

COMPETITIVE NEGOTIATED PROCEDURE: EXPERIENCES FROM RV. 555 THE SOTRA CONNECTION

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ABSTRACT

To reduce the number of conflicts in their projects, the Norwegian Public Roads Administration has implemented procurement procedures which allow dialogue and negotiation before the signing of contracts. One of these procedures is the Competitive Negotiated Procedure (CNP). The literature that addresses the implementation and experiences of CNP is limited, despite it has existed for several years. The purpose of this paper is to explore how the CNP can be improved for future use. The study has been carried out as a literature review and a case study. The case study investigated the infrastructure project Rv. 555 Sotra Connection and consisted of a document study and fourteen semi-structured interviews with representatives from the client and the qualified suppliers. The implementation of the procedure was divided into five phases. There were challenges with the procedure. Both the client and the suppliers encountered challenges with the zoning plan, which limited the supplier's ability to implement cost-saving alternatives. The suppliers experienced challenges regarding the client's evaluation of the most economically advantageous tender (MEAT). Both the client and the suppliers highlight that the CNP is demanding, but it allows clarification of ambiguities and risks before contract signing. This reduces the risk of future conflicts.

KEYWORDS

Lean Construction, Competitive Negotiated Procedure (CNP), Procurement, Collaboration, Most Economically Advantageous Tender (MEAT)

INTRODUCTION

Norway implemented a new Public Procurement Regulation on the 1st of January 2017 to efficiently use the resources of society and provide competition in public procurement. The new legislation superseded the previous regulation from 2006. Norway's procurement law is largely based on EU directives, which Norway must implement under the EEA – agreement (Wondimu 2019). The regulation applies to all state authorities, county and municipal authorities, and public law bodies and associations affiliated with them. The Norwegian Public Roads Administration (NPRA) is an administrative body subordinated to the Ministry of Transport and is obliged to comply with the law of public procurement. This involves following the basic principles of non-discrimination, equal treatment, transparency, proportionality and mutual recognition (Lennerfors 2007). For public procurement, the EU directive identifies procurement

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procedures such as open and restricted procedure, competitive negotiated procedure (CNP), competitive dialogue and innovation partnership (Wondimu 2019). The selection of the procurement procedure should depend upon the scope and complexity of the project (Hansen 2019). The law of public procurement creates several barriers for public clients, but involving contractors earlier in projects than today is still recommended (Wondimu et al. 2018a). There is however a lack of research in the IGLC community in the area of public procurement (Wondimu et al. 2018b). There is also a lack of research on the application of LC concepts in the preconstruction phase (Reginato and Alves 2012).

There has been a high level of conflict between NPRAs and their suppliers in NPRAs bigger projects, resulting in additional expenses for both parties. Causes of conflict have been errors and deficiencies in the tender specification, interpretation of the contract, and due to use of the lowest price as the sole criterion for awarding the contract (Sabri et al. 2019). To reduce conflicts and thereby reduce waste, NPRAs has shifted focus from mere price competition to procurement methods more in line with the principles of LC. The purpose of this shift is to establish an equal understanding of the contract's contents. One of the procedures that allows for dialogue before contract signing is the CNP. This procedure has been allowed by public authorities for several years. The literature review did not reveal much literature that addresses practical implementation or experiences from using this procedure. By looking at an infrastructure project in Norway, this paper aims to fill the knowledge gap. The paper answers the following research questions:

RQ1: How was the competitive negotiated procedure implemented?

RQ2: What are the experiences from the competitive negotiated procedure?

RQ3: How can the competitive negotiated procedure be improved for future use?

This study is limited to a Norwegian infrastructure project and explores the experiences of the client and the three qualified consortiums that made a bid on the project. After a presentation of the theoretical framework and the applied research methods, the findings from 14 interviews are discussed.

THEORETICAL FRAMEWORK

COMPETITIVE NEGOTIATED PROCEDURE

CNP is a procurement procedure that allows the contracting authority to negotiate with the suppliers. The procedure can be used in the following circumstances: a) The needs of the contracting authority cannot be met without adaptation of readily available solutions; b) They include design or innovative solutions; c) The contract cannot be awarded without prior negotiations because of specific circumstances related to the nature, the complexity or the legal and financial makeup or because of the risks attaching to them; d) The technical specifications cannot be established with sufficient precision by the contracting authority concerning a standard, European Technical Assessment, common technical specification or technical reference; e) In response to an open or a restricted procedure, only irregular or unacceptable tenders were submitted (Burnett 2015).

