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Tender attractiveness in the public procurement of strategic goods: understanding the factors that influence suppliers' willingness to bid

A case study of the fire department in the Netherlands

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Abstract: The purpose of this research is to examine the tender attractiveness for public entities to achieve high participation in tenders of strategic goods. The factors were questioned through interviews with suppliers and focus groups with employees of the fire department of the Netherlands and compared to the theory. The results of the interviews have deepened the meaning of the literature-derived factors. The results of the interviews are clear communication, planning, flexible buyer, high quality/knowledge, transparency, award criteria, contract size, compensation, profit margin, technical requirements, standardization, innovation, penalty clauses, ceiling amount, insurances, financing, and engineering costs. Additionally, the results of the interviews are also linked to different literature-derived factors. The top-five factors derived from the interviews with suppliers, where two have an equal score, are planning, costs (ceiling amount), technical requirements, transparency, high quality/knowledge, and references. However, the results of the focus groups and interviews do not have an equal top-five of factors derived from the interviews, which results in a difference in thinking between suppliers and buying entities about the factors. An additional practical recommendation is that the fire department can adjust their planning so holidays do not fall within the registration period, the organization can check whether a ceiling amount is necessary or that costs can be asked in the market consultation. Also, providing good qualitative tenders can be done through hiring suitable persons or creating a project group of employees from different departments so knowledge can be pooled.

Management summary

This research seeks to examine the tender attractiveness for public entities to achieve high participation in tenders of strategic goods. In the end, the aim of the case study of the fire department in the Netherlands is to better understand the influence of several factors on the attractiveness of tenders. As a consequence, the fire department could benefit from this knowledge to achieve better tender attractiveness and gain more participation in their tenders. Therefore, the following research question is formulated: 'Which factors affect tender attractiveness to achieve high participation in tenders of strategic goods in public procurement?". To answer the research question, literature is reviewed that has ensured several factors that influence a supplier's decision to bid or not. These proposed factors are tested through qualitative research, namely interviews and focus groups. The interviews are held with suppliers of fire engines to find out that factors influence a supplier's decision to bid or not. Focus groups are held with employees of the purchasing department of the fire department to find out that factors they think are factors that influence a supplier's decision to bid or not.

The results show that the results of the interviews have deepened the meaning of the literature-derived factors. Also, the results of the interviews are factors that influence a supplier's decision to bid or not. These factors are clear communication, planning, flexible buyer, high quality/knowledge, transparency, award criteria, contract size, compensation, profit margin, technical requirements, standardization, innovation, penalty clauses, ceiling amount, insurances, financing, and engineering costs. Additionally, the results of the interviews are linked to different literature-derived factors. The top-five factors derived from interviews with suppliers, where two have an equal score, are planning, costs (ceiling amount), technical requirements, transparency, high quality/knowledge, and references. However, the results of the focus groups and interviews do not have an equal top-five of factors which results in a difference in thinking between suppliers and buying entities. With the results, the advice is given to the fire department in the Netherlands. The fire department can adjust their planning so holidays do not fall within the registration period and the organization can check whether a ceiling amount is necessary or costs can be asked in the market consultation. Additionally, the fire department can provide good quality tenders by hiring suitable persons or creating a project group of employees from different departments so knowledge can be pooled.

Content

1. Introduction

The purchasing environment in the thesis will focus on strategic goods in public procurement in the Netherlands. Public procurement relates to goods, services, and works purchased by public organizations. Public procurement can be used to achieve policy goals and create value for society (Grandia & Meehan, 2017, p. 4). When public entities want to order goods above the European threshold of 139,000 euros, a public tender is needed (Union, 2020). In the academic literature, much attention has been paid to procurement over the last decade (Knudsen, 2003, pp. 720-721; Tassabehji & Moorhouse, 2008, p. 55). According to Hüttinger, Schiele, and Veldman (2012, p. 1194), the number of suppliers is declining in many industries, which results in fewer suppliers to choose from. Peuscher (2018, p. 9) suggests that a tender and the implementation of it are important to achieve high participation of suppliers in public procurement. Also, a significant challenge for public entities in the Netherlands relates to ensuring that suitable suppliers participate in tenders for strategic goods in public procurement.

For strategic goods, a strategic supplier is needed (Kamann, 2007, p. 133). Strategic goods are products with a significant supply risk and a high-profit impact. Generally, strategic goods are complex items and have great importance for the company (Padhi, Wagner, & Aggarwal, 2012, p. 6). Even guaranteeing the continuity in participation and safeguarding high qualitative competitive value, is also part of the problem statement (Enshassi, 2008, pp. 30-31). More participation in tenders is important which results in more competition. The result of more competition is that profits of tendering could be increased (Enshassi, 2008, pp. 30-31). Hence, the goal of the thesis is to examine the tender attractiveness for public entities to achieve high participation in tenders of strategic goods. Consequently, buyers that participate in tenders are declining faster than new entrants are joining, so the number of buyers is decreasing (Hüttinger, Schiele, & Schröer, 2014, p. 697; Peuscher, 2018, p. 10). Therefore, it is important to make tenders attractive and allow them to remain so that companies are less likely to withdraw.

Although the importance of a tender and its implementation has been studied, no studies have analyzed which specific factors affect the attractiveness of a tender in public procurement. The attractiveness of a tender is defined as all procurement related opportunities between a buyer its potential suppliers until a contract is awarded to one supplier (Peuscher, 2018, p. 52). So, when a tender is considered attractive, a supplier decides to participate and commit to a tender.

Tender attractiveness specifies the perception of the value that a supplier attaches to a tender and the corresponding procedures (Peuscher, 2018, p. 35). Hence, the lack of studies creates a gap in the literature. Also, the relevance of the research stems from the decreasing numbers of suppliers and the importance of the tender and its implementation to achieve high participation. Therefore, this study will explore the factors for public organizations that desire to gain higher participation in tenders of suppliers through knowing the factors that affect the attractiveness of tenders. Being able to understand if the attractiveness of tenders is part of the solution of the problem statement, the research aims to answer the following research question:

> ***Research Question:*** *'Which factors affect tender attractiveness to achieve high participation in tenders of strategic goods in public procurement?'.*

By linking the goal to the theoretical contribution of this study, the relevancy of introducing tender attractiveness to the research's scope is highlighted. The theoretical contribution of the study is to create insights into factors of tender attractiveness which are unclear at the moment. Knowing what tender attractiveness is and which factors affect the attractiveness of tenders, could ensure a buying public entity of high participants in tenders (De Clerck, 2015, pp. 1-3; Edler, Georghiou, Uyarra, & Yeow, 2015, p. 59; Garzon et al., 2019, p. 9; Hesping & Schiele, 2016, pp. 110-111). Also, the differences of thinking about influencing factors, between suppliers and buyers become clear, which can be seen as a theoretical contribution because these differences are not clear at the moment. The practical contribution of this study is focused on public entities. Public entities could benefit from knowing the attractiveness of factors in tenders causing to put demarcated tenders out, so the organizations know that the specific factors cannot cause a supplier not to participate in and not commit to the tender. An additional practical contribution could be saving time and money in the process by knowing what the suppliers are looking for. To provide an answer to the research question, the research consists of several parts. Firstly, a theoretical framework is presented with relevant concepts of public procurement, tender attractiveness, and participation in a tender. Secondly, the methodology of the research is discussed. Thirdly, the results of the research are showed. Lastly, a conclusion and discussion are given.

2. Previous research

Attractiveness is a wide term. The term attractiveness towards suppliers and buyers is seen as an emotional reaction to the desire to get nearer to a particular buyer (Hüttinger et al., 2012, p. 1195). Attractiveness is also defined as having the quality of being able to attract business in a relationship (Tanskanen & Aminoff, 2015, p. 128). Moreover, attractiveness is established by the communication chain. The communication chain consists of trust and commitment. These two factors have been identified as influencing factors of attractiveness in a relationship (Ellegaard & Ritter, 2007, p. 7; Hüttinger et al., 2012, p. 1197). Additionally, attractiveness also includes economic factors, organizational factors, and financial performance (Tóth, Liu, Luo, & Braziotis, 2019, p. 4). Nevertheless, by generating attractiveness, buyers in the private sector stimulate the interest of suppliers by revealing potential value to encourage suppliers to work together (Peuscher, 2018, p. 28; Pulles, Schiele, Veldman, & Hüttinger, 2016, p. 3). To conclude, attractiveness can thus be seen as the interest of parties to intensify, or engage in a relationship, with an emotionally or qualitative aspect, and is established by the communication chain. An overview of the definitions can be found in Table 1. The attractiveness relates to buyers and suppliers, but there is still a gap in knowing the factors which influence tender attractiveness in public procurement. Therefore, public procurement, corresponding procedures, and processes are first explained.

Table 1: Definition of attractiveness: from emotional reaction to revealing the potential value

Definition of attractiveness	
Emotional reaction	Hüttinger et al., 2012, p. 1195
Quality of being able to attract business in a relationship	Tanskanen & Aminoff, 2015, p. 128
Communication chain (trust and commitment)	Ellegaard & Ritter, 2007, p. 7; Hüttinger et al., 2012, p. 1197
Economic, organization, financial performance	Tóth, Liu, Luo, & Braziotis, 2019, p. 4
Revealing potential value	Peuscher, 2018, p. 28; Pulles, Schiele, Veldman, & Hüttinger, 2016, p. 3

2.1 Public procurement: a spending process by public organizations

Public procurement is defined as a process of spending by public organizations (Cernat & Kutlina-Dimitrova, 2015, p. 9). Public organizations are governed by multiple stakeholders, who are often appointed by governmental bodies (Harland, Telgen, & Callender, 2013, p. 376;

Telgen, Harland, & Knight, 2012, pp. 17-18). Public procurement is dissimilar from private procurement. The purpose of public procurement could differ from the private sector. First, the objectives of organizations in the private sector define the purpose of purchasing as underpinning or providing profit perceived in the level of return on investment and earnings per share (Harland et al., 2013, p. 376). Organizations in the public sector are seen as a management tool to encourage durability or driving innovation (Brammer & Walker, 2011, p. 454).

Second, the differences between internal and external requirements. Internal requirements are defined as elements within the internal scope of the organization. In public organizations, these elements are multiple goals that need to be attained. These objectives involve identifying the needs of the public and maintaining them with financial goals and innovation strategies (Telgen et al., 2012, pp. 17-18). In comparison, private sectors have more freedom in their financial policies, flexible budgets, and are less burdened by political influences (Telgen et al., 2012, pp. 16-17). External requirements are defined as special reflections to be created by public organizations in a different way or more detail. The most important requirements are transparency, public interest, and the legislation of public procurement. Public organizations have to be more transparent in their process of tendering than private organizations. Transparency involves equal opportunities that all bidders should have in the procedure. Additionally, ensuring the public interest is more relevant to public entities than private organizations. From public entities, it is expected that entities perform an exemplary function to the population. So, the activities of the public organization are more criticized and examined more closely compared to private organizations. Furthermore, public entities have to follow the legislation of public procurement (Telgen et al., 2012, p. 17; Wang & Bunn, 2004, p. 97). Within public procurement, goods can be categorized.

2.1.1 Strategic goods; using the Kraljic purchasing model

Public goods can be categorized into different domains. The most established and first portfolio model in literature and practice for these categories is the Kraljic purchasing model, which can be found in Figure 1 (Garzon, Enjolras, Camargo, & Morel, 2019, p. 3; Kraljic, 1983; Montgomery, Ogden, & Boehmke, 2018, p. 193). The Kraljic purchasing model contains a matrix that represents the products acquired by a business into four quadrants regarding two key drivers. The two main factors are business value and the risk level of a product. The business value can be defined in the purchased volume, percentage of purchase costs, or

business growth. The risk level consists of terms of availability, competition, and the number of suppliers (Garzon et al., 2019, p. 9). The products are categorized into four categories, named strategic, leverage, non-critical, and bottleneck.

First, strategic goods have the highest profit impact and highest supply risk and have a limited number of qualified suppliers (Garzon et al., 2019, p. 9; Hesping & Schiele, 2016, pp. 110-111). To purchase strategic goods in public procurement, supply risk seems to be the primary factor if goods will be purchased. Within the purchasing of the strategic goods, the variables 'delivery', 'product', and 'price' are the most significant variables to score the bid (Garcia, Puente, Fernandez, & Priore, 2018, p. 6). Second, leverage items represent a high part of the product's cost price coupled with low risk. The buying entity has opportunities and impulses for negotiation, which causes an aggressive attitude to the supply market (Caniels & Gelderman, 2005, pp. 145-146). Third, non-critical items have a low value per product and numerous other suppliers can be found in the market. These products take 80 percent of the time of the company but take up 20 percent of the procurement revenue (Caniels & Gelderman, 2005, p. 146). Lastly, the bottleneck products have a financial impact on the organization and suppliers have a dominant position. The strategy of these products focuses on non-critical products (Caniels & Gelderman, 2005, p. 145).

Figure 1: Kraljic model. Source: Adapted from Kraljic (1983)

This study focuses on strategic goods, because of the high risk, profit impact, and complex goods (Caniels & Gelderman, 2005, p. 144). In comparison with the other three items, strategic goods scored an above average on strategic importance and supply risks, but also more effort is invested into strategic goods (Hesping & Schiele, 2016, pp. 110-111). Strategic goods have

a greater impact on suppliers because due to the high risks, mutual trust, commitment, and great cooperation from both sides and therefore a high level of mutual dependence is required (Caniels & Gelderman, 2005, p. 222). Strategic goods have more impact on the buying entity and are more actively managed than the other three types of products. Hence, it is worthwhile of investing extra effort in making a tender attractive because the high supply risk already means that access to the strategic good is limited. Also, the costs could be relatively lower than the market value when looking at the high business value. Therefore, studying the factors which influence tender attractiveness could be more relevant for these products.

