



**LUT School of Business and Management**  
**Supply Chain Management**

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**Success factors of supplier selection process for public institution when sourcing services**

**Masters' thesis**

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## TIIVISTELMÄ

<b>Tekijä:</b>	Riikka Pitkänen
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Tutkimuksen tavoitteena oli selvittää toimittajavalintaprosessin menestystekijät julkisille hankinnoille, kun hankintakohteena on palvelut. Ensin työssä käsiteltiin julkisen hankinnan ominaispiirteitä ja lakeja sekä verrattiin niitä yksityisten yritysten hankintaprosesseihin saadakseen ymmärryksen miten yksityisiin yrityksiin keskittyvät tutkimukset sopivat julkisiin hankintoihin sekä miten julkisen hankinnan prosessit yleisesti etenevät. Seuraavassa vaiheessa hankinnat jaettiin yleisesti kolmeen eri luokkaan; mitä tapahtuu ennen hankintaa, sen aikana sekä sen jälkeen. Tarkoituksena oli tästä löytää menestystekijöitä, joita voitaisiin käyttää Lappeenrannan kaupungin hankintaprosessien parantamiseen. Lopussa keskusteltiin palveluiden hankinnan erityispiirteistä, joita on syytä ottaa huomioon.

Seuraavassa vaiheessa Lappeenrannan kaupungin hankintaprosessi analysoitiin jakamalla ne samanlaiseen kolmeen luokkaan, mihin teoria oli jaoteltu. Materiaalina käytettiin kattavasti erilaisia dokumentteja ja sopimuksia sekä kaksi erillistä haastattelua. Tavoitteena oli luoda selkeä idea ostoprosessista sekä löytää siitä mahdollisia korjauskohteita sekä menestystekijöitä. Tutkimuksen tulos osoitti, että julkisille yhtiöille, jotka hankkivat palveluita, puitesopimusjärjestely on menestyvä malli. Kehityskohteita on toimittajan valinnan jälkeisten kustannusten ymmärtäminen jo valintavaiheessa sekä laajempi valintakriteeristö, jossa pelkkä hinta ei ole pääpaino.

## **ABSTRACT**

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The aim of the study was to find out the success factors of the supplier's procurement process for public procurement when sourcing services. First, the characteristics and laws of public procurement were analyzed and compared them to the procurement processes of private companies in order to get an understanding of how research done for private companies are suitable for public procurement and how public procurement process is generally done. Next, I divided supplier selection process into three categories; what happens before, during and after the selection. The aim was to find success factors that could be used to improve the procurement processes of the city of Lappeenranta. At the end, I also discussed the features of the service procurement, which should be taken into account.

Next, I analyze the procurement process of the city of Lappeenranta by dividing them into the same three categories that was used in theory part. The material that was used for this study consisted from various documents and selection contract as well as two separate interviews. The goal was to create a clear idea of the purchasing process and to find potential correction targets as well as success factors. The result of the study showed that using centralized framework agreement is a successful model. The development areas are to understand that costs occurring after selection should be included in the selection phase and there should be other deciding selection criteria besides price.

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*“If you do not change direction, you may end up where you are heading”*

- Lao Tzu

Espoo, 29.9.2017

Riikka Pitkänen

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## 1 INTRODUCTION

One could say that supplier selection has a massive effect on the competitiveness of the entire supply chain network and the research seems to indicate that supplier selection process is the most significant variable when deciding the success of the supply chain (Gurel, Acar, Onden & Gumus, 2015). General government spending in Finland is 58 % of GDP in 2014, which is fairly high compared to other EU countries, for example in Sweden it is 51,5% or Denmark is at 55,3% (OECD, 2014). Therefore, it can be said that especially in Finland, managing public spending is relevant. One possible method of managing costs of public spending is focusing on supplier selections that are made in public procurement, because majority of the costs are defined in selection process.

In Finland, public procurement means sourcing of certain objectives, services and building contract procurements that is obtained outside of own organization. Public procurement should be done using methods approved by public procurement laws while optimizing the usage of public funds. Because of this, procurement is mainly done openly and effectively and companies participating in the selection must be treated equally and non-discriminatory manner. (HILMA, 2008)

It is important that we find solutions how to make public procurement as cost efficient as possible, and supplier selection process is a big component in that. It is important to notice that public procurement can't focus only on selecting best possible suppliers, but also ethical issues should be considered. Private companies create revenues from sales but public sector relies on taxes and fees and therefore is serving public benefit first (Larson, 2009). In Finland, public procurement law states that supply must be arranged in a way that is economical, high-quality, and planned way that takes note of competition conditions, social and environmental issues while giving equal chances to SME's (Finlex, 2§).