CNP is a two-stage tendering procedure where interested suppliers can request to participate in the qualification stage. The goal of the qualification stage is to select an appropriate number of qualified suppliers that can participate in the negotiation stage. The contracting authority may limit the number of suppliers invited to submit tenders, but the minimum number of suppliers is three in CNP (Telles and Butler 2014). If the number of suppliers interested exceeds the number of suppliers the contracting authority intends to negotiate with, the contracting authority may select suppliers based on predetermined selection criteria. Several selection criteria are used to evaluate and select the suppliers. These criteria must be objective and non-discriminatory (Doloi 2009). The selected suppliers are invited to participate in the negotiations.

Except from the generic principles of public procurement, there are no specific requirements for how to conduct the negotiations. The contracting authority may negotiate all aspects of the tender and the supplier's proposal, but is restricted from negotiating the award criteria and absolute requirements set in the tender documents (Burnett 2015).

While not required to explicitly highlight any weaknesses in the offers, the contracting authority must inform the suppliers of factors that will be given significant or decisive importance in evaluating the bids. The principle of equal treatment requires that the contracting authority should treat all suppliers impartially during the negotiations. Equal treatment of suppliers ensures that all suppliers are given equal opportunities to improve their proposals (Šostar and Marukić 2017). When the contracting authority highlights the strengths and weaknesses of an offer to one supplier, it must also disclose the strong and weak aspects of other offers. This ensures that all suppliers have equal information to improve their offers.

Negotiations can be conducted in multiple stages, with a gradual reduction of suppliers at each stage (Burnett 2015). The reduction will occur through the evaluation and ranking of the revised bids based on the specified award criteria and minimum requirements. The contracting authority is responsible for ensuring that an adequate number of offers remain in the final phase of negotiations to maintain competitiveness. Negotiations are concluded by establishing a deadline for the remaining suppliers to submit their final bids.

AWARD CRITERIA

The EU procurement directives specify two distinct criteria for awarding public contracts; either based on the lowest price or the most economically advantageous tender (MEAT) (Bochenek 2014). If the sole award criteria is the lowest price, the contract will be awarded to the supplier with the lowest price (Lædre 2009; Parikka-Alhola et al. 2006). According to Tavares (2019) contracting authorities often opt for the lowest price as the award criterion due to its simplicity and to avoid any suspicion regarding the evaluation of the various bids. When a contract is awarded by using MEAT as an award criterion, it involves emphasizing the weight of different aspects of a product or service that adds value to a project. It ensures that factors beyond price, such as quality, environment, and social aspects, will be taken into account as part of the selection process (Marcarelli and Nappi 2019; Wondimu et al. 2020).

The award criteria and their corresponding weight shall be established beforehand and made known to the suppliers. The objective of establishing and formally disclosing the award criteria is to achieve the following objectives: a) Enable tenderers to prepare their tenders in a manner that aligns with the contracting authority's stated priorities. b) Ensure that the evaluation of tenders is conducted by the contracting authority in a transparent, reliable, and objective manner. c) Allow relevant stakeholders, such as review bodies, other government entities, or economic operators, to oversee the process and prevent the use of discriminatory or unauthorised award criteria (OECD 2011). Identifying the most economically advantageous tender poses a challenge due to the lack of explicit guidelines in the regulations on how it should be executed (Sebastian et al. 2013; Wondimu et al. 2018c).

According to Ottemo et al. (2018), a point, ratio or price correction system can be used to evaluate MEAT. The point system converts all aspects of the tender into points based on an objective calculation reference. The supplier with the highest number of points is awarded the contract. In the ratio system, each criterion in the tenders gets a basic monetary value if satisfying the minimum tender requirements. When a supplier exceeds the minimum requirements, the added value is added to the basic monetary value. The supplier who achieves the highest value is awarded the contract (Sebastian et al. 2013). By using a price correction system each criterion – except the price – is assigned a fictional monetary value. This monetary value is subtracted from the bid price. The supplier with the lowest corrected bid price is awarded the contract (Chiappinelli and Zipperer 2017). Bergman and Lundberg (2013) suggest

that to identify the MEAT, the client must assign a monetary value to the quality. All in all, it is not a good idea to mix cost with value (Schöttle et al. 2015).

