be avoided if they had more time in the tender process.

5.2.1.2 Common interest
The empirical data showed that with similar interests and the willingness to work towards the same goal, most of the interviewees have then experienced a much greater end result and collaboration. This is also mentioned in previous research done by Wu, Zio, & Zhao (2017), the authors have found that a better relationship between the actors is created by establishing beneficial deals in the contracts that make all actors strive for the same goal. Partnering seemed according to the literature to be a popular method of work. Bygballe, Jahre & Swärd (2010) expressed that partnering is a way to create common goals to get better results in the project. One of the contractors from the interviews mentioned partnering and claimed that the method created a strategy that made the actors work towards the same goal, otherwise the companies work much more individually. The most important aspect during a party was that the internal parties were aiming for the same goal, and that they act more co-operative according to the contractor. The article Cheng & Li, 2002 argues that similar interests are of paramount importance in creating a good relationship and for a successful project.

5.2.2 Barriers for the collaboration
According to the theoretical background is the chariness of exposing too much information in the documentation a barrier for a collaborating relationship between the
two parties in the tender process (Greenhalgh & Chapman, 1998). This statement has been addressed by the interviewees as well but have not been stated as a barrier for the collaboration which it clearly is. It has although been described from the interviewees as a main underlying factor to many conflicts that arise in the projects. Suprapto, Bakker & Mooi (2015) also points out that the acquisition process in the tender phase is a barrier for the collaboration where the parties have barely any interaction at all, this has been referred to from both project owners and the contractors in the interviews. The interviewees express that it is hard to develop the collaboration and the trust between the parties without interacting face to face. Many of the interviewees therefore wants to interact more face to face to improve the collaboration and the relationship at an early stage. Then they will get to know each other better and can ensure why the operators are suitable for the project at an early stage.
6 Discussion

This chapter discusses the result of Chapter 4 - Analysis, its presented as a compilation of the similarities and conclusions that can be drawn from the comparison of empirical data and the theoretical framework.

The theoretical background and the interviewees has agreed upon a lot of their opinions in the matter. We have although found some parts where they have had various perspectives on the topic. It is confirmed by both the empirical data and the theoretical background that conflicts that often arise are coming from disagreements or misunderstandings in the tender process. It has a significant negative impact on the performance of the project, the cost of the project, the collaboration and the future relationship. Further on has both the theoretical background and the empirical data also pointed out that more time during the tender process would be needed to improve the collaboration between the project owners and contractors. Both the interviewees and the literature confirmed that both the project owners and the contractors looked only to their own self-interests when forming the contracts and that this had a negative impact on the collaboration between the two parties. It can result in project owners who tries to shape a contract that controls the contractor, meanwhile the contractor might try to create a contract with loopholes and where they have more control. According to the theoretical background and the empirical data has self-interest a negative impact both during the tender stage and on the production phase. This has led to that the parties only look to their own best, further has it resulted in trust problems and communication problems. Short-term effects of self-interest was that dispute and lies often occurred. The project might then suffer in time delays, extra costs and poor quality. Sometimes the disputes go so badly that it must solved in court. Another long-term effect of the self-interest during the tender process is that both contractors and especially project owners feel insecure, lacking confidence and trust in contractors.