The problem with public sector procurement is that it allows very little flexibility for negotiating with bidders (Larson, 2009). Suppliers had reported main barriers for taking part for public procurement bidding is over-specified contracts in contrast to outcome based specifications and poor risk-management during the process (Uyarra, Edler, Garcia-Estevez, Georghiou & Yeow, 2014). It also seems that public procurement places smaller companies at a disadvantage and it seems hard for smaller firms to win the biddings (Loader, 2015).

Finding this balance between making cost-efficient decisions and other drivers, many public organizations are using centralized framework agreements and principles of centralization (Keränen, 2016). These frameworks essentially are organization-wide agreements that are used in operational purchases instead of each specific unit deciding upon their own specifications, suppliers, and contractual agreements (Karjalainen, 2011). Purchasing literature has introduced that this will result in centralization benefits, for example cost savings and increased market power (Karjalainen, 2011; Trautmann, Bals, & Hartmann, 2009). Normally then suppliers are chosen through competitive bidding system.

Optimal price when purchasing items or services is often a combination of certain elements other than just the purchasing price. When a company is purchasing items or services, the cost is not only the specific item or service alone, but rather a mixture of element related to that and that is the core idea of total cost of ownership (TCO). This approach takes note of all costs beyond price, for example all those related to service, quality, delivery, administration, communication, failure, and maintenance (Degraeve, Labr & Roodhooft, 2000).

All in all, public procurement purchasing is an important issue for government because of its effects on government spending. Purchasing should be optimized so money that is collected from citizens are spent as optimal as possible. To make selection process fair, public organizations use competitive biddings. Biddings make the process transparent and fair, but fail in some other aspects such as producing high quality supplier relationships that drive the price down while cooperating with suppliers and obtaining high enough quality. As a response to this, public



organizations are turning to use centralized framework agreements. Principles or total cost of ownership also could help solve issues related to difficulties to obtain competitive enough prices with good quality.

## **1.1 Literature review**

Public procurement supply chain management is topic that has some research, but not nearly as widely as researched as private companies' procurement. This makes the focus of public procurement interesting. Also, Public companies collaborate with private companies so elements of both research, public and private, can be utilized to get a better picture.

Some articles talk about public-private companies' partnerships tough centralized frameworks (Keränen 2016; Karjalainen 2011). Keränen (2016) article discusses formalized standardized contracts as a way to public and private companies to collaborate and how following the contracts build trust between companies but also establishing routines that support knowledge exchange and relying also more on relational dimensions. Article by Karjalainen (2011) focuses more on benefits associated to centralized frameworks and found three categories that are linked with synergy benefits: economies of information and learning, economies of process and economies of scale and all these benefits are attained through centralizing.

Difficulties in public procurement is talked in research (Loader, 2015; Tadelis, 2012; Uyerra et al, 2014; Larson 2009). These articles focus on issues related to public procurement placing emphasis on competitive bidding and doing it in a way that leaves very little flexibility for negotiating. Also occurring theme is that smaller companies are put at a disadvantage in these competitive biddings.

Supplier selection progress in widely researched topic. Some articles focus more on discussing different mathematical programming methods to choose potential suppliers (Degraeve, Labro & Roodhooft, 2000; DeBoer, Labro & Morlacchi, 2001; Aissaoui, Haouari & Hassini, 2007) and some focus on more strategic views on

supplier selection, focusing more for example relationships (Choi & Hartley, 1996; Ellram 1990; Ndubisi, Jantan, Hing & Ayub, 2005). A number of articles presents green and sustainable supplier selection focus (Genovese et al, 2013; Lee, Nhale & Genovese, 2012; Gurel, Acar, Ondel & Gumus, 2015).

Vendor selection for services is a topic that does not contain that much research. The key issue with comparing selection methods in traditional kinds of products and services is that services differ from products by defining key elements: customer involvement in the service process, simultaneity, one-off nature, intangibility, and heterogeneity (Fitzsimmons & Fitzsimmons, 2006). Services are not tangible, so it makes it hard for the buyer and categorized details less precise (Lehtonen 2006).

Combination of best supplier selection practices in public procurement is not widely researched. There are some articles that focus specifically to certain methods, such as centralized frameworks (Keränen, 2016; Karjalainen 2011), but more whole approach for example TCO analysis approach is not included to these articles. It is important to include the whole process to get more accurate picture of supplier selection process. There is some research done about public procurement that could be applied to this case but also things to learn from articles about supplier selection in more traditional companies.