Public goods can be categorized into four domains, whereas strategic goods have a high value and few suppliers. Within public procurement, public entities have to obtain the legislation. In Europe, the EU directives with principles are introduced for public goods. Moreover, the legislation needs to be followed. In addition to the EU-directives, there are other additional rules that public entities have to obtain.

2.1.2 Public procurement in the Netherlands; EU-Directives ensuring their expenditure serves a public interest and focusing on goods

Public investment through public procurement in the Netherlands represents fourteen percent of the EU GDP, which makes a substantial element of the total trade volume (Commission, 2017, p. 2). Within public procurement, goods are represented with 33 percent of the total public procurement volume. Goods are defined as production services that are emerged from the ecosystem. Products consist of raw materials (Beaumont et al., 2007, pp. 254-256). Moreover, Kaul, Grunberg, and Stern (1999, pp. 3-5) suggest that public goods have non-rivalrous and non-excludable benefits in consumption. In Europe, public organizations should follow the rules when goods, services, and works are above the threshold of 139.000 euros. These rules are named EU Directives with the purpose to ensure their expenditure serves the public interest (Parliament, 2014, p. 9). When the values are below the threshold, then the tender has to apply the national rules. The European rules care about how organizations have to procure goods, services, and works. The goal of the EU-directives is to ensure that public entities obtain the greatest return on their money, which is regulated by the basic principles (Peuscher, 2018, p. 27). At all times, the basic principles of the EU-directives should be complied with. The main principles are transparency, equal treatment, open competition, and non-discrimination (Commission, 2014, p. 157).

The EU-directives require procurement entities to issue a tender in such a manner that all types of eligible suppliers have an equal chance to be selected and objectively be awarded a contract of the tender. Despite the EU-directives, in the Netherlands, there are additional rules that public entities have to obtain. In the Netherlands, every awarding public organization is accountable for the governance of its public procurement process, irrespective of the level of government (Commission, 2014, p. 156). Besides, public organizations now have to publish notices in the central electronic database, named TenderNed. Public organizations also need to divide responsibilities into various sections where applicable, attribute tasks according to the best economically attractive tender condition, and inform non-selected applicants within fifteen days of award (Commission, 2014, p. 157). In the next section, the tender and its process are defined. Nevertheless, there are several procedures to put tenders out. The process of a tender consists of several phases.

2.2 A tender and its process: a procedure where the purchaser asks companies to carry out certain works, goods, or services

According to Mynhardt (2011, pp. 26-27), a tender is a procedure in which a purchaser asks companies to deliver certain works, goods, or services. The companies that want to supply the work, goods, or service, can subscribe to the tender. The purchasing company then weights up which tender will be awarded the contract based on price and quality. Furthermore, tendering can be a type of reverse bidding where suppliers offer the services, works, or goods that buyers demand but this is not always the case (Mehrbod & Grilo, 2018, p. 221). In this procedure, suppliers compete with competitive bids for tenders and seek to gain a contract. Within this procedure, the timing of a tender is relevant. The process of tendering is frequently time-sensitive and that is why contractors often have to prepare several tenders at the same time. Later interactions occurring during the real tender or negotiation process are less important for development than at the beginning of the process (De Clerck, 2015, pp. 1-3; Edler, Georghiou, Uyarra, & Yeow, 2015, p. 59). In this research, the definition of tender that will be applied is that a tender is a procedure where purchasers ask companies to carry out certain works, goods, or services. A tender will be awarded based on price and quality, mostly in a competitive environment. To put a tender out, several procedures can be used.

2.2.1 Types of public tendering procedures; the most widely used procedure with strategic goods is the restricted procedure

Several kinds of public tendering procedures are distinguished in Europe. The general procedure of awarding the contract is through competitive tendering. Within competitive tendering, types of tendering procedures are open procedure, restricted procedure, competitive negotiated procedure, competitive dialogue, innovation partnership, and design contest (Union, 2020). First, an open procedure consists of one round where everyone can submit a bid and directly goes to the awarding phase. This is the most frequently encountered procedure. In this procedure, in addition to the note of the information, contact with any suppliers is not permitted (Chever, Saussier, & Yvrande-Billon, 2017, p. 2; Holma, Vesalainen, Söderman, & Sammalmaa, 2020, p. 2; Pianoo, 2020b). Secondly, a restricted procedure is that any person can ask to be allowed in that specific tender (Chever et al., 2017, pp. 2-3; Union, 2020). However, only the pre-selected suppliers can apply with their offers. The procedure consists of two rounds. The first round consists of making a selection of the best bids. The second round consists of making a final decision and awarding the best bid. In this procedure, extensive communication is allowed with selected suppliers (Pianoo, 2020b).

Thirdly, a competitive negotiated procedure means that suppliers who are pre-selected are invited to contribute and negotiate with the purchasing company (Sönnichsen & Clement, 2020, p. 7; Union, 2020). A negotiated procedure can be with or without prior publication. The procedure with prior publication means that the buying entity negotiates the conditions of the contract with one or more of the suppliers of their choice (Cantore & Togan, 2017, pp. 145-146). In the procedure, without prior knowledge, the buying entity does not provide any information about the conditions and suggestions that have been made and negotiate a contract without any kind of competition. However, this is only possible under certain circumstances (Cantore & Togan, 2017, pp. 145-146; Vlček, 2018, p. 73). Fourth, a competitive dialogue enables the public entity to launch the tender to engage with the shortlisted suppliers before and during the process (Sönnichsen & Clement, 2020, p. 7; Union, 2020). Suppliers can submit a proposal, which continues to a dialogue with the purchasing entity. This procedure is used when the public entity does not have a clear outcome in mind, so the buying entity can discuss the possible solutions in the dialogue (Burnett, 2009, p. 17). The supplier with the best fit will be awarded (Pianoo, 2020a).

Fifth, an innovation partnership is used when a work, good, or service that is still unavailable on the market has to be purchased. Suppliers can submit their innovative solutions to the problem. After the first round, two rounds will follow, namely a research and development phase, and a commercial phase. Then, the best fit for the entity will be awarded (Pianoo, 2020c). Finally, the design contest is a procedure where an idea for a design is acquired (Union, 2020). In this contest, companies who think they have the solution can admit their design or plan to create the solution. Then, the buying entity can choose the best idea (Bleda & Chicot, 2020, p. 15).

To conclude, the types of public tendering procedures are described, namely open procedure, restricted procedure, negotiated procedure with or without prior knowledge, competitive dialogue, innovation partnership, and design contest. These procedures can be found in an overview in Table 2. These procedures affect the focus of the study because the research is specifically about strategic goods. Therefore, the most widely used procedure is used further. The most widely used procedure with strategic goods is the restricted procedure because due to the complexity, there are often few suppliers. Also, the goods are of high risk, and the goods have a high value (Piano, 2020d). Even, a restricted procedure is recommended with strategic goods because of the high level of specialization (Union, 2020).

Table 2: Overview of types of tender procedures

Procedure	**Definition**	**Source**
Open procedure	One round with the openness that anybody can provide a tender	Chever, Saussier, & Yvrande-Billon, 2017, p. 2; Holma, Vesalainen, Söderman, & Sammalmaa, 2020, p. 2; Piano, 2020b
Restricted procedure	Pre-selected suppliers can apply with their offers	Chever et al., 2017, pp. 2-3; Union, 2020
Negotiated procedure with prior publication	Pre-selected suppliers are invited to contribute and negotiate with the purchasing entity	Sönnichsen & Clement, 2020, p. 7; Union, 2020; Cantore & Togan, 2017, pp. 145-146
Negotiated procedure without prior publication	The buying entity does not provide any information and negotiate without any kind of competition	Cantore & Togan, 2017, pp. 145-146; Vlček, 2018, p. 73
Competitive dialogue	The public entity can launch the tender to engage with the suppliers before and during the process	Sönnichsen & Clement, 2020, p. 7; Union, 2020
Innovation partnership	A work or good that is still unavailable on the market has to be purchased. Suppliers can submit their innovative solution	Piano, 2020c
Design contest	Procedure where an idea for a design is acquired.	Union, 2020

For each type of public tendering procedure, a tender needs to be drafted. Formulating tenders can be seen as a process with multiple phases. These phases consist of the identification of needs through the design, the choice of supplier selection methods, and a scoring rule for the evaluation of the offers that have been made. The process of tenders exists of several phases in the process.

2.2.2 The process of tenders with the main phases: pre-tender, tender, and post-tender phase

A tender consists of the main phases, pre-tender, tender, and post-tender phase (Holma et al., 2020, p. 2). The pre-tender phase covers all aspects related to procurement planning and preparation. This involves evaluating requirements, determining user preferences, and market research (McKevitt & Davis, 2015, pp. 79-80). Patrucco, Luzzini, and Ronchi (2017, p. 252) are going into the pre-tender phase a little more specifically. The phase involves planning the purchase needs and specifications, which corresponds to McKevitt and Davis (2015, pp. 79-80). Besides, the pre-tender phase also consists of specifying the technical characteristics and specifications of the required product or service. Moreover, scanning the supply market for available solutions, eventually, the qualification of suitable bidders and the drafting and processing of the main tender documents are part of the pre-tender phase (Patrucco et al., 2017).

However, Stilger, Siderius, and Van Raaij (2017, p. 91) and Van Weele (2009, p. 68) divided the procurement process into six phases, namely determining the specifications of the work, goods, or services. Then, the choice of supplier, the signing of the contract, the placing of orders, producing, and lastly the monitoring and evaluation phase. Witjes and Lozano (2016, p. 38) argue that the tender procedure exists of four phases. First, the phase of preparation. In this phase, the problem is identified, and a list of requirements is drawn up, which ends in the specifications of the work, good, or service. Second, the specification phase. In this phase, the first ideas are examined and designed, which results in the final specifications. Third, the sourcing phase or tender process, where the tender is made public, the selection is completed and the contract is awarded. Finally, the utilization phase, in which the work, good, or service is produced and delivered (Witjes & Lozano, 2016, p. 38).

To conclude, the tender process should be carried out in a different number of phases. Additionally, within the several procedures of tendering, not all have the same tender process. Therefore, an overview has been made, which can be found in Table 3. In the overview, the four phases of Witjes and Lozano (2016, p. 38) are used because these four phases cover the other mentioned phases. In this table, the tender procedures, which are mentioned in the previous section, are displayed. As the procedures have a different interpretation of the four phases, the procedures are explained separately. The most widely used procedure with strategic goods is outlined, namely the restricted procedure. Moreover, a tender also needs to be awarded and scored.

Table 3: Overview process of tenders with different procedures: the restricted procedure is outlined

Procedure	Phase of preparation	Specification phase	Sourcing phase (public, selection, awarding)	Utilization phase
Open procedure	Problem is identified	Final specifications are examined and designed	Tender is made public. One round where everyone can apply. No negotiations are allowed, and one supplier is awarded	Works, goods, or services are produced and delivered
Restricted procedure		Final specifications are examined and designed	Tender is made public. Suppliers with permission can apply for the two rounds, and one supplier is awarded	
Negotiated procedure with prior publication		Final specifications are examined and designed	Tender is made public. Pre-selected suppliers can contribute, negotiate, and submit their offer. One supplier is awarded	
Negotiated procedure without prior publication		Final specification are examined and designed	Tender is made public. The buying entity does not negotiate with competition. One supplier is awarded	
Competitive dialogue		Final specifications are examined and designed	Tender is made public and suppliers can submit a proposal. Then, a dialogue is started to research the best fit and one supplier is awarded	
Innovation partnership		First specifications will be designed	Tender is made public and suppliers can submit innovative solutions. Then, after 3 rounds, the best fit will be awarded	
Design contest		An idea will be designed	An idea is made public. Then, suppliers can submit their project. Finally, one project will be awarded	

= chosen procedure for the research

2.2.3 A shift to the economically most advantageous tender method as award criteria of a tender

Although the different kind of phases in the tender process, the selection of the supplier has often been made through two kinds of award criteria, namely "The Economically Most Advantageous Tender" (EMAT) or "Lowest Price" (Bergman & Lundberg, 2013, p. 73; Cheng, Appolloni, D'Amato, & Zhu, 2018, p. 777). Within these criteria, the worth of the money is highlighted, and it enables purchasers to integrate various factors in award decision-making. The criteria of awarding and scoring of a tender are relevant to the research because the purchasing entity needs to mention in the tender which award method and decision-making criteria are chosen (Dotoli, Epicoco, & Falagario, 2020, p. 2). Moreover, choosing the award methods and criteria in the specification phase ensures that the criteria can go beyond price as a single criterion, and from the criteria, the proposed influence factors could arise.

According to Bergman and Lundberg (2013, p. 74) and Asker and Cantillon (2008, p. 2), the economically most advantageous tender can be the one with the highest quality for a given price. A phrase that is also mentioned is "a beauty contest". Additionally, it can also be that the bid reaches the highest combined price and quality rating, wins. To determine the winning offer, the purchaser has to adopt some important choices about scoring (Stilger et al., 2017, p. 91). These choices are which quality dimensions should be considered in the qualification phase and those in the selection phase, how every dimension of quality should be scored, and how each quality dimension should be weighted to arrive at one overall score. According to Chen (2008, p. 427), the tender evaluation formula holds a crucial position in public procurement as it identifies the economically most advantageous tender. In contrast, the lowest price criteria do not take any qualitative criteria of the bid into account, but only the price. However, exceptionally low bids on tenders can be discarded by the awarding entity (De Clerck, 2015, p. 39; Detelj, Markovič Hribernik, & Pihir, 2015, p. 26; Dotoli et al., 2020, p. 2). Criteria of scoring differ with each tender. The most common criteria are risks, requirements, costs, collaboration, schedule, creativity, and support (Van Der Meer, Hartmann, Van Der Horst, & Dewulf, 2020, p. 183).