LEAN AND COMPETITIVE NEGOTIATED PROCEDURE

Multiple research studies conducted on productivity within the construction industry have shown the potential for an increase of 10-20 % in productivity. This increase can be achieved by improved interaction among stakeholders (Hansen 2019; Wondimu et al. 2017). Lean Construction (LC) aims to maximize value and minimize waste (Bertelsen 2002; Emmitt et al. 2005). It draws its principles from the success of the lean philosophy in the manufacturing industry (Young et al. 2017). The goal is to reduce costs, shorten production times, and increase quality throughout the entire construction lifecycle, from planning and design to completion and operation (Alves and Tsao 2007). In addition, the LC community agrees upon that the goal of projects is to deliver value (Drevland and Lohne 2015). LC is about optimising production systems aimed at delivering value (Drevland and Tillmann 2018). Clients can use CNP to act according to LC principles, i.e. improve processes and project outcomes.

As stated before, CNP allows for negotiations between the contracting authority and the suppliers before contract signing. This allows collaboration with the suppliers to identify uncertainties and potential challenges at an early stage (Kantola 2015). CNP allows for greater flexibility in project planning, design, and execution by facilitating open communication and collaboration among project participants. This flexibility enables the contracting authority to discuss terms of contracts before contract signing, for example making adjustments to the project scope as needed to optimize project outcomes and deliver value to the client (Burnett 2015). Negotiations allow value engineering exercises to be conducted collaboratively among project stakeholders. Value engineering is an approach used to obtain the required component at the lowest total cost without reducing the necessary quality (Ilayaraja and Eqyaabal 2015). By incorporating value engineering into the negotiation process, the project team can identify and implement cost-effective solutions that align with project goals and client requirements.

METHODS

The research was conducted using a literature review and a single case study. To establish a theoretical foundation, a literature review of the relevant literature was conducted. A literature review serves multiple objectives. It can highlight results from previous studies in a research area, and it can provide a framework for comparing your findings with previous findings (Creswell and Creswell 2018; Hart 2001). The literature review used Arksey and O'Malley's framework for literature review. The framework has five steps: 1) uncover research questions, 2) find relevant literature, 3) select literature, 4) map data and 5) collect, summarize and report the results (Arksey and O'Malley 2005). To find relevant literature, an initial search on "Competitive Negotiated Procedure" was conducted in various databases such as Google Scholar, Web of Science, ASCE, Scopus and Science Direct. The search returned a few results across those databases, with some returning no results whatsoever. It became necessary to expand the search area by adding more keywords such as "Public Procurement" and "Award procedure". To identify more relevant literature, various approaches like "Backward Snowballing" and "Forward Snowballing" were used. "Backward snowballing" involves reviewing the list of sources cited in a relevant article, while "forward snowballing" involves reviewing articles that references the relevant article (Webster and Watson 2002). The literature review was used to describe the existing body of knowledge and to formulate the interview questions.

The case study was carried out based on the recommendations of Yin (2014). The project studied is the procurement of a large road infrastructure contract. The contract is the largest single contract entered into by the NPRA and the largest public-private partnership contract

awarded in EU in 2021. The contract have a value of 1,98 billion euro (Statens vegvesen 2021). The case was studied through fourteen semi-structured interviews and a document study.

The interview objects consisted of participants from the client and all the joint groups that made a bid on the project. The interviewees were design consultants, legal advisors and a variety of participants in management positions. All the interviews except one were carried out via Teams. The interviews followed an interview guide. The interview guide began with introductory questions, allowing the informant to provide self-introduction. Following the introductory questions, the interview guide was organised based on the identified phases in Figure 1. For each phase, the three research questions were asked, beginning with RQ1, then RQ2 and finally RQ3. The interviews lasted from one to three hours, with some of the participants displaying great interest towards the research. With the respondents' consent, the interviews were recorded, transcribed, and sent as a summary for their approval.

The document study was carried out in a two-stage process. The initial stage of the document study involved acquiring fundamental information regarding the project. The tender document and documents that were created during the tender process such as the evaluation report, were among the case-specific documents studied. The second stage of the document study was conducted after the interviews to identify any inconsistencies between the documents and the interview data.