## **1.2 Research questions, objectives and aims and limitations**

Research questions of this study is based off on a need from city of Lappeenranta. They are currently in a middle of supplier selection process for a five-year centralized framework agreement for building contract. But the purpose of this study is to find supplier selection process success factors that can be used by public procurement institutions and find some helpful factors considering buying services.

The main research question that this paper is striving to answer is:

*What are success factors of supplier selection process for public institution when sourcing services?*

Other research questions are:

*How public procurement differs from private?*

*What is the decision process of supplier selection?*

*What are common success factors of supplier selection?*

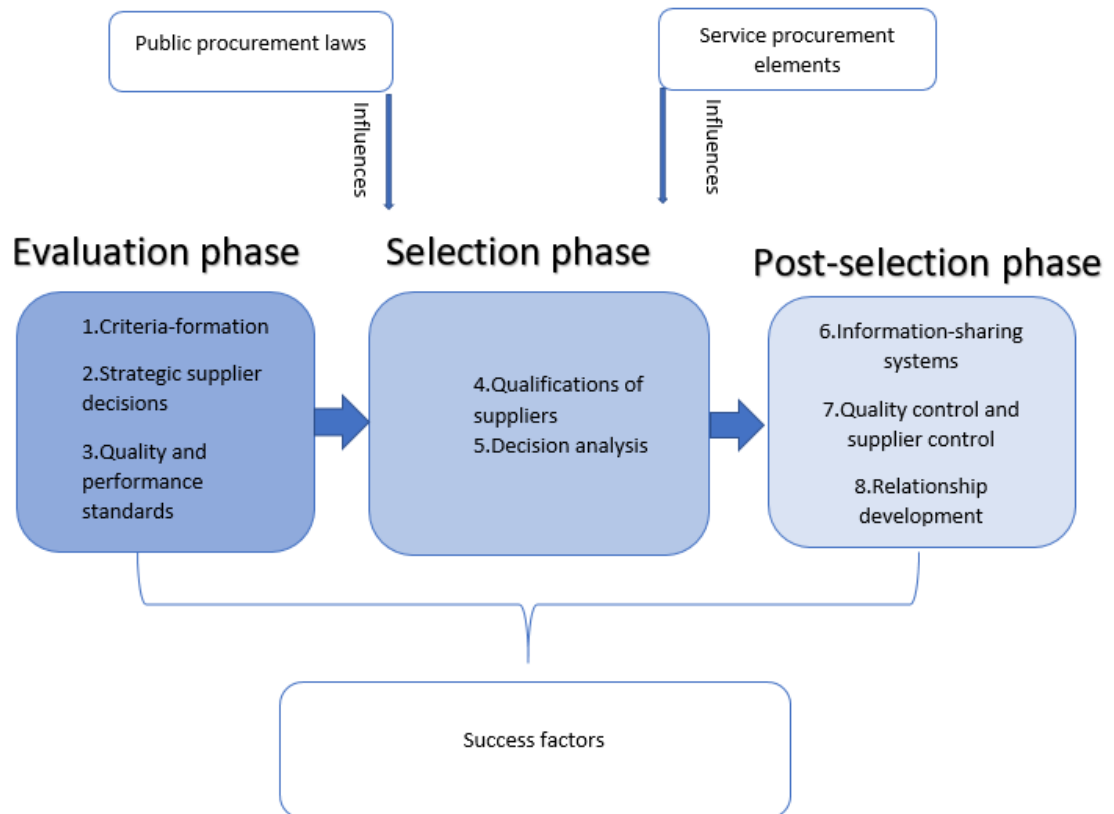
*What are special characteristics when procuring services?*

The main question will be answered throughout the whole research but especially in the empirical part. Other research questions are explained better in the theory part. Other research questions together form important base of information for the main question.

The main research question fits this certain case because there are many aspects of supplier selection done right in city of Lappeenranta, so other public procurement organizations can benefit from that. Also, there are somethings that could be done better, and city of Lappeenranta can learn from other public procurement organizations. So, the end goal is to find success factors that could be the baseline for supplier selection strategies.

### **1.3 Conceptual framework**

Figure 1 presents the main theoretical concepts. In the center of the picture is the actual supplier selection process with three phases: evaluation phase, selection phase and post-selection phase. In the evaluation phase, different desired elements are decided and main strategic decisions are made. It is also important to set quality standards beforehand especially when sourcing services, so there will potentially be less letdowns from supplier. All parties should be aware on desired level of performance and there are criteria to later on in order to assess if supplier performance has been up to standards.