Furthermore, Howard (1988, p. 681) suggests that the basis of scoring exists of three parts, named choices of alternatives, the available information, and preferences of the purchaser including value, planning, and risks. Additionally, Shemshadi, Shirazi, Toreihi, and Tarokh

(2011, p. 12164) state that making a decision consists of five criteria. The five criteria, product quality, cooperation, delivery and price, and quality of the supplier, correspond the most with the other authors. Moreover, the most recent added criteria to the decision-making process are uncertainty and risks (Kaviani, Yazdi, Ocampo, & Kusi-Sarpong, 2019, p. 4; Ocampo, Abad, Cabusas, Padon, & Sevilla, 2018, p. 33). Additionally, scoring the offer can be done in a relative or absolute way. First, relative scoring is comparing the offer by its performance with the other admitted offers. With relative scoring, all the offers have to be looked at, so making a choice is not possible without checking every offer (Van De Rijt & Witteveen, 2011, p. 1). Second, absolute scoring consists of the price and quality of the offer. So, the information from the submitted offers will not be used as a reference point. (Stilger et al., 2017). In the scoring, weights can also be taken into account in awarding the tender. Weighted criteria are used for more complex procurement, such as strategic goods. Moreover, the weighted scoring needs to be implemented in the tender specifications. Within the weighted scoring, the award criteria each receive their weighting factor (Ballesteros-Pérez, Skitmore, Pellicer, & González-Cruz, 2015, pp. 260-261; Dotoli et al., 2020, p. 4)

Despite the two main criteria that are explained, there is critique to use the lowest price criteria and, therefore, it is to be seen that there is a shift from using the lowest price criteria to using the economically most advantageous tender (El-khalek, Aziz, & Morgan, 2019, p. 223). The lowest price method is often only used for simple tenders of low-level works, goods, or services with a standard specification. Nevertheless, within the criteria of lowest price, there is not looked at the quality of the work, good, or services (Hopfer & Bergström, 2018, p. 67; Sönnichsen & Clement, 2020, pp. 12-16). It is found that low-quality uncertainty speaks in favor of using the lowest price. Moreover, public authorities are using more and more the economically most advantageous tender (Lundberg & Bergman, 2017, p. 28). To conclude, there are two main criteria, namely the lowest price criteria and the EMAT. Within these criteria, it is possible to do an absolute or relative scoring. When scoring the tender, different weights can be attached to it. The choice of criteria and weights eventually influences the attractiveness or value of the tender.

In the next section, participation in tenders is discussed. Participation in tenders implies submitting a bid to the implementing organization. However, there are advantages and barriers to participating in tenders in public procurement. Advantages for participating are the greater

value of the bid, the raise of higher incomes, and therefore an increase in profits, and national development. However, some barriers to participation also exist. Barriers are lack of information, training. Additionally, there is an increase in risks, and the procedure and selection criteria could be considered vague.

2.3 Defining participation in tenders: suppliers submitting an offer to obtain the contract from buying entities

Participation is defined as submitting an offer to the implementing organization to obtain the contract (Blackmore & Doole, 2013, p. 3). Moreover, Bilan and Ciobanu (2017, pp. 14-15) suggest that participants in tenders are persons, groups, or companies legally bidding on the contract. Participants bid on a tender for the realization of works, the supply of products, or the performance of services. A high level of participation has several benefits and challenges for buying entities, which can be found in Table 4. A benefit of high participation is the reduction of risks. When there is low participation in tenders, the risks for purchasing entities increases. The risk is that there are only a few suppliers that satisfy the criteria. Another risk is that the project objectives will not be met (Whitten, Reeson, Windle, & Rolfe, 2008, p. 6). Moreover, according to Whitten et al. (2008, pp. 3-4), higher participation could result in improved performance for the buying entity concerning acquiring a higher quality of products.

In contrast, there is also a chance of challenges that arise for the purchasing entity. According to Whitten, Reeson, Windle, and Rolfe (2013, p. 83) and Ngai, Drew, Lo, and Skitmore (2002), when participation in tenders is high, it could lead to higher transaction costs for the buying entity, but also increase the economic efficiency because the bidders are aware of the high participation. So, when there are many bidders taking part in a tender process, the procurement costs could increase. The higher costs are the consequence of more visits and administration (Ngai et al., 2002; Whitten et al., 2013, p. 83). There is the potential for negative outcomes as a result of low-quality bids (Whitten et al., 2013, p. 91). Another negative consequence of high participation is the winners' curse effect. The effect implies that the quantity of bidders increases and the outcome is that reasonable bidders will bid more cautiously. The result of the winners' curse effect is the higher transaction costs for the purchasing company because the winning bid is higher than the value of the good (Enshassi, 2008, p. 30; Migheli, 2017, p. 3). Lastly, the factors selection criteria, lack of communication, and planning belong to factors that influence participation (Peuscher, 2018, pp. 58-59; Uyarra, Edler, Garcia-Estevez, Georghiou,

& Yeow, 2014, p. 638) The selection criteria can be considered as vague (Karjalainen & Kemppainen, 2008, p. 232). As participation is high, more attention should be paid to these factors, which is going to take more time for the employees.

Table 4: Benefits and challenges of high participation in tenders for the buying entity: performance, competitive advantage, income, risks, costs, failing offers, winners' curse effect, and takes more time

Benefits	**References**	**Challenges**	**References**
Improving performance	Whitten et al. (2008, pp. 3-4)	Increase of costs	Whitten et al. (2013, p. 83) and Ngai et al. (2002)
Better competitive advantage	Whitten et al. (2008, pp. 3-4)	More failing offers	Whitten et al. (2013, p. 91).
Higher income	Whitten et al. (2013, p. 83) and Ngai et al. (2002)	Winners' curse effect	Enshassi (2008, p. 30) and Migheli (2017, p. 3)
Reducing risks	Whitten et al. (2008, p. 6)	Takes more time	Peuscher (2018, pp. 58-59) and Uyarra et al. (2014, p. 638)

2.3.1 Advantages and disadvantages of participation for suppliers

There are several advantages for suppliers when participation in one tender is high. Advantages of high participation are improving performance, and better competitive advantage, which results in a higher income for the supplier that wins. First, a disadvantage is if a supplier expects that the participation in the tender is high, then it is expected that the supplier will participate in the tender less because suppliers have a smaller chance of obtaining the job, which results in fewer jobs for the supplier (Whitten et al., 2008, p. 6). Second, Levin, Athey, and Seira (2004, p. 4) observed that rivalry with anonymous bidders generates additional bidders. With wide-spread non-anonymous participation, it is to be expected that there will be a low-cost supplier and, therefore, provides financial drivers for the execution. If costs are extremely volatile, the benefits of more competition due to strong participation percentages are probable to be more significant. Moreover, the risks associated with administering winning participation are a strong reason for the establishment of backup pricing (Enshassi, 2008, p. 30; Levin et al., 2004, pp. 4-5; Whitten et al., 2008, pp. 4-9). According to Enshassi (2008, pp. 30-31), when there is more competition, the increase will usually trigger more aggressive bidding behavior from suppliers, as each bidder attempts to preserve its opportunities to win versus more competitors; this is referred to as a competitive effect (Enshassi, 2008, p. 30).

Also, focusing on the small and large segments in the tender will generate an economical incentive among the bidders. Moreover, this will achieve high participation. This will impose competitive pressure on the categories of high quality from suppliers (Krasnokutskaya, Song, & Tang, 2020, p. 41). So, when participation in tenders is high, a more competitive effect will arise but this can be seen as not desired by suppliers. High participation could lead to the most cost-effective bid to be accepted, with a benefit for the purchaser with lower costs (Levin et al., 2004, p. 4; Rolfe et al., 2018, p. 15; Whitten et al., 2008, pp. 82-83). In contrast, when bidders are confident of their success, the bid may be higher in prices (Rolfe et al., 2018, p. 15). Nevertheless, this will allow micro-enterprises an opportunity to enhance their performance by learning by doing things and establishing a reputation when these characteristics are important (Enshassi, 2008, p. 36; Krasnokutskaya et al., 2020, p. 45). The advantages and disadvantages of high participation for suppliers can be found in Table 5.

Table 5: Advantages and disadvantages of high participation for suppliers: higher quality, performance, change of winning, aggressive bidding behavior, and the most cost-effective bid

Advantages		**Disadvantages**	
Higher quality	Krasnokutskaya et al. (2020, p. 41)	Less chance of winning	Whitten et al. (2008, p. 6)
		More aggressive bidding behavior	Enshassi (2008, pp. 30-31)
Enhance performance	Enshassi (2008, p. 36) and Krasnokutskaya et al. (2020, p. 45)	Possibility of the most cost-effective bid to be accepted	Levin et al. (2004, p. 4), Rolfe et al. (2018, p. 15), and Whitten et al. (2008, pp. 82-83)

To maintain high participation in tenders, the attractiveness of a tender needs to be improved. According to Galt and Dale (1991, p. 1), a buying entity need to make a tender attractive to do business with suppliers. Furthermore, when the attractiveness of a tender is higher, the more interesting a tender is for a supplier to participate in a tender and the higher their ambition to win the contract in the end (Peuscher, 2018, p. 51). The attractiveness of a tender for suppliers is expected to be influenced by several factors.

2.3.2 Factors that influence suppliers' decisions about whether to engage in tenders or not

Participation in tenders is influenced by several literature-derived factors. In contrast to the various categories of award criteria such as cost, quality, and schedule, there are few sources

available to categorize all factors surrounding a tender (Watt, Kayis, & Willey, 2009, p. 253; Volker, 2010, p. 393). Therefore, according to Windle and Rolfe (2008, p. 389), the factors are divided into three categories, namely market factors, process factors, and economic factors. First, market factors that influence a supplier's decision to bid or not are the perception of a lack of resources and competencies, the entrepreneurs' expectations, and high risks, which can be found in Table 6. According to Hasselbalch, Costa, and Blecken (2014, pp. 319-320), lack of education is connected to the perception of a lack of resources and operational competencies that inhibit participation in public procurement. Moreover, the lack of expertise is also called a barrier to participation for small and medium-sized enterprises (SME's) (Saastamoinen, Reijonen, & Tammi, 2017, pp. 10-12). Even, the entrepreneur's expectations could influence the performance and functioning in public procurement (Karjalainen & Kemppainen, 2008, p. 232). Furthermore, Peuscher (2018, pp. 58-59) suggests that an influencing factor for bidding or not bidding to a tender is the controllability of risks. Additionally, there is made a distinction between bidding and the moment of the deal in the tender process, which are two different moments in the sourcing phase of the tender process (Witjes & Lozano, 2016, p. 36).

Table 6: Market factors that influence a supplier's decision to bid or not: entrepreneurs' expectation, risks, and lack of resources and competencies

Bidding	Deal	Definition	References
Entrepreneurs' expectation		The expectation of the process, and the supplier's perception of it	(Karjalainen & Kemppainen, 2008, p. 232)
Controllability of risks		Control tenders based on risk using models to determine if it is manageable	(Peuscher, 2018, pp. 58-59)
Lack of resources and competencies		Lacking expertise within the company	(Hasselbalch, Costa, & Blecken 2014, pp. 319-320)

*Bidding: the process until shortly before the deal is made
*Deal: the moment shortly before the deal is made and the deal itself

Secondly, process factors that influence a supplier's decision to bid or not are uncertainty, lack of information, pre-publication, lack of feedback and communication, freedom in design, transparency, and planning. Comerford (2013, p. 177) suggests that clear information, and reduction of uncertainty, are significant characteristics to higher participation. Additionally, insufficient awareness continues to limit participation (Rolfe, Whitten, & Windle, 2017, p. 617). However, the lack of participation in public procurement might be caused by the lack of

availability of information and uncertainty of the tender process. Moreover, the participation deadline in the planning for submitting tenders is also an issue related to the participation in tenders (Akenroye & Aju, 2013, p. 338). Nevertheless, Peuscher (2018, pp. 58-59) proposes that influencing factors to bid or not to bid to a tender are freedom in design, transparency in communicating award results, planning, and pre-publication. Additionally, factors of barriers are a lack of feedback, and communication (Uyarra et al., 2014, p. 638). Not only Uyarra et al. (2014, p. 638) but also Saastamoinen et al. (2017, p. 6) and Karjalainen and Kemppainen (2008, pp. 232-238) state that lack of information and communication is one of the most common barriers to participate in a tender. An overview has been made of the process factors that influence a supplier's decision to bid or not are, which can be found in Table 7.