FINDINGS AND DISCUSSION

The first section in this chapter starts with introducing the practical implementation of CNP, answering the RQ1. The section follows the phase model in Figure 1.

IMPLEMENTATION OF COMPETITIVE NEGOTIATED PROCEDURE

During the study, five phases of the CNP were discovered. The five phases consisted of Preparation, Qualification, Clarification, Negotiation, and Evaluation. Figure 1 depicts the phases, important activities and decision gates throughout the tender process.

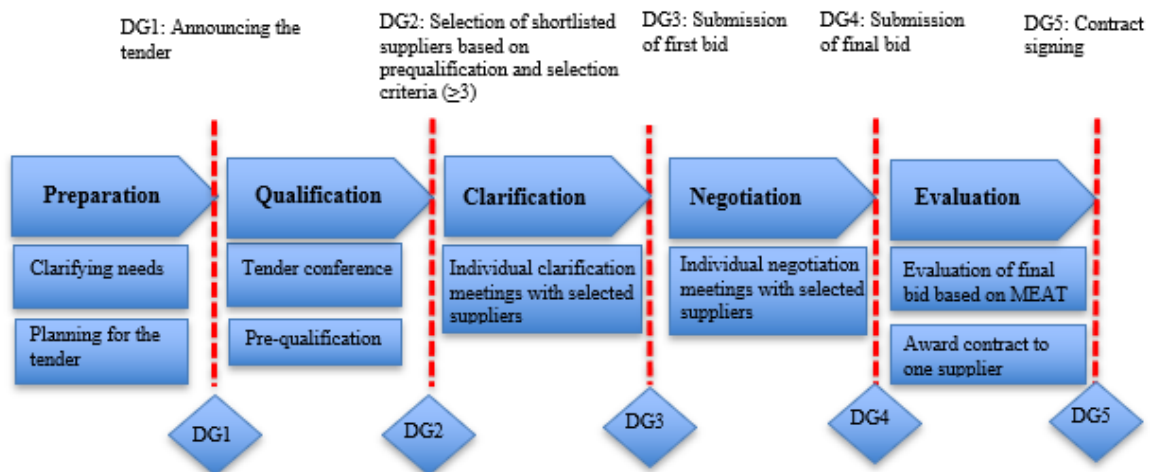


Figure 1: Implementation of Competitive Negotiated Procedure: Phases, main activities and decision gates (DG). Based on findings from the study.

The preparation phase began with the client clarifying the project's needs and how they could be met. Subsequently, the preparation continued by planning for the tender. This included developing tender documents, establishing a negotiation strategy and engaging in marked dialogue with the supplier market. Multiple market and information meetings were held during the process of creation of the tender documents. It was crucial to maintain contact with the

supplier market during this phase. This was to prevent the client from creating a tender that the potential bidders did not want. During the meetings, the suppliers had the opportunity to provide feedback to the client on qualification and award criteria. **The qualification phase** began with a tender conference, during which the client invited the industry to an informative meeting, followed by a site visit. During the information meeting, the client presented the project with the main deliverables, contract structure, qualification requirements and the description of the tender process. During the qualification phase, the goal was to select three qualified suppliers who would be invited to submit bids. Following the expiration of the deadline for requests to participate in the competition, the client had four interested suppliers. Out of the four suppliers who submitted a request, only one failed to meet the requirements. During the **Clarification phase**, a total of four clarification meetings were held with each qualified supplier. In the first clarification meeting the client presented the tender documents. The theme for the second clarification meeting was the contract and a review of the works to be performed. The third clarification meeting focused on the financial aspects of the contract. The final clarification meeting focused on questions and clarifications that had emerged from discussions at the previous meetings. Following the clarification phase, the suppliers were to submit their first bid. The first offer represented the beginning of the **Negotiation phase**. The client had planned a total of three negotiation meetings. The first negotiation meeting did concern the supplier's response concerning award criteria 1: Bid price. The second negotiation meeting did concern the supplier's response regarding award criteria T2-T5. The final negotiation meeting was a two-day meeting. The submission of the supplier's final bid represented the beginning of the **Evaluation phase**. During this phase, the client had to determine the most economically advantageous tender by evaluating the bids using the award criteria as a basis. The following were the competition's award criteria:

- T1 Award criterion 1 – Bid Price
- T2 Award criterion 2 – Plan for organisation and execution / 60 million euro
- T3 Award criterion 3 – Traffic management / 50 million euro
- T4 Award criterion 4 – Quality of the infrastructure project / 30 million euro
- T5 Award criterion 5 – Climate and HSE / 50 million euro