**FIGURE 1 CONCEPTUAL FRAMEWORK**

The second phase is all about choosing an optimal supplier with the desired method. For public procurement companies, this is competitive bidding. Bidders are analyzed and checked if they match the criteria decided in the first phase. Normally in competitive biddings, desired criteria are gone through before any of the prices are looked at. So, all participants are up to certain level before they are compared based on price.

In post selection, the most important issue is to develop desired relationship and monitor quality. Especially when purchasing services, this phase is critical. The product itself is formed during this phase. Relationship formation is also important when sourcing services to get accurate information during the process and solve potential problems as they appear. The relationship does not necessarily have to be strategic, but common platforms should be set where both parties can share about the process along the way.

In figure 1, above supplier selection process is words public procurement laws and service procurement elements. Those influence supplier selection process greatly and need to be considered when going through this process. These elements influence all basic steps. It is crucial to touch on these subjects in my project, but they are not the main focus. They only influence the selection process.

Success factors, as seen from figure 1, are found through going through the process step by step. They are an outcome of different supplier selection processes. Also, public procurement laws and service procurement elements influence the outcomes, because they shape the process and chosen mechanisms. End goal of finding success factors are defined during the process

#### **1.4 Aim and limitations**

The main aim of this study is to find practices of supplier selection process that can be used by public procurement but also at the same time understanding the difference in purchasing services. Goal is to compare good practices found in other public procurement organizations and public companies and find how they can benefit the city of Lappeenranta and can be implemented for other public sourcing organizations.

This study aims to discuss elements of public procurement and how it differs from private companies. Goal is to find ways that research done for private companies can be utilized to benefit also public institutions, because the field of public procurement is not studied much. This can be done by understanding the differences and similarities between them. All the factors from private companies do not translate to public procurement, but there are things to be learnt. To understand this specific case better, it is important to understand also the differences in service procurement and link those attributes to successful supplier selection processes.

This study will only focus on a buyer point of view, not on the supplier because the case organization is a buyer and the objective is to find best methods for the

company. Also, this study will only focus supplier selection process. It will discuss some issues after the supplier selection, but only in a point of view that those are part of the supplier selection, for example potential quality problems are a factor when selecting supplier.

The results of the study are more focused on Finnish public institution. The laws that are discussed are about Finnish law system and principles. Some of the reviewed articles may contain laws of different countries, but they are noted only if they fit within Finnish law of public procurement and are still relevant in that concept.

## **1.5 Key concepts**

In this section, key concepts critical for this thesis are defined. The chosen terms are important to understand to read this thesis. They are chosen from different themes that run throughout the research.

### *Service procurement*

Services differ from products by defining key elements: customer involvement in the service process, simultaneity, one-off nature, intangibility and heterogeneity (Fitzsimmons & Fitzsimmons, 2006, 21–25). Services are not tangible, so it makes it hard for the buyer and categorized details less precise (Lehtonen 2006). Service procurement involves things such as cleaning services, facility services, workers, building projects... Basically anything where the “product” that is being procured is materialized during it being made. For example, for cleaning services, the “product” is clean working environment, but the product purchased is realized during the cleaning process.

### *Public procurement*

Public procurement works differently than its private counterparts because of many reasons. First of all, public procurement is subject to national procurement legislations that is derived from European Community directives that requires certain

degree of transparency and open procedures and also efficient use of public funds (hankinnat, 2017). Also by nature, public procurement is different because the end goal is different in public procurement. Public sectors obtain revenues from taxes and fees and use these to serve public while as private firms draw revenues from sales of goods and services and unlike public sector, these private firms are motivated by profit-making (Larson, 2009).

### *Total Cost of Ownership (TCO)*

" It is a way to understand and manage all costs related to purchases, including upfront costs and after purchase direct costs". When a company is purchasing items or services, the cost is not only the specific item or service alone, but rather a mixture of element related to that. For example, a car, there is a cost of the car, but also there is additional costs of gasoline, repair costs, insurance costs and so on. The budget of the purchase has to cover these all. Same can be applied to all purchases companies make, and that is the core idea of total cost of ownership. (Day, 2000) Usually for most cases, the price of the item is only a small part of the costs of the lifetime of that certain item, for example a certain company reported that product price was only 35% of the total costs over the life cycle (Ellram, 1990).