Table 7: Process factors that influence a supplier's decision to bid or not, as found in the literature: uncertainty, information, pre-publication, feedback, communication, freedom in design, transparency, and planning

Bidding	**Deal**	**Definition**	**References**
Uncertainty		Uncertainty about finance, information and the future	(Comerford, 2013, p. 177)
Lack of information		Missing information in tenders about costs to product environmental services	(Comerford, 2013, p. 177; Rolfe, Whitten, & Windle, 2017, p. 617; (Uyarra et al., 2014, p. 638))
Pre-publication		Knowing what kind of works are expected to come	(Peuscher, 2018, pp. 58-59)
	Lack of feedback	Feedback to unsuccessful tenders to improve next time	(Uyarra et al., 2014, p. 638)
	Lack of communication	Communication within organizations between procurement functions and operational or service areas	(Uyarra et al., 2014, p. 638; Karjalainen & Kemppainen, 2008, pp. 232-238; Saastamoinen et al., 2017, p. 6)
Freedom in design		When the contractor is too rigid in the design	(Peuscher, 2018, pp. 58-59)
Transparency		The equal changes all bidders should have	(Peuscher, 2018, pp. 58-59)
Participation planning		Deadline for submitting tenders	(Akenroye & Aju, 2013, p. 338)

*Bidding: the process until shortly before the deal is made
*Deal: the moment shortly before the deal is made and the deal itself

Third, the high costs, contract size, and capability of a firm to leverage, and deploy its resources belong to the category economic factors that influence a supplier's decision to bid or not. When transaction costs of participation are low, the level of satisfaction with the tender process is higher (Rolfe et al., 2017, p. 617). Additionally, with low participation costs, SME's will participate faster (Morand, 2003, p. 302). Also, the contract size is considered as an influencing factor (Uyarra et al., 2014, p. 638). Within small and medium-sized enterprises, the capability is mentioned as a factor that influences a supplier's decision to bid or not (Flynn & Davis, 2017, p. 2). As a result, an overview has been made with factors that influence a supplier's decision to bid or not from the points of view of the suppliers in Table 8.

Table 8: Economic factors that influence a supplier's decision to bid or not: costs, contract size, and capability

Bidding	Deal	Definition	References
Participation costs	Participation costs	Additional costs to participate in a tender	(Rolfe et al., 2017, p. 617; Morand, 2003, p. 302)
Contract size		The volume of goods or services mentioned in the contract	(Uyarra et al., 2014, p. 638)
Capability		The capacity of a firm to leverage and deploy its resources	(Flynn & Davis, 2017, p. 2)

*Bidding: the process until shortly before the deal is made
*Deal: the moment shortly before the deal is made and the deal itself

In the next section, a synthesis is made from the derived literature. After analyzing the results of the literature, a model has been made which factors are proposed to affect the attractiveness of a tender, and therefore, influence the participation in tenders of strategic goods.

2.4 Research model of factors that influence a supplier's decision to bid or not on tender attractiveness

The research focuses on strategic items, restricted procedures, and factors that influence the attractiveness of tenders and a supplier's decision to bid or not. Strategic goods are goods with the highest supply risk and profit impact and are of high value for a company. When a tender of strategic goods is put out, the most widely used procedure used is a restricted procedure according to the literature. However, when a tender is put out, some factors influence the attractiveness of tenders, which may result in higher or lower participation of suppliers. The factors are divided into three categories, namely market factors, process factors, and economic

factors. The factors used further in the research are taken from the viewpoint of suppliers, which can be found in Tables 6, 7, and 8.

After analyzing the literature, a research model is created in which the factors are displayed with proposed arrows to the attractiveness of a tender. Furthermore, the attractiveness of a tender is proposed to have an influence on the participation in tenders of strategic goods, which is also displayed in the research model. The research model can be found in Figure 2. However, it is possible that some factors are found important and others not. Nevertheless, the market factors, process, and economic factors could be related to each other.

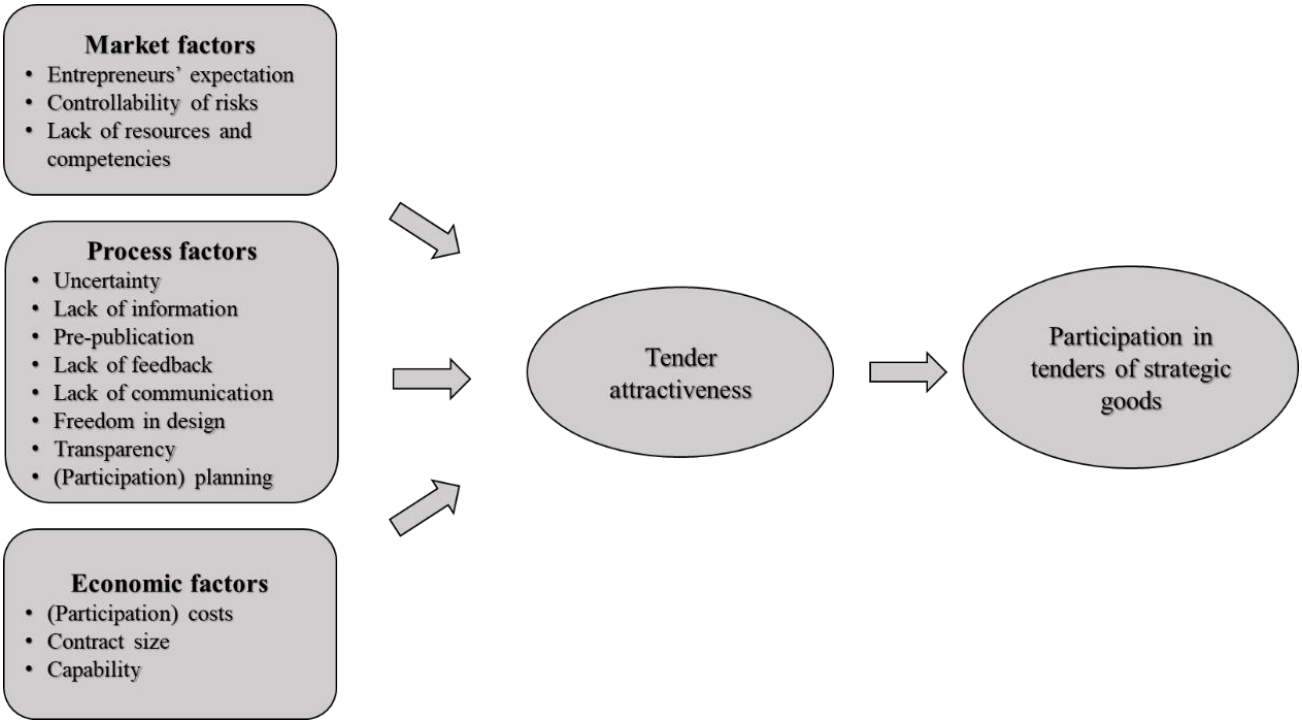

Figure 2: Research model

3. Methodology

Qualitative research is used as the research method. Qualitative research provides an understanding of questions about why and how people undertake certain activities or attitudes, which is related to this research. Also, qualitative research is used when the researcher is concerned with a greater appreciation of a particular subject concerning the participants' interests (Rosenthal, 2016, pp. 509-510). Moreover, the advantages of qualitative research compared with quantitative research are the bigger focus on understanding the context of the problem, getting more detailed information of an individual or group, need fewer participants to provide useful insights, and offers the opportunity to seek clarification (Queirós, Faria, & Almeida, 2017, pp. 378-379). However, qualitative research also has limitations, such as that it can be not representative of the population, it could be rigid, time-consuming, and has a long process to analyze and extract information (Queirós et al., 2017, pp. 378-379). With these disadvantages of qualitative research, quantitative research is also considered. Quantitative research has the advantages of low development time, easy data collection, and analysis through statical methods, high representativeness, and the method can reach high audiences. Nevertheless, quantitative research is not used as this method involves collecting and analyzing the data that is organized and can be reported in a numeric way, which is not the case in this research (Goertzen, 2017, p. 12; Queirós et al., 2017, p. 370). Additionally, the case study which is performed consists of a small market, and therefore, qualitative research will be representative and in-depth answers were more welcome, which is more achievable with a qualitative research method.

Within qualitative research, various methods are available, involving observations, interviews, and focus groups (Hüttinger et al., 2014, p. 701; Rosenthal, 2016, p. 510). To answer the research question, two methods of qualitative research are used, namely interviews and focus groups. Within these research methods, validity, reliability, and objectivity need to be considered. First, semi-structured interviews were held to clarify what determines the attractiveness of tenders, so companies would participate in and commit to tenders. Semi-structured interviews are interviews utilizing open-ended questions. The advantages of open-ended questions are that participants are allowed to reframe the questions and elaborate a profound exploration and explanation, which could be suitable for the research (Longhurst, 2003, pp. 105-107; Shroff, Vogel, Coombes, & Lee, 2007, p. 247). Additionally, open-ended questions can be used to bring forward more previously unidentified information (O'Keeffe,

Buytaert, Mijic, Brozovic, & Sinha, 2016, p. 1913). Second, two focus groups were conducted to obtain what buying entities think determines the attractiveness of tenders. A focus group is a planned session and created to acquire the opinion of the chosen group on a specific area of interest (Kontio, Lehtola, & Bragge, 2004, p. 2) A focus group consists of three to twelve participants. During a focus group, a topic is introduced or a question is asked, whereas the participants can start a discussion in an informal atmosphere (Kontio et al., 2004, p. 2; Parker & Tritter, 2006, pp. 24-25). Conducting focus groups were effective for the research because the method has adopted new perspectives to maximize the results.

3.1 Validity, reliability, and objectivity of the research

The validity of the research consists of measuring what needs to be measured (Andrade, 2018, p. 498). To obtain the validity of the research, the prepared questions or topics derive from the literature found from previous researches. To minimize bias in the interviews, the prepared questions are asked in the same manner and sequence. Even, with the prepared questions, the flexibility remains (Schmidt, 2004, p. 204). However, during the discussion of the focus groups, attention is paid to response bias. Response bias forms itself when certain individuals dominate the discussion (Löhr, Weinhardt, & Sieber, 2020, p. 10). Furthermore, to maintain reliability, the number of participants and the degree to which measure participants give the same answer are taken into account (McDonald, Schoenebeck, & Forte, 2019, p. 4; Rose & Johnson, 2020, p. 4). Also, the objectivity of the researcher is part of the trustworthiness of the research. To safeguard objectivity, no leading questions are asked and the opinion of the researcher is left out (Rose & Johnson, 2020, p. 4).

3.2 Ideal case to carry out qualitative research for the fire department in the Netherlands

To carry out the qualitative research, the fire department in the Netherlands had an ideal case to analyze the factors that affect tender attractiveness to achieve high participation in tenders of strategic goods in public procurement. The fire department in the Netherlands is a public organization and operates in the quaternary sector of Justice, Security, and Public Administration (CBS, 2020). A significant challenge for the fire department in the Netherlands relates to ensuring that suitable suppliers participate in and commit to tenders set out for fire engines. In the Netherlands, there are 25 safety regions in which the fire department is organized. Each of these safety regions has its purchasing department (Brandweer, 2020).

However, within the national expert group of purchasing of the fire department, it is noticeable that a different number of suppliers participate in tenders for fire engines among the safety regions. To perform qualitative research, suppliers from fire engines in the Netherlands were asked to take part in the interviews. These suppliers were asked to clarify what determines the attractiveness of tender, so companies would participate in and commit to tenders. To carry out the focus groups, employees of the purchasing department of the fire department were asked to participate.

In Twente, five suppliers of fire engines have signed up, which is many of the total suppliers. Therefore, it is important to interview all five suppliers to maintain representativeness, which is part of the reliability of the interview. The interviews were held online due to the Coronavirus. Hence, in Appendix A the semi-structured interview questions can be found. Furthermore, each interview lasted at least 30 minutes and a maximum of an hour. The interviews were conducted between the 2nd and 4th of November 2020. By interviewing the suppliers, in-depth information has been revealed. To carry out the focus groups, the employees of the purchasing department in the 25 safety regions were approached. However, some safety regions jointly purchase the fire engines and this is making the representativeness different. The focus groups were held online on the 9th and 17th of November 2020. The related questions can be found in Appendix B. The focus groups took an hour. By the focus groups with the employees, it became clear what factors they thought were important, but not the content of these which did become clear in the interviews with the suppliers. An overview is made of the number of participants and duration of the interviews and focus groups, which can be found in Table 9. To maintain anonymity, the exact date of the interviews is not included.

Table 9: Information interviews and focus groups: the number of persons and duration of the interviews and focus groups

Interview/focus group	**Persons**	**Duration (hour)**
Interview supplier A	1	1:04
Interview supplier B	1	0:52
Interview supplier C	1	0:47
Interview supplier D	1	1:02
Interview supplier E	1	1:11
Focus group buyers 1	5	0:55
Focus group buyers 2	5	1:06

3.3 Analyzing the data of the interviews and focus groups

Analyzing the data of the interviews and focus groups is done through qualitative content analysis. Within the qualitative content analysis, three approaches to the analysis exist, namely conventional, directed, and summative (Assarroudi, Heshmati Nabavi, Armat, Ebadi, & Vaismoradi, 2018, p. 43; Hsieh & Shannon, 2005, p. 1279). Within the research, directed content analysis is used. Directed content analysis is used when there is some existing theory or research literature available, but still incomplete and could benefit from further research (Hsieh & Shannon, 2005, p. 1281). Peuscher (2018, p. 58) already researched some factors of the attractiveness in tenders. However, this is limited to public procured works. Therefore, to expand the research of the attractiveness of tenders of public goods, the directed content analysis is used. The existing literature also provided directions to establish the questions and topics used in the interviews and focus groups (Hsieh & Shannon, 2005, p. 1281).

The asked main questions of the interviews are derived from the proposed factors that influence a supplier's decision to bid or not, according to the literature. These factors are divided into three categories, namely market, process, and economic factors. Moreover, some general questions are asked to maintain knowledge about the most important factors that influence a supplier's decision to bid or not and preferred tender procedure. The related main questions are displayed in Table 10.