The value of T2-T5 represented a potential reduction in the bid price that suppliers could receive. During the bid evaluation, the client would evaluate and determine the competitive price of each supplier. The competitive price was determined using the following method: $\text{Competition price} = T1 (\text{Bid price}) - (T2+T3+T4+T5)$. When a supplier's solution exceeds the award criteria requirements, it receives a fictional deduction, resulting in a reduced competitive price. To evaluate the different bids, five evaluation teams were formed, each assigned to a reward criterion. The teams were a combination of people who had taken part in the negotiations and others who had not been involved. The contract is then awarded to the supplier with the lowest competitive price as it's the most economically advantageous tender.

EXPERIENCES WITH COMPETITIVE NEGOTIATED PROCEDURE AND FUTURE IMPROVEMENTS

This section addresses the experiences with the procedure and suggests possible improvements for future CNP projects, answering RQ2 and RQ3. The discussion and suggested improvements are based on the authors' interpretation of the data from the case study.

Preparation phase *Zoning plan*

During **The preparation phase** the client and the suppliers agreed that the zoning plan restricted the possibilities for an optimised production. The zoning plan restricted the possibility

of making changes as one of the responsible municipalities stated that making any changes to the zoning plan would lead to a significant delay of several years. This frustrated the suppliers as they meant the client was unwilling to discuss cost-saving proposals that challenged the zoning plan.

The zoning plan offers guidelines to the suppliers regarding choices they can make in design. A zoning plan with a low degree of freedom may constrain the project's ability to incorporate new elements that appear after the zoning plan has been approved. At the same time, such a zoning plan will make the evaluation of the suppliers' solutions easier as the solutions will be more comparable. A zoning plan with a high degree of freedom might complicate the evaluation of solutions, as it can allow solutions that are difficult to compare. A suggested approach is to consider the relationship between the contract strategy and the degree of freedom in the zoning plan. If the planned contract strategy provides suppliers with significant opportunities for influence, then the zoning plan should have sufficient levels of freedom to accommodate this. If a contract strategy is designed to minimise the contractors' influence, it may be beneficial to have a more restrictive zoning plan with limited flexibility.

Lack of continuity in the project organization

One experience mentioned by the client was the lack of continuity in the project organization. Optimising the construction process according to the LC principles is difficult when there is a lack of continuity. Different people were involved in the phases from choice of concept to operation. Decisions restricting future opportunities were made in the early stages. The client created experience reports throughout the project, but an informant from the client noted that the reports did not contain all the information about the experiences that were made. NPRA view each phase of a road project as a separate subproject, each having its project organisations. When transitioning to a new phase of the project, the entire project organisation might be completely replaced. This may be explained by the fact that different phases require different skills and competencies within the project organisation. Lack of continuity might limit the project organization's ability to have a full grasp of the entire project, as individuals may only possess detailed knowledge of the specific phase they were involved in.

The project ought to have mechanisms that guarantee continuity during the transition to a new phase. It might be beneficial to have the project manager, along with key personnel, oversee the project across multiple phases. Ensuring project continuity through personnel can be a formidable task, as it might take several years from the initial planning to the start of construction. Another way to ensure project continuity might be through detailed experience reports containing the five Ws (Who, What, When, Where, and Why) for each experience. These reports can serve as a valuable resource for new team members joining the project at different phases. By documenting key information and lessons learned, the project can maintain consistency and efficiency throughout its lifecycle.

Qualification phase

Qualification criteria

Both the client and the suppliers agreed that the client had chosen the correct qualification criteria during the **Qualification phase**. In the creation of the qualification requirements, the client used both the insights from the Quality assurance 2 report and from previous projects where too many suppliers were qualified. The informants from the client believed that the qualification requirements were appropriate for the project, as they received a total of four interested bidders and three qualified suppliers.

Based on the findings from the case study (n=1), the respondents agreed that the tender qualification criteria were appropriate. This was achieved by having early marked dialogue and involving suppliers to determine the qualification requirements. As a result, the client got the desired number of qualified suppliers without using selection criteria.