### *Formalized standardized contract/framework/Conceptual framework agreement/ Standardized framework agreements*

Formalized standardized framework agreement is a contract between one of many sourcing units and one or more suppliers, that is meant to strengthen the terms for a certain time limit concerning prices and planned quantities and other terms. Sourcing unit must select suppliers for Formalized standardized contract with procurement procedures in accordance with law. (Finlex 42 §) So, standardized framework agreement is a contract, where both parties are committed to follow it in their subsequent contracts. Participants therefore decide in advance some of the terms in their future contracts.

Where a contracting entity has concluded a framework agreement with several suppliers, part of a framework agreement may be selected under subsection 2 without competitive and based on competitive tendering under subsections 3 and 4. The invitation to tender for a framework agreement must set out the criteria for determining the way in which a framework agreement is made. (Finlex 43 §)

### *Centralized procurement*

Purchasing centralization brings synergy benefits in a form of lower prices and scaling advantages. Also, this benefits companies on overlapping work activities. When scattered purchasing volumes are concentrated through centralized agreements, volumes bring prices down. Instead of every person or unit deciding their own suppliers and products, it is done by for example organization-wide agreements in selecting certain preferred suppliers and all units are expected to use these suppliers. (Karjalainen, 2011)

## **1.6 Structure of the thesis**

Table 1 introduces the main structure of this thesis. First column states the heading of each main category. Second panel explains the content of each main heading in simplistic manner.



**TABLE 1 THESIS STRUCTURE**

1. Introduction	Background and research problems of the study
2. Special characteristics and laws of public procurement	Theory about laws and supplier selection of public procurement
3. Supplier selection process	Theory about supplier selection
4. Research methodology and data collection	Research and data collection methods
5. Results of the study	Empirical findings of the study
6. Discussion	Discusses and connects concepts found in theory and links them to empirical results
7. Conclusion	Answers to research questions

Part 1. is introduction, parts 2 and 3 are theoretical parts and 4-6 are about empirical part. Last part 7. concludes the whole thesis and answers the research questions.

### **1.7 Research methodology and data collection plans**

The research is done using qualitative research methods. It is executed as a case-study of city of Lappeenranta supplier selection methods to find features of successful supplier selection method that can be used also by other public procurement practitioners and also find attributes that could be done better and find suggestions from theory how it could be also done. The interview method is semi-structured theme interview to get full potential information from the company. Purpose of case study is to understand and assemble diversely in order to grasp the phenomenon more deeply (Syrjälä 1994, 11- 12). This research is done without preferred hypothesis. In quantitative research advancing without a hypothesis means that the researcher does not have certain assumptions of the outcome or researched subject that are made in advantage (Eskola & Suoranta 1998, 19).

The data will be collected through semi-structured interviews and analyzing Formalized standardized framework agreement. Also, some of the data is company documents and plans of the supplier selection.

## **2 SPECIAL CHARACTERISTICS AND LAWS OF PUBLIC PROCUREMENT**

In this section, elements of supplier selection and laws of public procurement is analyzed. It is highly important to understand public procurement before anything else so the analysis can be relevant for the focus of this study. In the first section, public procurement, basic concepts, and information is presented and why it is important to have efficient public procurement. Second section handles the legal aspects and basic laws are presented that are relevant for this study. Last two sections deals on how public procurement differs from traditional and how suppliers are generally selected in public procurement institutions.

The objective of this section is to build a base of understanding and knowledge of public procurement and its special elements that help when reading articles about private sourcing selection principles, it is easier to see what will work for public institutions what does not because of it.

### **2.1 Public procurement**

General government spending in Finland is 58 % of GDP in 2014, which is fairly high compared to other EU countries, for example in Sweden it is 51,5% or Denmark is at 55,3% (OECD, 2014). So, it is important to spend the taxpayers' money in an efficient way that is a service for the public good. In many ways, supplier selection is different than in private companies that most of the studies is about, so it is important to address these differences in order to fully understand how the system functions and how it can be improved.

Public procurement works differently than its private counterparts because of many reasons. Firstly, public procurement is subject to national procurement legislations that is derived from European Community directives that requires certain degree of transparency and open procedures and also efficient use of public funds (hankinnat, 2017a). Also by nature, public procurement is different because the end goal is different. Public sectors obtain revenues from taxes and fees and use these to serve public while as private firms draw revenues from sales of goods and services and unlike public sector, these private firms are motivated by profit-making (Larson, 2009).