Table 10: Questions interviews derived from the literature: divided into the dimensions general, market, process, economic and closing questions

Groups	Asked main questions	Tables of factors that were covered
General	What does it make for you to participate in a tender for fire engines?	
Market	What is your expectation of a tender?	*Table 6*
	What do you see as a high risk in tenders?	*Table 6*
	What do you see as a lack of competencies?	*Table 6*
Process	What does uncertainty mean to you in relation to tenders?	*Table 7*
	Which information is needed for the pre-selection for you?	*Table 7*
	What kind of information do you need to have to participate in a tender?	*Table 7*
	What kind of feedback do you expect to receive in the tender process?	*Table 7*
	What do you see as a lack of communication in a tender process?	*Table 7*
	What does freedom in design mean to you?	*Table 7*
	What does transparency mean to you in relation to a tender?	*Table 7*
	What kind of planning do you expect that is included in a tender?	*Table 7*
Economic	Are there any costs that influence your participation?	*Table 8*
	Does the contract size influence your participation?	*Table 8*
	What do you see under capability?	*Table 8*
	Does your capability influence your participation?	*Table 8*
Closing	In addition to the factors mentioned before, which other factors can be added that are important in your choice to participate?	
	Do you have factors that are more important to the decision of participating?	
	Could you make a top five of important influencing factors?	
	Which procedure of tendering for fire engines would you prefer to use?	

After conducting the interviews and focus groups, the data is explained. Then, the data is coded. However, with the directed content analysis, the coding framework was partly made before conducting the interviews and focus groups. Also, adding or changing codes after the transcribe is possible (Hsieh & Shannon, 2005, p. 1286). Directed content analysis is used because of the limited existing theory or research literature. Directed content analysis coding categories are derived from raw textual data that is interpreted to develop concepts or models based on data before and during the research (Moretti et al., 2011, p. 420). The coding framework is predefined by using previous researches or the interest is already present on which subjects are being researched (Bradley, Curry, & Devers, 2007, p. 1763; Fereday & Muir-Cochrane, 2006, p. 83).

Three coding techniques exist, which will be all executed, namely open coding, axial coding, and selective coding (DeCuir-Gunby, Marshall, & McCulloch, 2011, p. 138; Williams & Moser, 2019, p. 46). The first technique is open coding. Open coding is used to reduce raw data into smaller categories (DeCuir-Gunby et al., 2011, p. 138; Williams & Moser, 2019, p. 48). Making categories is executed before performing the interviews and work café, through using the literature that is derived. The second technique is axial coding, which is executed after open coding. Axial coding is following up the open coding through investigating relations between the codes of the open coding process and the concepts (Vollstedt & Rezat, 2019, p. 88; Williams & Moser, 2019, p. 50). The third technique is selective coding. Selective coding enables one to select and integrate the data in categories at a higher level (Williams & Moser, 2019, p. 52). The coding scheme can be found in Appendix C. To conclude, through transcribing and coding techniques, results are analyzed and a discussion and conclusion are drawn.

4. Results of the study

The results of the qualitative research are presented in this chapter. The previous chapter has discussed how the research has been conducted, namely, through five interviews and two focus groups. The five interviews were conducted with suppliers of fire engines, and the participants of the focus groups were employees of the fire department. On the one hand, the suppliers are based in the safety sector, which includes the fire department and companies in the industry. Some suppliers are not fully dependent on the fire department. The suppliers produce vehicles and matching materials. On the other hand, the buyers are purchasing employees of the safety regions in the Netherlands. The structure of the research is ordered into three groups, namely, market factors, process factors, and economic factors. Therefore, the results are first presented in these three groups. The results are based on the suppliers' view. In the end, the buyers' view is discussed. The questions of the interviews and focus groups can be found in Appendix A and B.

4.1 Participating in tenders is seen as an obligation and generates revenue, but the process needs to be transparent and the fire engine needs to be standardized

First, an open question is put to the five suppliers: 'What it is like for them to participate in a tender?'. The answers are divided. The suppliers see participation in a tender as an obligation, but also something that is causing revenue (Supplier A & Supplier C). However, it is mentioned that the quality of the tender is far below compared to other sectors (Supplier A). Within this quality, it could be seen that the standardization of the fire engine is an additional factor. With the standardization of the fire engine, the suppliers want to see a set of specifications of the fire engine that is always standard with some additional specific requirements (Supplier B), and within this process, the process needs to be transparent (Supplier E). One supplier explained it as "If there is a request for a specific pump installation, then the current supplier in that security region has an advantage. When the current supplier provides the explanation and the procurement team recognizes it, they are guaranteed to get a higher score than the competitor" (Supplier D). The explanation of supplier D means that the current suppliers have an advantage when the public entity puts a tender out for the same good. When the buying entity was happy with the current good and supplier, Supplier D said that the current supplier already has an advantage. However, participation in a tender could also be a strategic choice, but the technical requirements need to be clear, and the ceiling amount needs to be high enough (Supplier E). A

ceiling amount is the pre-set maximum economic amount of the tender (Ballesteros-Pérez et al., 2015, p. 263). To conclude, factors that influence a supplier's decision to bid or not can be seen as the quality of the tender, standardization, transparency, technical requirements, and ceiling amount, which can be placed under costs.

4.2 Market factors include the overarching factors expectation of tenders and risks: results of the interviews are, for instance, transparency, knowledge, costs, and planning

The questions of the market factors are divided into the expectation of the tender, risks, and lack of resources and competencies. However, during the first interviews, it was noted that it was unnecessary to ask the factor of lack of resources and competencies separately. In Table 11, the results of the questions about the market factors are presented. First, the expectation of the tender. Suppliers expect a tender that is transparent, standardized, and of high quality (Supplier A, Supplier B, Supplier C, Supplier D, & Supplier E). A transparent process comes from the award criteria. This criterion needs to be objective, so, anybody can read what the contracting authority wants to end up with (Supplier E). Also, the fire engine needs to be standardized because when the specifications do not suit the companies, then it is no longer interesting to subscribe (Supplier B & Supplier E).

Additionally, the tender of fire engines has low quality, due to the absent knowledge of the buying entity (Supplier A & Supplier E). Besides, to maintain the high quality, good knowledge of the employees that write the tender is found important (Supplier E). Moreover, clear technical requirements and award criteria are also part of the factors that influence a supplier's decision to bid or not (Supplier A, Supplier C, Supplier D, & Supplier E). The award criteria are sometimes vague, which causes a diminishing of enthusiasm (Supplier E). Nevertheless, in the specifications of the tender, a ceiling amount is mentioned, which means the height of the costs for the buying entity may be. However, one supplier is answering this question by saying that this amount is most of the time too low (Supplier C).

Second, the risks of a tender. The suppliers find several points to be covered by the risks of a tender. Financing is one of the mentioned points (Supplier A & Supplier D). Financing, in this case, means that suppliers have to pre-finance the project to their chassis suppliers, and this makes the suppliers feel like they are a bank. Even, the security regions are asking for insurances, which is been seen as a risk (Supplier A, Supplier B, Supplier D, & Supplier E).

The insurances include the guarantee requirements and the maintenance contract. The guarantee requirements are too high, according to suppliers A, B, and E. Guarantee requirements are requirements that security regions require five to fifteen years of guarantees. So, when something breaks and it falls within the term, the suppliers have to repair it. Nevertheless, a maintenance contract is also seen as a risk (Supplier A, Supplier C, Supplier D). The maintenance contract demands certain issues that cannot be paid for. Besides, the contract includes most of the time a penalty clause, which is also seen as a risk (Supplier B & Supplier C). The penalty clause is about the supplier having five days to do the maintenance of the fire engine. When the maintenance takes longer than five days, the supplier is fined up to a certain amount per day. Another risk is planning, which includes the expected delivery times (Supplier A & Supplier C). These expected delivery times are about when the fire engines have to be delivered. Lastly, references are also seen as a risk (Supplier A & Supplier B). References are about being able to demonstrate that the supplier, for example, supplied ten fire engines of a certain type in the last five years. Therefore, new entrants to the market have no chance this way, and some suppliers are ruled out.

To conclude, the market factors are the expectation of the tender and risks. The factors derived from the interviews are transparency, high quality and knowledge, standardization, costs (ceiling amount), technical requirements, award criteria, financing, insurances, penalty clauses, planning, and references. The factor lack of resources and competencies can be placed within the result from the interview named high quality and knowledge. The results of the interviews ensure the attractiveness of a tender and that the suppliers are participating or not participating in a tender.

Table 11: Results market factors: divided into the expectation of the tender, risks, and lack of resources and competencies

Market factors	Results	Suppliers
Expectation of the tender	Transparency	E
	High quality/knowledge	A & E
	Standardization	B & E
	Costs (ceiling amount)	C
	Technical requirements	A, C, D, & E
	Award criteria	E
Risks	Financing	A & D
	Insurances (guarantee requirements, maintenance contract)	A, B, D, & E
	Penalty clauses	B & C
	Planning	A & C
	References	A & B
Lack of Resources and competencies	N/A	

4.3 Process factors include several literature-derived factors and results of the interviews: corresponding factors are clear communication, standardization, and costs

The questions of the process factors are divided into eight factors, namely uncertainty, information pre-tender, information tender, feedback, communication, freedom in design, transparency, and planning. The results of the questions about the process factors are shown in Table 12. First, the uncertainty of a tender. Suppliers experiences uncertainty in the award criteria, clear communication, insurances like guarantee requirements, costs (ceiling amount), the contract size, flexible buyer, and references (Supplier A, Supplier B, Supplier C, Supplier D, & Supplier E). The uncertainty is present when the award criteria are not fully clear (Supplier A). Even when the note of information is not fully answered, supplier A said “Then I immediately pull the plug”, which means that the supplier decided not to bid. Moreover, when the contract size is not guaranteed, uncertainty arises (Supplier C). Security regions are sometimes putting a tender out for fifteen fire engines but only five fire engines are guaranteed, so the project, in the end, might be for seven firetrucks instead of fifteen. Nevertheless, Supplier C said “if you say this in a tender, and you also put a ceiling amount on it, yes, that makes it very difficult for us”, which causes uncertainty due to the ceiling amount. Besides, when a buyer does not want to think along with alternative solutions, the risk is high and causes uncertainty (Supplier D). Also, the references asked by the buying entity cause uncertainty to

participate in a tender, and with no clear communication, uncertainty arises even more (Supplier D & Supplier E). Uncertainty arises when the asked references in delivery of maintenance are high.

Second, the information that is needed in the pre-publication of a tender to participate is not the most important factor that influences a supplier's decision to bid or not. However, the pre-publication needs to have clear communication, the tender has to be of high quality, and the tender needs to be transparent (Supplier A, Supplier B, Supplier C, Supplier D, & Supplier E). Supplier A mentioned that sometimes the wrong information about the contact person is given and choosing one platform would be more convenient. Moreover, with a market consultation, the questions need to be of high quality and written by a person with knowledge (Supplier D). A market consultation includes an evaluation allowing suppliers to provide feedback and answer questions that are asked by the buying entity (Commission, 2021). Even, due to the scarcity of suppliers in the market, it is possible to see who is going to register and who is not (Supplier B). So, the process is not transparent.

Third, the information in the tender itself has to contain the fixed contract size, eventually penalty clauses, technical requirements, award criteria, insurances like the maintenance contract, and the financing method (Supplier A, Supplier B, Supplier C, Supplier D, & Supplier E). Besides, a ceiling amount can be left out and clear communication is recommended (Supplier E). According to Supplier A, "the wishes and requirements have to be contemporary, what we see is that tenders are being copied and pasted". Furthermore, the penalty clauses and the pre-financing induces that suppliers feel like they are a bank. With all the wishes and requirements, supplier C quotes "The overall picture just has to be right". Fourth, the feedback of the buying entity is affiliated with high quality, knowledge, and clear communication (Supplier A, Supplier C, & Supplier E). According to Supplier A, there are two types of feedback that comes with the employee of the buying entity, one with experience and knowledge, and one that does not have the experience and knowledge. Moreover, the suppliers are expecting open and clear communication within the feedback (Supplier A, Supplier C, & Supplier E). Open and clear communication is generated by full answers on the note of the information and an explanation of why a supplier has not been awarded the contract.

Fifth, clear communication is, according to Supplier A, Supplier B, Supplier C, Supplier D, and Supplier E essential. According to Supplier B and Supplier E, some of the questions are not

fully answered and some physical communication would be pleasant because then the supplier and buyer entity know whom they are dealing with and you have a word in return. Nevertheless, communication could also be simpler, for example by phone (Supplier C & Supplier E). Sixth, freedom in design is sometimes by suppliers called innovation. Freedom in design is related to technical requirements, standardization, and flexible buyer (Supplier A, Supplier C, Supplier D, & Supplier E). When innovation is judged, then Supplier A would innovate, but when the buying entity is only looking at functional requirements, then the supplier offers the cheapest. However, Supplier B would like a standardized fire engine because you are stuck with the laws and regulations, and the tender process would be easier. Nonetheless, the buying entities will have to be flexible and leave the exact implementation of the additional requirements to the suppliers (Supplier D).

Seventh, the transparency of the tender and its process. All of the suppliers are saying that there has to be more transparency in the process of the tender. Due to the small market of fire engines, suppliers know their market and what their competitors are going to do (Supplier B). Besides, the package of requirements needs to be open as possible. Supplier C mentioned here: "The buying entity has to lay down a set of requirements that any supplier can participate in". Lastly, factor planning, which is a crucial factor to participate in a tender. The current planning of the tender and its deadlines are not correct according to all of the suppliers. According to Suppliers A, B, D, and E, the buying entities need to take holidays into account. Currently, tenders are put out shortly before the summer or Christmas holiday and the deadline to hand in the offer is shortly after the holiday. However, the suppliers are also on holiday in these weeks. Additionally, tenders of several security regions are put out at the same time, which causes an effect that suppliers sometimes have to choose between these tenders (Supplier B, Supplier C, Supplier D, & Supplier E). As a result, the suppliers cannot participate in all of the tenders they would like to participate in.