Clarification Phase

Risk distribution

Upon evaluating the tender documents, it became evident to the suppliers that they had to take on too much risk. The supplier noted that the tender document and contract framework originated from past PPP projects and perceived this as a mistake. The previous PPP projects were of a scale that allowed the involvement of Norwegian contractors. The informants from the suppliers held the belief that this project relied on international financing as the project was too big for the Norwegian industry. Initially, the client required the project to be financed in Norwegian kroner. To secure favourable financing conditions, it became necessary to use the international market instead of restricting the financing currency to Norwegian kroner. This measure reduced the supplier's risk and resulted in a cost reduction for the contracting authority.

The case study (n=1) findings indicate that when the client transfers too much risk to suppliers, the suppliers will add a risk premium that increases the project's overall cost. This is done to ensure that they have sufficient resources to handle this risk effectively. Through the clarification and negotiation meetings, the client and the suppliers can determine the specific risks that each party can assume. The risk should always be allocated to the party with the highest capability to manage it. By effectively allocating risks based on each party's capabilities, the project can proceed smoothly with minimized costs and delays. It is crucial for both parties to have open communication and a clear understanding of their responsibilities in managing risks throughout the project lifecycle.

Road construction guidelines and handbooks

An interesting experience is that participants have different perceptions of the national road construction guidelines and handbooks. Consultants who were interviewed perceive the guidelines and handbooks as positive, they show what regulations to follow. Contractors perceived the regulations to be good for guidance, but that guidelines and handbooks are made for Design-Bid-Build (DBB) projects where the client is responsible for design, i.e. drawings, descriptions, and calculations. At times, contractors perceive regulations as restrictive, as these impose excessive control over how they should execute their tasks. NPRA has primarily used DBB in their projects. This contract type requires a high level of detail from the client since he holds the risk for errors and flaws in the design. This has led to NPRA's internal processes, guidelines, and handbooks being tailored to the needs of DBB. NPRA wants to increase the use of Design-Build (DB) contracts in their projects, but a challenge arises from the fact that the same standards, guidelines, and process codes are utilised in DB contracts.

Based on the findings it can be argued that current guidelines and handbooks need to be revised as they are designed for DBB contracts and restrict the room for manoeuvre that is needed in other contract types.

Negotiation Phase

Quality of the feedback on suppliers' solutions

During the meetings, the client faced a dilemma between the need to provide counsel, the concept of treating all parties equally, and the obligation to maintain confidentiality. The client is obliged to provide identical information to all suppliers simultaneously. Some informants found it challenging to track the information and comments provided to suppliers to prevent any supplier from gaining a competitive edge. The suppliers had difficulty comprehending the client's feedback and felt that it did not provide valuable insights for evaluating the strengths and weaknesses of their offer. The suppliers regarded the feedback as a hindrance, which reduced the quality of the final product obtained by the client. With more feedback, suppliers meant they could have prioritised value-adding solutions and improved the customer's project.

Feedback from public clients can help suppliers to improve their proposals. To improve their proposals, the feedback must be clear and specific, highlighting the proposals' strengths and weaknesses. In the feedback, the client can emphasize how the supplier's proposal is aligned with or deviated from the minimum requirements and award criteria outlined in the tender document. As the feedback must be based in the award criteria and the minimum requirement in the tender document, the quality of the feedback will significantly influence the proposals received by the client. If the suppliers receive vague feedback, it might be seen as not helpful for suppliers seeking to improve their proposals to add more value for the customer. Workshops and training for feedback givers can also improve feedback quality. This includes advice on common mistakes, best practices, and how to align feedback to client's needs. If the client lacks knowledge of the process of providing feedback, it may cause public clients to adopt a passive approach to ensure compliance with the Public Procurement Act. This can result in their failure to make use of the full range of available actions in providing feedback.

Evaluation Phase

MEAT-Evaluation

The informants representing the client had varied experiences throughout the evaluation of the final bid, but they unanimously agreed that the final bid was evaluated accurately. The evaluation teams performed both an individual assessment and a collaborative assessment to compare the results. The evaluation team found this process to be challenging. Despite the suppliers' evaluation being focused on their solution; the evaluation was required to be conducted simultaneously for all suppliers. The reasoning for this was that if any negative attributes were uncovered in one solution, the remaining solutions had to be examined for the same attributes to prevent favouring one supplier. This made it difficult for the representatives of the evaluation team to evaluate the solutions without comparing them. Another aspect, which was also challenging in the evaluation, was to define added value. The suppliers had varying experiences with the evaluation of the final bid. Upon reviewing the evaluation report, a supplier informant found no difficulties in accepting the evaluation provided by the client. Simultaneously, some members of the winning consortia felt that they ultimately did not know how they were evaluated. Other informants thought the evaluation to solely focus on the aspect of price. If the price was acceptable, the evaluation became also better on the technical side.