The basic principles of sourcing have been addressed in sourcing law 3 § section. The sourcing unit must treat suppliers (hankinnat, 2017a):

1. Equally
2. Non-discriminatorily
3. Openly
4. Relatively

The main point in equality is to make sourcing documents in a way that it is equally as approachable and available to all suppliers that want to make an offer. All different requirements must be about every supplier participating and different comparable scenarios must follow the same chain of actions and treatment if it's not objectively justified. (hankinnat, 2017a)

Non-discriminatory treatment is about treating all participants equally in aspects that are not related to sourcing for example participants' nationality, ethnicity, or geographical location. It is important to treat participants from different city equally to those from municipality's own companies or companies locating in this area. The qualifications for suppliers cannot be based on locality and favoring certain area. (hankinnat, 2017a)

The principle of openness requires transparent sharing of information, public informing of procurement, open sharing of tender results to all participants and open

access to documents. Because of this principle, invitation to tender should be made publicly available to everyone interested or to those, that are chosen to participate in closed auctions. These all are done in respect of certain duties of secrecy. (hankinnat, 2017a)

The main point in principle of relativity is that different requirements are proportionate to the objective pursued and relevant. This means that the suitability of the condition must be taken into consideration with the nature and value of the procurement. The content and conditions of invitation to tender should be in a correct proportion compared to the quality of the sourcing. (hankinnat, 2017a)

## **2.2 Legal aspects**

Public sector procurement must be transparent and have open procedures that ensure fair and non-discriminatory conditions of competition for potential suppliers (hankinnat, 2017a). The goal of laws regarding public spending is to intensify usage of public funds, promote innovative and sustainable sourcing and secure equal chances for different companies and other organizations to offer goods, services, and construction contracts in public procurement tenders (Finlex, 2§). It is crucial to have more efficient use of public funds financed from general taxation to ensure value for money on public procurement and enhance competitiveness of national and European level (hankinnat, 2017a).

In Finland, there is a law for public procurement that states that supply must be arranged in a way that is:

1. economical
2. high-quality
3. planned way that takes note of competition conditions
4. social and environmental issues while giving equal changes to SME's

To lessen administrative work, sourcing units can use formalized standardized contracts or other cooperative actions in public procurement tenders. The sourcing must be done as appropriate entities. The sourcing must be done in meaningful entities. It must be organized in a way that small and medium sized companies and other communities can participate equally with other bidders. (Finlex, 2§)

Formalized standardized framework agreement is a contract between one of many sourcing units and one or more suppliers, that is meant to strengthen the terms for a certain time limit concerning prices and planned quantities and other terms. Sourcing unit must select suppliers for Formalized standardized contract with procurement procedures in accordance with law. (Finlex 42 §) So, standardized framework agreement is a contract, where both parties are committed to follow it in their subsequent contracts. Participants therefore decide in advance some of the terms in their future contracts.

Where a contracting entity has concluded a framework agreement with several suppliers, part of a framework agreement may be selected under subsection 2 without competitive and based on competitive tendering under subsections 3 and 4. The invitation to tender for a framework agreement must set out the criteria for determining the way in which a framework agreement is made. (Finlex 43 §)

The idea of the agreement is to strengthen prices, quantities, and other terms for certain time period. Sourcing unit must choose one or more suppliers for standardized agreements and the number of suppliers that will be selected must be announced beforehand. If standardized agreement is for more than one supplier, the announced number of suppliers must be chosen. Only exception is that if there are not enough suppliers that meet the criteria. Standardized framework agreements can be four years at top, but if there is a good enough reason it can be more than four years. There should not be any significant changes to agreement during the agreement period. (Finlex, 42§)

After all the participants are selected, there should be a decision made. The decided results should always be done in written form and decision must be reasoned. The sourcing unit must disclose different aspects affecting the selection with enough precision that supplier can evaluate if the method used was complied with the law obligations. Also, it should be apparent for supplier that in what position it was compared to other participants. If the sourcing is done with standardized framework contracts, the main thing is that the sourcing is done according to 42-43 §. For those contracts, the sourcing decision is not obligatory if it's done without using competitive biddings or the sourcing value is lesser than the minimum EU-required amount (hankinnat, 2017b)

### **2.3 Differences in public and private sourcing**

By nature, public procurement is different from private sourcing because the end goal is different in public procurement. Public sectors obtain revenues from taxes and fees and use these to serve public while as private firms draw revenues from sales of goods and services and unlike public sector, these private firms are motivated by profit-making (Larson, 2009). Gragan (2005) defined public procurement task as “to help user agencies obtain the goods and services needed to do their jobs, while controlling the process that spends large amounts of public funds”.