To conclude, the literature-derived process factors are uncertainty, information pre-publication, information tender, feedback, communication, freedom in design, transparency, and planning. The factors derived from the interviews are, which some of them correspond to several literature-derived factors, award criteria, clear communication, insurances, costs, contract size, flexible buyer, references, high quality/knowledge, standardization, penalty clauses, technical requirements, innovation, more transparency, and planning (holidays, tenders at the same time).

Table 12: Results process factors: divided into uncertainty, pre-publication, tender, feedback, communication, freedom in design, transparency, and planning

Process factors	**Results**	**Suppliers**
Uncertainty	Award criteria	A &E
	Clear communication	A, D, & E
	Insurances (guarantee requirements)	B & C
	Costs (ceiling amount)	C
	Contract size	C
	Flexible buyer	D
	References	E
Information pre-publication	Clear communication	A,
	High quality/knowledge	C, D, & E
	Transparent	B,
Information tender	Contract size	A
	Penalty clauses	B & C
	Technical requirements	A, B, & C
	Costs (ceiling amount and financing)	C, D, & E
	Award criteria	C
	Insurances (maintenance contract)	D
	Clear communication	E
Feedback	Clear communication	A, C, E
	High quality/knowledge	A
Communication	Clear communication	A, B, C, D, & E
Freedom in design	Innovation	A
	Technical requirements	D & E
	Standardization	B, D, & E
	Flexible buyer	C
Transparency	More transparency (objective/honest)	A, B, C, D, & E
Planning	Flexible buyer	A
	Planning (holidays, tenders at the same time)	A, B, C, D, & E

4.4 Economic factors include costs, contract size, and capacity: the results of the interviews are, for instance, ceiling amount, profit margin, and planning

The questions of the economic factors are divided into costs, contract size, and capacity. The results of these questions are shown in Table 13. First, the costs are divided into a ceiling amount, engineering costs, compensation, and profit margin. Each of the suppliers mentioned the factor ceiling amount. The ceiling amount is most of the time too low, which causes the effect that suppliers are not going to participate in the tender. Moreover, Supplier E mentioned "I absolutely do not need a ceiling amount. If you ask for a standard, but ultimately more specific requirements are involved, the price will, of course, go up. And then the ceiling amount is still what it would be like with the standard requirements", which is a clear answer what the effect of a ceiling amount is. Additionally, Supplier D mentioned that making an offer is associated with engineering costs. Yet, Supplier D argued that "only the person who receives the contract can recoup these costs".

Furthermore, this point of view is related to compensation. Supplier C would like to see some compensation in return if a supplier participates with an offer in a tender. Besides, Supplier D and Supplier E suggest that buying entities must take into account the fact that suppliers must also be able to make money, which is reflected in the profit margin. The result of a low-profit margin is that suppliers are going bankrupt (Supplier D & Supplier E). Second and third, the contract size and capacity also have a small influence on the participation in tenders. However, some suppliers find this more important than other suppliers. The contract size has to do with the planning and there is a preference for large numbers. Supplier E mentioned, "If more tenders are tunning at the same time, then you also have to look at which fits best, and that also has to do with the capacity". So, the contract size and capacity are also related to each other, due to the planning of the tenders. Hence, the planning of putting out tenders all at the same time is found important as a factor that influences participation in a tender. On the contrary, Suppliers A and B argued that the contract size and capacity are also related to the buying entities. Supplier B said, "The contract size does matter to the fire department because they do not want to have all those cars on the sidewalk at once". However, the capacity seems only important when the planning of the buying entities does not fit within the production process (Supplier C).

To conclude, the literature-derived economic factors are costs, contract size, and capacity. The factors derived from the interviews are ceiling amount, engineering costs, compensation, profit margin, planning, and large tender. However, contract size and capability are both related to the planning but the capability is only important if the planning is not ideal.

Table 13: Results economic factors: divided into costs, contract size, and capability

Economic factors	**Results**	**Suppliers**
Costs	Ceiling amount	A, B, C, D, & E
	Engineering costs	D
	Compensation	C, E
	Profit margin	D
Contract size	Planning	C, E
	Large tender	A, C
Capacity	Planning (spread the order)	A, C

4.5 Overlapping results of the interviews causes linked literature-derived factors

Through analyzing the results of the interviews and putting these results in several tables, an overview has been developed. This overview shows several results of the interviews matching with several literature-derived factors. So, the attractiveness of a tender is the result of several factors that are also linked. which is shown in Figure 3. However, only the factors derived from the interviews that have several corresponding literature-derived factors are included.

First, the factors transparency, references, penalty clauses, and contract size have two linked literature-derived factors. These results of the interviews with linked literature-derived factors can be found in Table 14. Transparency is linked with the literature-derived factors expectation of a tender and transparency. All suppliers expect that the tender is transparent and that the suppliers have a fair chance of being awarded. Then, the factor references is connected with the factors risks and uncertainty. References are seen as a risk because of the requirement of extremely high references that are asked for (Supplier A & Supplier B). Moreover, references create uncertainty because normally suppliers can fall back on a partner from abroad, but if a

reference is required about maintaining fire engines, suppliers do that by themselves (Supplier E). Furthermore, the factor penalty clauses is linked with risks and the information in a tender. A penalty clause is seen as a risk because when the maintenance of a fire engine takes longer than, for example, five days, the supplier gets a fine (Supplier A, Supplier C, Supplier D). Penalty clauses are not needed to be included in the tender according to the suppliers. The last factor with two linked literature-derived factors is contract size. The contract size is connected with uncertainty and information in the tender. The contract size is causing uncertainty when the numbers are not fixed (Supplier A &Supplier C). Also, the contract size needs to be in the tender, so suppliers can make calculations for the budget (Supplier A & Supplier C).

Table 14: Factors derived from the interviews with two linked literature-derived factors: transparency, references, penalty clauses, and contract size

Factor derived from interviews	Literature-derived factor
Transparency	Expectation of a tender
	Transparency
References	Risks
	Uncertainty
Penalty clauses	Risks
	Financing
Contract size	Uncertainty
	Information in the tender

Second, the factors high quality/knowledge, standardization, technical requirements, award criteria, insurances, and flexible buyer have three linked literature-derived factors. These factors with their linked literature-derived factors can be found in Table 15. The factor high quality/knowledge is linked with the literature-derived factors expectation of the tender, information pre-publication, and feedback. The expectation of a tender is that the tender is qualitatively well written by the right people (Supplier A, Supplier D, & Supplier E). This expectation is also linked to the information in the pre-publication and feedback. Supplier D said for instance “That depends on the quality of the contracting party. So, who draws up the questions and what information they want to receive?”.

Moreover, feedback needs also certain knowledge and when the buying entity does not give good qualitative feedback, Supplier A will not participate. Then, standardization is connected with the expectation of a tender, information pre-publication, and freedom in design. In all of

these three literature-derived factors, suppliers mentioned that standardization of the fire engine could be way easier for the supplier and buying entity (Supplier A, Supplier B, Supplier D, & Supplier E). The tender can be shorter written with the standard requirements and some specific requirements (Supplier D).

Furthermore, technical requirements are linked with the expectation of a tender, the information in a tender, and freedom in design. Several suppliers mentioned that technical requirements need to be clearly written and this is connected with all three literature-derived factors. Moreover, the award criteria are related to the expectation of the tender, uncertainty, and information of the tender. Supplier A is expecting that the tender is not only awarded on price but also technical requirements. Besides, when there are normal award factors, and the contract is awarded fairly, there is less uncertainty (Supplier D & Supplier E). Also, the award criteria need to be clearly written in the tender. Additionally, the result of the interviews insurances is linked with risks, uncertainty, and information of the tender. The factor insurances contain guarantee requirements and maintenance contract. The guarantee requirements create risks because the suppliers cannot get a guarantee for ten years from, for example, a chassis supplier, which is also causing uncertainty (Supplier A, Supplier B, Supplier D, & Supplier E).

Additionally, the maintenance contract and guarantee requirements need to be clearly written in the tender. Being a flexible buyer is related to uncertainty, freedom in design, and planning. When the buying entity is not flexible, uncertainty arises because when the supplier finds a better solution for a technical requirement and the buyer is not flexible, this could be a problem (Supplier D). Furthermore, the buyer should be flexible in the freedom of design. Suppliers work with different products, which makes it undesirable for the buying entity to determine what type of product should be in the fire engine (Supplier D). Besides, the buying entity should be flexible in the planning, when a holiday is included in the term of delivering an offer (Supplier A, Supplier B, Supplier D, & Supplier E).

Table 15: Factors derived from the interviews with three linked literature-derived factors: high quality/knowledge, standardization, technical requirements, award criteria, insurances, and flexible buyer

Factor derived from interviews	Literature-derived factor
High quality/knowledge	Expectation of the tender
	Information pre-publication
	Feedback
Standardization	Expectation of the tender
	Information pre-publication
	Freedom in design
Technical requirements	Expectation of the tender
	Information tender
	Freedom in design
Award criteria	Expectation of the tender
	Uncertainty
	Information tender
Insurances	Risks
	Uncertainty
	Information tender
Flexible buyer	Uncertainty
	Freedom in design
	Planning

Third, the factors costs (ceiling amount), and planning have four linked literature-derived factors. The factor, derived from the interviews, costs is about the ceiling amount. These results of the interviews with their linked literature factors can be found in Table 16. The ceiling amount is linked with the expectation of a tender, the uncertainty, information of the tender, and costs. The ceiling amount is often mentioned in the tender, but normally too low (Supplier A, Supplier C, Supplier D, & Supplier E). Even, Supplier E mentioned, “I absolutely do not need a ceiling amount”. Nevertheless, at the expectation of the tender, the ceiling amount is already mentioned because a low ceiling amount already ensures that suppliers do not participate. Moreover, the ceiling amount causes uncertainty because when the amount is about the standard fire engine and the buying entity is also asking for specific requirements, the ceiling amount is too low. The ceiling amount is the maximum cost of the tender, only suppliers must be allowed to make a profit, otherwise, there will be no suppliers left (Supplier E). Planning is

also linked with four literature-derived factors, namely risks, contract size, capability, and planning in literature-derived. A risk in planning is seen as the expected delivery times. Then, the contract size and capability are also linked with planning because when buying entities put out tenders at the same time, suppliers have to look whether at their capability and therefore the contract size might matter. As a result, suppliers have to choose between several tenders to participate in. Moreover, planning in literature-derived is related to putting out a tender before the holidays.

Table 16: Factors derived from interviews with four linked literature-derived factors: ceiling amount and planning

Factor derived from interviews	**Literature-derived factor**
Ceiling amount	Expectation of the tender
	Uncertainty
	Information tender
	Costs
Planning	Risks
	Contract size
	Capability
	Planning

Lastly, the factor clear communication has five linked factors, namely uncertainty, information pre-publication, information tender, feedback, and communication. These factors with their linked literature-derived factors can be found in Table 17. Uncertainty arises when the buying entity does not give clear answers. In the pre-tender, Supplier A mentioned that sometimes the contact person is written on the tender with the incorrect information and that two platforms are used to put out the tender, which ensures ambiguity. Within the tender, there will have to be open communication (Supplier E). Besides, in the feedback, the buying entity is expected to communicate openly and give answers to suppliers about why they are not awarded and which factor was leading with some background information. Nevertheless, the way of communicating could be easier by picking up the phone (Supplier C, Supplier D, Supplier E).

Table 17: Factor derived from the interviews with five linked literature-derived factors: clear communication

Factor derived from interviews	Literature-derived factor
Clear communication	Uncertainty
	Information pre-publication
	Information tender
	Feedback
	Communication

As a result, with all the results of the interviews, a new framework is designed. The literature-derived factors were divided into three categories, namely market, process, and economic factors. The analysis shows that the results of the interviews have similarities with the literature-derived factors. Even, many factors derived from the interviews have several links with the literature-derived factors. These results have ensured that new dimensions have emerged, namely procedural aspects, prospects of winning, the value of the good, specifications of the good, and costs of the tender. Also, the results show that the literature-derived factors were broad factors, which are deepened by the results. Among the new dimensions are several factors, which are presented in the new framework. This new framework is presented in Figure 3.