The evaluation teams for the final bid the evaluation teams consisted of members who participated in the negotiations and members who did not participate in the negotiations. Having members who have participated in the negotiations during the evaluation process has the benefit of displaying the impact of clarifications and negotiation meetings in the evaluations. The challenge is that unconsciously formed relationships during negotiations can affect evaluation. The evaluation can lose its objectivity and may favour one supplier. Another challenge that was addressed is the possibility that the evaluation could be influenced by the bid price. An approach to solve this is for the suppliers to submit their proposals using a two-envelope system. One envelope would contain the bid price, while the other would contain the response to the award criteria unrelated to the price. A limited number of evaluation members should have access to both envelopes to ensure that the price does not affect the other award criteria.

Compensation for approved final bid:

A notable experience was the level of compensation that the suppliers were granted for an approved final bid. The suppliers, along with the client, perceived the compensation to be insufficient project and suggested that it should have been increased. The compensation was insufficient to cover suppliers' costs towards their subcontractors. It was a big challenge for the client to determine the size of compensation for the suppliers. If too low, it might discourage competition participation. If too high, it might attract suppliers more interested in the compensation rather than the project.

There should be a fair proportion between the expenses incurred by the suppliers and the compensation that is provided for an approved final bid. One possible method for determining the compensation amount is to consider the external expenses that suppliers pay to their consultants and subcontractors during the process of tender preparation and submission.

Demanding process

All representatives from the client and the suppliers acknowledged that CNP was demanding, but they agreed that the appropriate procedure was chosen for the project. According to one of the informants from the client, there has been a high number of conflicts in major projects due to the sole use of DBB and price competition as procurement procedures. When the cost exceeds 200 million euro, the contract is difficult to manage and monitor. This led to disagreements, which in turn resulted in increased expenses for both parties involved. The client states that the suppliers need to comprehend the scope of the project and the specifics of the contract, including the allocation of responsibilities and risks between the involved parties before contract signing. The suppliers had also a demanding process, requiring significant use of both internal and external resources. It is not just the tender process that consumes resources. Winning would require a significant apparatus to support the project.

The initiative to have clarification and negotiation meetings proactively addressed uncertainty and risk conditions that would often come later in a traditional project. Clear communication and a shared knowledge of the project scope and terms before signing the contract give the suppliers valuable insight into the project. The client was also convinced that they achieved a more precise price for the project through negotiating. Although negotiations and clarifications can reduce risks, overall cost, and the likelihood of future conflicts, competitive negotiation is a demanding procurement procedure that may not be suitable for smaller and less complex projects due to the significant amount of resources it demands from both the client and suppliers.

CONCLUSION

This paper shows how clients can use CNP to act according to LC principles during the tendering process by answering three research questions, namely RQ1: “How was the Competitive Negotiated Procedure implemented?”, RQ2: “What are the experiences with Competitive Negotiated Procedure?”, and RQ3: “How can Competitive Negotiated Procedure be improved for future use?”.

The paper has both theoretical and practical contributions. In terms of theoretical contributions, the paper documents the practical implementation of CNP and the experiences from the tender process in a Norwegian infrastructure project. Figure 1 illustrates in what phases the main activities and decision gates of CNP were implemented. The supplier and client experienced better collaboration than they were used to. The clarification and negotiation meetings before contract signing resolved concerns that could have caused problems later. However, the collaboration could have resulted in even more cost-saving solutions if the zoning plan was more flexible. In total, CNP mitigates waste by reducing the likelihood of conflicts.

In terms of practical contributions, this paper contributes to the IGLC Community by explaining a procurement process that allows public clients to implement lean principles in public procurement. The paper suggests improvements for future projects and can act as a managerial checklist for public clients seeking to incorporate lean elements in procurement.

There has been a shift from mere price competition to procurement methods more in line with the principles of Lean, and the consequences should be documented. Therefore, experiences from other recent infrastructure projects that have used CNP should be documented.

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