Defining features in public procurement are (Arbjorn & Freytag, 2012):

- Userbase instead of customers in citizens
- Rights recognize different target groups, not segmentation
- Decisions are politically driven more often than driven by demand
- Experts and politicians define services more often than users
- Communication focuses on public good and education more often than positioning the public enterprise

- Public institution is more budget-driven and aiming for multiple goals and less focused on market innovation

Arbjorn and Freytag (2012) based on this listing said that there are limits to how much public and private organizations should be compared because they balance several different interests and conditions. On the other hand, Jacobson & Choi (2008) discuss the perspective that distinctive differing features are not crucial and all organizations have elements of publicness in them, even private firms contribute to social welfare, while public markets sometimes engage in simple contract markets.

Three sets of goals for public procurement can be said to be (Erridge, 2007; ):

- Regulatory goals
- Commercial goals
- Socio-economic goals

Regulatory goals strive to ensure that procurement and contracts in procurement meet certain requirement of propriety and transparency (Erridge, 2007). Clear regulations have been main issue and dominated public procurement, tendering being the main form of purchasing goods and services (Arbjorn & Freytag, 2012).

Commercial goals emphasize ensuring that current public procurement meet requirements for efficiency, normally pursued with competitive tendering, market testing and contracting out to private companies. Socio-economic goals focus on supporting wider policies of social benefits such as social welfare, employment, protection on minorities, economic development particularly in relation to small firms and environmental policies. (Erridge, 2007)

Private companies have similar goals, but not at the same level. For example, public procurement has clear laws on certain procedures for example transparency.

Private companies in many cases have similar internal goals for transparency but not at the same level. Private companies strive to be transparent, but there is no pressure coming from compelling laws for most cases. If there is pressure, it comes from consumers, and it is not at the same level of detail than public organizations.

All these goals may conflict with each other, and that is a challenge more unique to public organizations. For example, over restrictive attitude to regulatory aspects can make it difficult to achieve competitive supply and close supply relationships sometimes reduce transparency and non-discriminatory and lead to greater amount of frauds (Erridge, 2007).

Public sector traditionally has a larger range of stakeholders, emphasizes accountability and transparency, and don't allow usually a lot of flexibility to bidders or responders in bidding situations (Larson, 2009). The key defining difference between public and private sourcing is its nature of obtaining funds, that makes the whole system slightly different. The pressures of cost savings are always big in sourcing, but it is more also a moral need for public procurement. If the funds are not spent reasonably, it could be seen as a huge issue by the citizens.

Public procurement objectives are wider than just one company's needs and profit-making, there are objectives for wide range of different public services such as law and order, health, social services, education, defense and so on (Arlbjorn & Freytag, 2012). Goals of public procurement are much more wider scope than any private company in terms of diversity of needs and customers to be served (Erridge, 2007). Public sector procurement is shifting therefore more strategic approach rather than tactical (Larson, 2009).

Other defining feature of public sector is its supplier selection procedures are mostly competitive biddings. Competitive biddings sometimes in research have a bad reputation. The problem with public sector procurement is that it allows very little flexibility for negotiating with bidders (Larson, 2009). Suppliers had reported main



barriers for taking part for public procurement bidding is over-specified contracts in contrast to outcome based specifications and poor risk-management during the process (Uyarra et al, 2014). Also, competitive biddings are seen to be biased against small and medium sized companies. Many of these concerns are about overly strict qualification criteria, badly described tender specifications and unreasonable resource requirements (Loader, 2015).

Competitive biddings can also be beneficial. Most notable advantage is that it promotes competition because the auctions include many different potential suppliers from different areas of business, resulting in discovering more true market price. (Tadelis, 2012). Clear regulations and rules in the public sector has resulted public organizations into using competitive biddings as main selection method (Arbjorn & Freytag, 2012). Some articles even suggest, that when choosing a supplier without competitive biddings, it should raise questions automatically regarding transparency, favoritism and even corruption (Tadelis, 2012).

There are some suggestions from private sourcing what could also be done in public procurement other than competitive biddings. Graghan (2005) suggests in his article that even though public procurement is operating highly legal environment, many tasks could be potentially automated. Also, there seems to be development from tactical to more strategic with focus on partnerships, global sourcing, life cycle costing and so on (Larson, 2009). These are methods are currently in hype for private companies. Public sector is driving towards supplier reduction through collaboration and aggregation of contracts (Loader, 2015).

There has been a lot of talk on how public sector can benefit methods used in private sector, called new public management (NPM), where it is focused on how public sector can be more effective (Arbjorn & Freytag, 2012). It is done by changing the structures and processes of public sector in order to make it run better for example by creating smaller number of bigger departments in order to improve coordination or larger number of bigger departments to sharpen focus (Pollitt & Bouckaert, 2000).