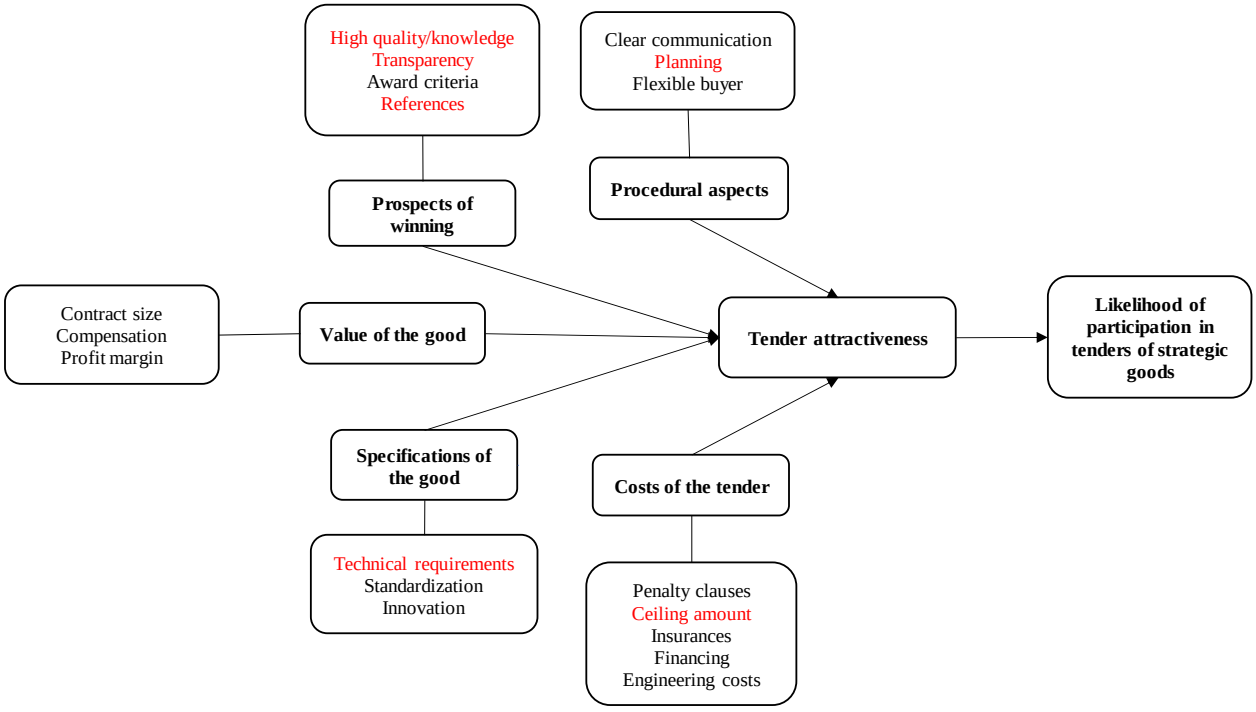

Figure 3: New framework with five new dimensions: procedural aspects, prospects of winning, value of the good, specifications of the goods and costs of the tender, and the top-five factors highlighted in red.

4.6 Practical contributions of the interviews: top-five ranking, factors that are easily adjustable, and preferred tender procedures

The practical contributions of the interviews arise from the questions of the top five rankings, the preferred tender procedure, and the factors that buyers could readily adapt to achieve an attractive tender. The suppliers were asked if any of the literature-derived factors could be left out, but none of these factors have to be removed. The top five rankings of the suppliers about the important factors that influence a supplier's decision to bid or not are shown in Table 18. Additionally, some factors were chosen less, which caused that these factors do not belong in the top five but are still important. Therefore, these factors are also mentioned in Table 18. The top five have arisen from how often the factors have been named in the top five and where the factors have been placed.

First, the most important factor that ensures the attractiveness of a tender and the participation in a tender is planning, which is related to the participation deadlines before holidays. In the second place is the factor ceiling amount, which is put in the tender, normally too low and could be left out. In the third place are the technical requirements, which need to be clearly written. In fourth place is transparency, which could be improved in the small market. In fifth place are high quality/knowledge and references. These two factors have an equal score which put them both in fifth place. The factor of high quality/knowledge is related to a good qualitative tender, written by employees of the buying entity with good knowledge. The factor references has to do with the required references that prevent new players from entering the market.

The other important factors that are also identified in the top five are not mentioned frequently enough are price, clear communication, contract size, risks, financing, and award criteria. A remarkable similarity is that the top-five ranking corresponds with the factors derived from the interviews which are more often mentioned in the literature-derived factors.

Table 18: Top five ranking of important factors that influence a supplier's decision to bid or not: planning, ceiling amount, technical requirements, transparency, high quality/knowledge, and references

Top-five ranking (1 = most important, 5 = less important)	**Factors**
1	Planning
2	Costs (ceiling amount)
3	Technical requirements
4	Transparency
5	High quality/knowledge
5	References
Other important factors: price, clear communication, contract size, risks, financing, award criteria	

Some factors could be easily changed by the suppliers according to the suppliers. These factors are clear communication, planning, transparency, knowledge, and standardization. However, Supplier D said, "I cannot enforce that there are suddenly good specifications or that the right people are on the spot" and Supplier B said, "I find it difficult", which says that it is difficult for suppliers to exactly determine which factor could be easily changed by the buying entity. The mentioned factors correspond with the important factors mentioned in the top five, except for the factor standardization. Nevertheless, standardization was also one of the results of the interviews that were overlapping with several literature-derived factors.

In the interviews, suppliers were asked which procedure they would prefer for fire engines. The majority of the suppliers have opted for an open procedure. However, Supplier A suggested a multiple private tender, but this procedure is not possible above a certain turnover, which is the case with fire engines. Therefore, Supplier A has chosen for an open procedure. Furthermore, Supplier C would like a competitive dialogue and as a second option an open procedure. Supplier E prefers the Best Value Procurement, but this is a scoring method and not a tender procedure. Furthermore, suppliers like the current open procedure. Besides, Supplier D suggests an open procedure and not a procedure with pre-selected suppliers because "All other procedures are to reduce the candidates and that is exactly the opposite of what we want in this market" (Supplier D).

4.7 Results of the focus groups; similarities and differences with suppliers

In addition to the interviews, two focus groups were held. In these focus groups, buyers were asked which factors they think are important for suppliers to participate in a tender concerning tender attractiveness. The results of the two focus groups are shown in Table 19. To compare the results with the interviews, the factors identified both in the focus groups and suppliers are shown in column four. So, an overview is given where the differences are located. First, there are similarities and differences between focus groups one and two. The similarities of the focus groups are that the groups mentioned several factors that influence the attractiveness of the tender, which result in participation in a tender. These mentioned factors are references, capability, technical requirements, ceiling amount, amount of work, fixed numbers, planning, financing, and contract size.

However, focus group one also mentioned the tender itself, the attractiveness of the assignment, risks, and transparency as factors that influence a supplier's decision to bid or not. In contrast, focus group two mentioned other aspects as influencing factors, namely profit margin, market consultation, innovation, and standardization. So, these aspects are mentioned in only one of the focus groups. Besides, the suggested factors are all nearly overlapping with the influencing factors mentioned by the suppliers. These overlapping factors that influence the attractiveness of the tender are references, technical requirements, ceiling amount, fixed numbers, planning, financing, insurances, contract size, risks, transparency, profit margin, innovation, and standardization. To conclude, both focus groups have mentioned several factors that are also suggested by the suppliers as factors that influence the attractiveness of a tender and a supplier's decision to bid or not.

Table 19: Results focus groups: displayed into the five dimensions procedural aspects, prospects of winning, value of the good, specifications of the good, costs of the tender, and the remaining factors

Dimension	Factors	Focus group 1	Focus group 2	Suppliers
Procedural aspects	Planning	X	X	X
Prospects of winning	References	X	X	X
	Transparency	X		X
Value of the good	Profit margin		X	X
	Contract size	X	X	X
Specifications of the good	Technical requirements	X	X	X
	Standardization		X	X
	Innovation		X	X
Costs of the tender	Ceiling amount	X	X	X
	Insurances	X		X
	Financing	X	X	X
Remaining factors	Capability	X	X	
	Tender itself	X		
	Amount of work	X	X	
	Attractiveness assignment	X		
	Fixed numbers	X	X	X
	Risks	X		X
	Market consultation		X	

*X = mentioned as important influencing factor in the focus groups and by suppliers

Moreover, after asking the suppliers what the top five rankings are of the most important factors that influence the attractiveness of a tender, the same questions are asked to the participants of the focus groups. The results are shown in Table 20. Focus group one is mentioned as the most important influencing factor capability, then transparency, technical requirements, ceiling amount, and attractiveness of the assignment. Nevertheless, focus group two mentioned, except one factor, other important factors in a top-five ranking, namely the most important factor profit margin, then fixed numbers, ceiling amount, contract size, and standardization. In comparison with the top five rankings of the suppliers, two factors mentioned by the buyers match up with one of the focus groups, namely technical requirements, and transparency. Besides, the factor ceiling amount is mentioned in both focus groups and the interviews with the suppliers. However, the numbers in the ranking do not correspond. The ceiling amount is found more important by the suppliers than focus groups. Also, the factors planning, references, and high

quality/knowledge are found important by the suppliers but not in the focus groups. To conclude, there is a difference in opinion in the focus groups. Furthermore, the top five ranking does not fully correspond with the suppliers, but some factors were found important by both the buyers and suppliers.

Table 20: Top-five ranking of important factors that influence a supplier's decision to bid or not: displayed with the results of the interviews and focus groups

Top five ranking (1 = most important, 5 = less important)	**Suppliers**	**Focus group 1**	**Focus group 2**
Planning	1		
Ceiling amount	2	4	3
Technical requirements	3	3	
Transparency	4	2	
References	5		
High quality/knowledge	5		
Capability		1	
Attractiveness assignment		5	
Profit margin			1
Fixed numbers			2
Contract size			4
Standardization			5

5. Discussion and conclusion

In this chapter, these results are discussed and linked to the theoretical framework and, therefore, the theoretical contributions will be explained. Then, a short conclusion is given and the research question 'Which factors affect tender attractiveness to achieve high participation in tenders of strategic goods in public procurement?' is answered. Moreover, the limitations of the research are presented, which can be seen as opportunities for future research. Lastly, the practical contributions are explained with concrete actions for organizations.

5.1 The results of the interviews have deepened the literature-derived factors that emerged into new dimensions

The literature described factors that influence the supplier's willingness to bid or not are entrepreneurs' expectation, controllability of risks, lack of resources and competencies, uncertainty, lack of information, pre-publication, lack of feedback, lack of communication, freedom in design, transparency, planning, costs, contract size, and capability. These literature-derived factors were divided into the market, economic, and process factors (Windle & Rolfe, 2008, p. 389). Yet, the interviews provided even more detailed dimensions, sub-categories of factors, and revealed complex interrelationships between these sub-categories. The results of the interviews provided new insights for the dimensions, in part because of limited existing literature. The dimension economic factors can be divided into the dimensions value of the good and costs of the tender. Additionally, procedural aspects, prospects of winning, and specifications of the goods are newly named dimensions. The dimension value of the good corresponds with the definition of attractiveness, namely revealing potential value (Peuscher, 2018, p. 28; Pulles, Schiele, Veldman, & Hüttinger, 2016, p. 3).

First, within the procedural aspects, the factors clear communication, planning, and flexible buyer are inserted. Communication and planning were also mentioned in the literature-derived factors (Akenroye & Aju, 2013, p. 338; Karjalainen & Kemppainen, 2008, pp. 232-238; Saastamoinen et al., 2017, p. 6; Uyarra et al., 2014, p. 638). Second, within the dimension prospects of winning, the factors high quality/knowledge, transparency, award criteria, and references are positioned. The literature-derived factor lack of resources and competencies can translate to the factor high quality/knowledge because both factors signify the same meaning. In both factors, the meaning is there is a lack of education of the employees of the buying entity

(Hasselbalch et al., 2014, pp. 319-320). Moreover, transparency is mentioned in the research, which corresponds with Peuscher (2018, p. 9).

Third, within the dimension value of the good, the factors are contract size, compensation, and profit margin. The contract size is also mentioned in the literature, which corresponds to Uyarra et al. (2014, p. 638). Fourth, the dimension specifications of the good include the factors technical requirements, standardization, and innovation. The factor corresponds with the literature-derived factor freedom in design (Peuscher, 2018, pp. 58-59). The fifth dimension is the costs of the tender. Within this dimension, the factors penalty clauses, ceiling amount, insurances, financing, and engineering costs are inserted. The engineering costs can be placed within the literature-derived participation costs (Morand, 2003, p. 302; Rolfe et al., 2017, p. 617).

5.1.1 The results of the interviews mostly correspond with the field of strategic goods in public procurement: the open procedure is preferred instead of the restricted procedure

In the field of public procurement in the Netherlands, the basic principles of the EU-directives are transparency, equal treatment, open competition, and non-discrimination (Commission, 2014, p. 157). The results of the interviews show that transparency is one of the most important factors which influences the attractiveness of the tender, which corresponds with the basic principles. Moreover, in the process of the tender, the timing of a tender is relevant (De Clerck, 2015, pp. 1-3; Edler, Georghiou, Uyarra, & Yeow, 2015, p. 59). The timing corresponds with planning, which is a literature-derived factor and a result of the interviews. Also, the factor planning is seen as the most important factor by the suppliers that influence the attractiveness of the tender. Strategic goods have the highest business value and risk level (Garzon et al., 2019, p. 9; Hesping & Schiele, 2016, pp. 110-111). The highest business value consists of the purchased volume, which corresponds with the contract size (Garzon et al., 2019, p. 9). This corresponds with the results of the interviews and is an important influencing factor. The risk level consists of terms of availability and the number of suppliers (Garzon et al., 2019, p. 9). The number of suppliers of fire engines is low, which can be seen as a high risk. Additionally, the availability of fire engines is mentioned in the results of the interviews. The availability can be converted to the factor planning because when many tenders are put out at the same time, there may not be enough capacity in production to subscribe to each tender.

In Europe, a tender is mandatory when goods, services, and works are above the threshold of 139.000 euros (Parliament, 2014, p. 9). Therefore, the reaction of suppliers that participate in a tender can be seen as an obligation because fire engines are above the threshold can be justified. Within the tender, several procedures can be applied. The restricted procedure is the most widely used procedure with strategic goods (Pianoo, 2020d; Union, 2020). However, the results of the interviews indicate otherwise. According to Hüttinger et al. (2012, p. 1194), the number of suppliers in tenders is already declining, but the fire department would like to see more participation of suppliers in their tenders. In the market of fire engines, the open procedure is used and is also preferred by the suppliers because there are already a few suppliers, and, therefore, it is unnecessary to make a pre-selection and using the restricted procedure (Chever et al., 2017, p. 2; Holma et al., 2020, p. 2; Pianoo, 2020b). Besides, awarding the tender with the lowest price methods by public entities happened less because the EMAT method is executed more and more (Lundberg & Bergman, 2017, p. 28). After analyzing the results, it can be concluded that the awarding method of fire engines is executed through the EMAT method. This can be concluded because the suppliers have indicated that the award criteria should also focus on quality.