As a result of the trust issues might the information exchange also be negative affected between the two operators. This is because the parties keep information to them selves to improve their own benefits, this is also confirmed by the literature. The research also showed that mistakes and information sometimes are deliberately concealed during the tender process. This could be because of self-interest but also because of time constrains. It
is confirmed by both the literature and the empirical data that not enough time is provided for the tender process. A part of the information exchange is the documentation, these documents were more often incomplete than complete according to the interviewees. This is partly due to time, but also because the various parties try to keep each other responsible through the documents. The result of this is that contractors create loopholes and lie in the documentations during the tender phase. Errors in the documentation creates more costs mainly for the project owners but also for the contractors. During the project, a late change may mean that many other parts need to be changed as well. Attitudes from the parties were an important aspect according to the interviewees. Attitudes implies honesty, willingness to help and to be open. Transparency is another factor that has been mentioned frequent in earlier studies as an important feature of trust and a well-functioning collaboration. It was also expressed from the interviewees that the complexity in the projects makes it challenging with the information exchange. Since there are many actors providing various parts of the specifications to the tender process can it easily lead to misunderstandings. This can result in a negative impact on the collaboration as well as the project quality. Baccarini (1996) also express that the complexity of the all the partners will affect the time schedule, the costs and the quality of the project. The attitude of the project owners has additionally been pointed out as cause for the problems from the contractors. The contractors mean that the project owners are so eager to start the project as fast as possible, they should instead have the right attitude to provide enough time for the contractors to deliver accurate specifications in the tender process. This could have a significant impact on the collaboration and the project result according to the contractors from the interviews.

Many of the various factors during the tender process are connected together. One example is within the attitude and the information exchange, then transparency as a factor is important in both of these aspects. Further on is additionally mentioned as an important factor that affects the tender process. Time affects various aspects such as costs, collaborations, project performance and project quality. Many of the factors are also caused by time. Self-interest as a factor may be caused due to lack of time, problems with attitudes may be due to lack of time, etc. It is confirmed by both the interviewees and the theoretical background that a lot of the factors affect each other.

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7. Conclusion

In this chapter, the purpose and the two research questions are answered by a brief and consistent summary of the results and learning of this study. The managerial implications and limitations of the study are presented as well as suggestions for future research.

The purpose of this study was to gain knowledge about the way project owners and contractors are affected in their collaboration by self-interest, attitudes and information exchanges during the tender phase of a construction project. The study also has the intention to discover what strategies and methods that are used in the collaboration between project owners and contractors during the tender process. Additionally, have we aimed to explore the important factors between the two parties that the collaboration is based on. The empirical data and the analysis made it possible to answer our two research questions.

RQ1: What effect has self-interest, attitudes and information exchange during the tender process on the collaboration between project owners and contractors?

**Self-interest**
- Results in incorrect documents and contracts.
- Creates uncertainty and less trust between the parties.
- Main consequences of self-interest: Disputes, time delays, additional costs and inferior quality of the final product and the collaboration.

**Attitudes**
- Positive attitude signs: Transparency, humility, responsibility and willingness to solve problems. Negative attitude means in this case the opposite to positive attitude.
- The effect of positive attitudes increased trust between the parties during the tender process. The result of positive attitude was additionally fewer CAWs.
- Factors such as time, cost and quality were also affected by a positive attitude in the project. That means more accurate timetable, reduced costs, improved collaboration and enhanced performance of the project.
Information exchange

- The impact of poor information exchange lead to insufficient and incorrect tenders, as well as incorrect specifications.
- Main consequences of the information exchange: Misunderstandings, time delays, additional costs and inferior quality of the project.

RQ2: What are the most important base of factors during the tender process that the collaboration between project owners and contractors is based on?

The result of the research showed that transparency, attitudes, common interests and sufficient time are the main factors that the collaboration between contractors and project owners during the tender process is based on. The research showed that many factors were linked together and depended a lot on each other.

Current strategies

The strategies used by the companies today are mostly the contracts themselves, it has been confirmed that the contracts and the documentations are incomplete and inadequate. In addition to the documents and contracts, the companies currently lack effective methods of managing cooperation during the tender process.

7.1 Managerial Implications

Project Owners: The result of the research has shown that the contractors generally find that the documentation is sufficient. Therefore, it would be good for project owners to devote more time to creating clearer and correct request document.

Contractors: Contractors should seek more transparent, honest and open communication with the project owner during the tender process. This should be a priority for the contractors. Additionally, should they allocate more time to the tender specifications, so they are more complete and thereby reduce the CAWs.
7.2 Limitations

Our study is limited by only having interviewed people within the region of southern and central Sweden. The answers may be different depending on where in Sweden that the research is done. The answers could be different if you also interviewed foreign actors who work in Sweden.