5.2 To conclude: the factors of the literature and interviews have an influence on tender attractiveness and have likely an influence on participation in tenders

This research has studied the factors for public organizations that desire to gain higher participation in tenders of suppliers through knowing the factors which affect the attractiveness of tenders. This is executed in the field of strategic goods, namely fire engines of the fire department in the Netherlands. Due to the limited research on tender attractiveness and the declining number of suppliers in tenders, the value of the research is to gain insights into the factors of tender attractiveness. The importance of a tender and its implementation has already been studied, but the specific factors that affect the attractiveness of a tender of strategic goods in public procurement were not investigated. In the research, the open procedure came forward as the preferred tender procedure, which does not correspond with the literature. Besides, the awarding method that is used by public entities is the EMAT method, which is also the case with fire engines. After conducting interviews with five suppliers of fire engines and two focus groups with employees of the fire department in the Netherlands, quite some factors identified in the literature were also found in the interviews. Yet, the interviews provided even more

detailed sub-categories of factors and revealed complex interrelationships between these sub-categories.

Concluding, this research has led to an answer to the research question: 'Which factors affect tender attractiveness to achieve high participation in tenders of strategic goods in public procurement?'. The factors that have emerged from the literature and field research influence tender attractiveness, which likely achieves high participation in tenders of strategic goods in public procurement. Suppliers were clear about these factors and suggested that when some factors are not present, they would not participate in the tender. The results of the interviews have deepened the meaning of the literature-derived factors and extracted five new dimensions for the influencing factors, namely procedural aspects, prospects of winning, the value of the good, specifications of the good, and costs of the tender. In the end, the factors that affect tender attractiveness are clear communication, planning, flexible buyer, high quality/knowledge, transparency, award criteria, contract size, compensation, profit margin, technical requirements, standardization, innovation, penalty clauses, ceiling amount, insurances, financing, and engineering costs.

5.3 Limitations and future research

The research has different limitations that offer opportunities for future research. This research investigated which factors influence tender attractiveness, but the current information of literature about this term is still small. The following suggestions can be considered to strengthen this term. Moreover, the limitations of this research are described, and a suggestion for further research is combined:

A first limitation of the research is the context of the research. The context is focused on strategic goods in public procurement. The research focused specifically on strategic goods, but not on the other three types according to the Kraljic matrix, namely leverage, non-critical, and bottleneck. Therefore, to complete the research in the field of this classification, it is possible to conduct comparable research with the other three types. For example, the results could change with leverage items, such as fuel and computers, because of lower risks, higher volumes, and the products are easier to replace (Caniels & Gelderman, 2005, pp. 145-146). Furthermore, the market for suppliers of fire engines is relatively small. So, with more suppliers in a market of strategic goods in public procurement, there could be a different outcome or more profound.

Accordingly, it would be interesting to provide reference material through another research in the market of strategic goods in public procurement to strengthen the outcome of the research. Examples of other markets in public procurement could be building a new government building or buying weapons or tanks for defense.

The research investigated the influencing factors on tender attractiveness, which influence participation in tenders. However, several factors besides tender attractiveness may influence the participation in tenders. In this research, only the attractiveness of a tender has been examined, which can be seen as a limitation but also as an opportunity for further research. In further research, other aspects could be examined concerning achieving high participation in tenders. Additionally, the research resulted in literature-derived, and factors derived from the interviews. However, for several results of the interviews, it is unclear what it exactly means. Therefore, further research could be helpful to gain insights into these results.

The outcome of this research is related to several influencing factors. Yet, it is not tested when the influencing factors are implemented in the tender if participation is high. So, for further research, the outcome can be tested through zero and one measurement. Lastly, in the case of fire engines, another limitation could be that there are not many suppliers, which might cause a strategic relationship between the buyers and suppliers. With strategic goods, the buyer and supplier might be dependent on each other but this is not investigated. Further research could therefore useful to investigate that when there is a strategic relationship the influencing factors might change.

In conclusion, the term tender attractiveness has gained depth but can achieve much more insights from further research. To process the limitations, the first logical step would be to conduct qualitative research with other suppliers in the market of strategic goods to expand the base of the term. Moreover, another first logical step would be to test the outcome of the research.

5.4 Practical contributions

Near the theoretical contributions, some practical contributions have arisen. After analyzing the results, it has become clear that there are misconceptions of priorities on the buyer-side.

Suppliers found other factors more important than buyers. A practical contribution of this research is closing the gap between the differences of thinking between buyers and suppliers. These differences are mapped out and buyers can better respond to the most important influencing factors. After reviewing the results, a top-five of the important influencing factors has been created. Since these factors are the most important, it is a logical first step to look at the adjustment of these factors. These six factors are created because two factors came out both in the fifth place, planning, costs (ceiling amount), technical requirements, transparency, high quality/knowledge, and references. Nevertheless, a practical interpretation of transparency is not sufficiently clear. An overview of the adjustment of the factors is made and can be found in Table 21.

First, a specific first adaption is to look at the planning nationwide. So, consulting with the purchasing department and make a planning where every safety region could see their planning but also from others. Furthermore, an easy adjustment is not to put out the tender just before a holiday. Second, according to the suppliers, a ceiling amount could be left out or needs to be higher. to generate more participation, safety regions could start with leaving the ceiling amount out of the tender and could, as a result, ask suppliers in the market consultation for an estimation of the costs. Third, technical requirements need to be clear. This can be executed by taking into account the standard norms and regulations of the fire engines and do not change these. Nevertheless, it is important to draw up the requirements of an employee that have this knowledge. Fourth, knowledge is needed to improve the quality of tenders. The security regions could see whether they need to hire new people with this knowledge or set up a project group with different experts. For example, one or two employees have the technical knowledge, and another employee knows the laws and regulations of fire engines. Fifth, the references are sometimes impossible due to the high references that are asked. Therefore, it is good to overlook the required references with the project group.

Furthermore, the research has a practical contribution because the research will function as a basis for further research by the Institute of Safety. At the institute, further research is being carried out into participation in tendering procedures for fire engines. During the research, a day is also organized where researchers discuss various topics with suppliers. Moreover, the purchasing department nationwide can share the outcomes of the research and can work together towards higher participation by responding to the mentioned factors of the suppliers.

Table 21: Practical contributions of the research: five points the fire department can adjust

Practical contributions
Look at the planning nationwide and do not put out a tender before a holiday.
A ceiling amount could be left out or needs to be higher.
Technical requirements need to be clear: taking into account the standard norms and regulations.
Knowledge is needed to improve the quality of tenders.
The high references need to be overlooked with the project group.

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Appendices

Appendix A: Interview questions

Script prior to interview

First of all, I would like to thank you for participating in an interview for my research. The aim of this interview is to research which factors affect tender attractiveness to achieve high participation in tenders of strategic goods in public procurement. The interview will take about 45 minutes. In these 45 minutes, I will ask you several questions related on proposed factors according to the literature. Additionally, some general and concluding questions will be asked. To maintain your anonymity, your name, function, and company name will be left out. The company name will get the name supplier a/b/c/d/e/f if you agree on it.

[Review aspects of consent form]

Before we start, do you agree if I record the interview?

Yes__No

Before we start with the interview, do you have any question related to the interview or research? [Discuss questions]

During the interview don't hesitate to ask me questions if something is not clear. I also have a form with me with definitions of the factors, so no misconceptions arise. The interview is a semi-structures interview with open-ended questions, which means that there is room for unprepared questions.

General question

1. What does it make for you to participate in a tender for fire engines?
   Why?

Market factors

2. What is your expectation of a tender?
   What kinds of factors does it need to have?
3. What do you see as a high risk in tenders?
   Does it influence your decision to participate?

4. What do you see as lack of competencies?
   Does it influence your decision to participate?

Process factors

5. What does uncertainty mean to you in relation of tenders?
   Which kind of uncertainty do you mean?
   Why?
6. Which information is needed into the pre-publication for you?
   Does this affect your participation?
   Why/Why not?
7. What kind of information do you need to have to participate into a tender?
   Does it influence your decision to participate if you miss some kind of information?
8. What kind of feedback do you expect to receive in the tender process?
   Does the expectation influence your decision to participate?
   Why/why not?
9. What do you see as lack of communication in a tender process?
   Does this influence your decision to participate?
   Why/why not?
10. What does freedom in design means to you?
    What influence has the freedom of design on participation in a tender?
11. What does transparency mean to you in relation of a tender?
    How important is transparency?
    Why?
12. What kind of planning do you expect that is included in a tender?
    How much does the planning influence your participation?
    Why?

Economic factors

13. Are there any costs that influence your participation?
    How?
    Is the height of costs an influencing factor?
14. Does the contract size influence your participation?
    How?
15. Does the capability influence your participation?

What do you see under capability?

How?

Closing questions

16. In addition to the factors mentioned before, which other factors can be added that are important in your choice to participate?

    Could some factors mentioned be left out?

    Which ones?

17. Could you make a top five of important influencing factors?

    Do you have factors that are more important to the decision of participating?

    Why these?

18. Are there factors that are easy to change by the purchasing entity?
19. Which procedure of tendering for fire engines would you prefer to use?

    Why?

Appendix B: Focus group questions

What factors do you think will affect participation of suppliers in tenders?

Could you individually make a top five of the most important factors you think the supplier's rate as most important?

Appendix C: Coding scheme interviews

Selective coding	Axial coding	Open coding
When participating	Obligation	Obligation
	Standardization	Standard product
	Income	Source of income
	Transparency	Transparent
	Strategic choice	Strategic choice
Expectation tender	Transparency	Independent
	High quality	Good quality
	Standardization	Standard product
	High quality	Clearly written
	Ceiling amount	Ceiling amount
	Technical requirements	Technical requirements
	High quality	Clear requirements
	Knowledge	Skilled people
	Award criteria	Award criteria
Risks	Financing	Payment method
	Financing	Pre-financing
	Guarantees requirements	Guarantees requirements
	Penalty clauses	Penalty clauses
	Insurances	Insurances
	Maintenance contract	Maintenance contract
	Planning	Expected delivery times
	Insurances	Liability insurance
	References	High references
Uncertainty	Award criteria	Clear weighting factors
	Clear communication	Clear answers
	Guarantees requirements	Guarantees requirements
	Insurances	Insurances
	Ceiling amount	Ceiling amounts
	Contract size	Contract numbers
	Flexible buyer	Flexible buyer
	Award criteria	Award criteria
	References	References
Information pre-publication	Clear communication	Contact person
	High quality	Description
	Procedure	Procedure
	Planning	Timeframes
	Knowledge	Market knowledge
	High quality	Quality
	Knowledge	Knowledge
	Standardization	Standard information
	Clear communication	One platform
Information tender	Contract size	Fixed numbers of contract
	Penalty clauses	Penalty clauses

	Technical requirements	Technical requirements
	Ceiling amount	Ceiling amount
	Award criteria	Award criteria
	Maintenance contract	Maintenance contract
	Financing	Pre-financing
	Clear communication	Open communication
	Transparency	Transparency
	Financing	Profit margin
Feedback	Clear communication	Open communication
	Knowledge	Knowledge available
	Clear communication	Why not awarded
	Clear communication	Which factor
	Clear communication	Clear answers
	Clear communication	Background information
	Clear communication	Simple communication
	Clear communication	Explained feedback
Communication	Market consultation	Market consultation
	Clear communication	Less digital
	Clear communication	Word in return
	Clear communication	Simple communication
	Clear communication	Open communication
Freedom in design	Innovation	Innovation
	Technical requirements	Functional requirements
	Standardization	Standard fire engine
		Not important
	Flexible buyer	Flexible buyer
	Standardization	Standard and desired options enough
	Standardization	Standard norms
Transparency	Transparency	Sometimes a problem
	Transparency	Not a transparent market
	Transparency	Open requirements needed
	Transparency	Fair
	Transparency	More transparent
	Transparency	More objective and honest
Planning	Planning	Holidays
	Planning	Start and end time
	Flexible buyer	Flexible buyer
	Planning	Tenders at the same time
	Planning	Coordinating tenders nationwide
Costs	Ceiling amount	Ceiling amount
	Compensation	Compensation in return
	Engineering costs	Engineering costs
	Profit margin	Profit margin
	Compensation	Contribution
Contract size	Large tender	Multiple vehicles
		No influence
	Large tender	Better a large tender
	Planning	In relation of planning

		No influence
Capacity	Planning	Spread the order
		No influence
	Planning	Fit within production process
		No influence
		No influence
Adding factors		Nothing can be added
		No additions
		Nothing can be added
	Award criteria	Award criteria
	Financial review	Financial review
Leave factors out Top five important factors		None Price - ceiling amount - guarantees requirements - references - delivery times Market research - orientation day - transparency - communication - knowledge Production planning - delivery time - ceiling amount - technical requirements - contract size Knowledge - Requirements - risks - financing - planning Ceiling amount - award criteria - transparency - references - technical requirements
Factors that are easily to adjust	Market consultation	Market consultation
	Clear communication	One platform
	Information	Preliminary information
	Financing	Financing
	Planning	Planning
	Transparency	Transparency
	Knowledge	Knowledge
	Standardization	Standard specifications
Preference procedure	Multiple private tender	Multiple private tender
	Open procedure	Open procedure
	Open procedure	Open procedure
	Open procedure	Open procedure
	Best value procurement	Best value procurement
	Open procedure	Open procedure