This study has only been conducted by analysing four cases, which is a small part of the industry. In addition, because this study had a limited amount of time, the result of this was that none of the cases could be followed and studied for a longer period of time. Our study has been conducted on large to medium-sized companies in Sweden. There are many smaller actors in Sweden that also could be taken into account. The result could be affected differently if the sectioning between small, medium and large companies would be even.

7.3 Future research

- During the interviews it was found that many expressed dissatisfactions with the specifications presented during the tender phase. This was expressed from both the project owners and contractors. A further research may be to investigate how the documentation affects the collaboration and how the documentation could be improved.

- Project owners experienced greater uncertainty than the contractors in the tender process. Further research may examine how guidelines can help the project owners in this process.

- This research concerns Swedish companies and further research could choose to focus on the collaboration between Swedish and foreign actors active in Sweden.

- CAWs were something that was mentioned very often by all the interviewees. Further research may include a study of how CAWs affect collaboration in the construction industry and how guidelines for CAWs could be established in greater detail.
8 References


Appendix

Appendix 1: Interview guide

It is important that the participant meets all of the five qualifying criteria, which consists of:

1. Companies located in south of Sweden.
2. Private companies
3. Owner/construction company that have within three years been part of a tender process.
4. Owner/construction company that have within three years been part of a tender process with another private actor.
5. Size of the companies: Medium and large companies.

The ethical consideration shall be clear to the interviewee. Before the interview begins, the following information must be stated or approved to the participant:

- Assure anonymity
- Inform about the subject and the study.
- Approval of recording
- Approval of the use of the information in the study.
- Inform about the ethical considerations, such as the right to withdraw from the interview, when and how the study will be published.

After this, the interviewee should be reminded that the study concerns collaboration between project owner and contractor during the tender process in a turnkey contract. As well as trying to provide information only from the last 3 years.
Appendix 2: Interview questions

Handling the collaboration for a reliable cooperation between the project owner and the contractor during the tender phase. (Turnkey)

The questions concern only cooperation with contractors and project owner and only during the tender phase.

1. The interviewees background:
   a) Company:
   b) Working Position:
   c) Experiences:
   d) Gender:
   e) Age:
   f) Scope/time on the current workplace:

2. What are your impression of the collaborations with contractors/project owners?
   a) What are your general impressions of the collaborations with the other actor (contractor/project owner)?
   b) What factors complicate the process of cooperation?

3. Organization.
   a) How many different actors are you usually in one of your projects?
   b) How does the decision process look like?
   c) Which actors take which decisions?
   d) How do you work with a tender process?
   e) How much time is spent in average during the tender phase in a project?
   f) How many tender processes do you carry out per year? Simultaneously
   g) What are the bad outcomes that arise from this process? What are the main reasons?

4. How does the relationship building work during the negotiation process?
   a) How does the relationships between the actors work today?
   b) Is it often disputes?
   c) How much is the relationship building prioritized?

5. Real life examples:
   a) A case of good results
   b) A case of poor performance
6. Critical factors:
   a) Why is it difficult to build trustworthy relationships during the tender process?
   b) What are the factors causing it? Social factors vs technical factors? Documentation and errors in directions.
   c) What factors should be focused on in order to get a reliable and successful collaboration?

7. Strategies / Management:
   a) Any specific strategies to facilitate and build a reliable relationship during the tender phase?

8. Development:
   a) Has the situation improved or deteriorated over the past 10 years?
   b) What do you believe is the reasons for the previous answer?
   c) What does the company currently do to improve the cooperation with their project owner/contractor?
   d) What improvements are required in order to get a better cooperation / relationship already during the tender process?

9. Results of good cooperation
   a) What have the good collaborations you experienced resulted in? (Various factors / aspects)