Some articles recognize two different perspectives in distinctions of public and private sector. The first perspective emphasizes different features among the sector and second perspective argues that distinctive features are not crucial and all organizations have elements of publicness in them, even private firms contribute to social welfare, while public markets sometimes engage in simple contract markets (Jacobson & Choi, 2008). So, the differences in both sectors may not be as big, it depends on what kind of sourcing organizations deliver. It can be said that both, similarities, and differences are present. While these differences are present, the similarities make it reasonable to compare public organizations with research done with private, because certain aspects are similar and not all the differences make the end goal that different, making best possible sourcing agreements with best price and quality delivered on time.

#### **2.4 Supplier selection process in public procurement**

Public procurement has almost always included building of structures used by the community such as roads, schools and highways and since about 1980's these projects started to include private companies (Jacobson & Choi, 2008). There has been an increasing number of public-private partnerships since then. Over past 30 years procurement has emerged as a strategic activity because of more competitive environment (Loader, 2015), and these kinds of partnerships of public and private companies tend to be the norm nowadays.

Traditionally, public-private projects have had a bidding process to select suppliers (Jacobson & Choi, 2008). Competitive biddings in public sector is promoted because of well-known reasons, most notably its promotion of competition because they invite many potential suppliers from different fields and different sizes resulting in fair market price discovery (Tadelis, 2012). Currently, public procurement is in a process where tendering would not be the only used method, and for that reason differences in private and public companies may be smaller in the future (Arbjorn & Freytag, 2012). For example, public procurement practitioners are turning towards

centralization because of conflicting goals (Keränen, 2016). Also, the current trend in government buying is going towards partnerships, with increasing emphasis on cost (Loader, 2015).

Tendering promotes competition because the auctions include many different potential suppliers from different areas of business, resulting in discovering more true market price (Tadelis, 2012). It is known that public procurement serves a wider range of stakeholders and places emphasis on transparency than private companies (Larson, 2009). Because competitive biddings evoke transparency, it is easier to prevent corruption (Tadelis, 2012). Clear regulations and rules in the public sector has resulted public organizations into using competitive biddings as main selection method (Arlbjorn & Freytag, 2012). Some articles even suggest, that when choosing a supplier without competitive biddings, it should raise questions automatically regarding transparency, favoritism and even corruption (Tadelis, 2012).

For this tendering procedure to succeed, clear specifications of what exactly is needed is crucial (Arlbjorn & Freytag, 2012). Because of that, traditionally public-private projects have had a bidding process in order to select suppliers and often the suppliers or public institution are required to have complete plans before selection and the lowest bidder is chosen (Jacobson & Choi, 2008). This is an issue because of flexibility suffers and also limits smaller companies of participating. Also, it is placing a lot of focus on market price only, and that itself limits the thinking of costs to just market price, when in fact there are more factors included. Competitive biddings are known for being transparent and making corruption much harder but also choosing suppliers based on their price offering, nothing else (Tadelis, 2012).

EU-directives provide many rules to comply for the whole tendering process. The aim of these rules is to avoid discrimination and ensuring transparency. Idea behind these directives is to have a built-in competition which ensures effectiveness, but this supposed effectiveness of the directives is often questioned. Negotiations during tender process is often mentioned as example of the ineffective rules and

procedures. Also, EU directives say that contracts should not be extended without going to the market first. Purchasers find this odd and counterproductive that well performing contracts cannot be extended and also poor-performing suppliers cannot be excluded from tendering procedure. The costs of these tendering procedures are considerable. (Gelderman, Ghijsen & Brugman, 2006)

Finding this balance between making cost-efficient decisions and other drivers, many public organizations are using centralized framework agreements and principles of centralization (Keränen, 2016). These frameworks essentially are organization-wide agreements that are used in more specific operational purchases instead of each specific unit deciding upon their own specifications, suppliers, and contractual agreement (Karjalainen, 2011). Purchasing literature has introduced that this will result in synergy benefits for example cost savings and increased market power (Karjalainen, 2011; Trautmann, Bals, & Hartmann, 2009).

### **3 SUPPLIER SELECTION PROCESS**

Significance of purchasing function is steadily rising and therefore purchasing decisions are becoming increasingly important (DeBoer, Labro & Morlacchi, 2001). One could say that supplier selection has a massive effect on the competitiveness of the entire supply chain network and the research seems to indicate that supplier selection process is the most significant variable when deciding the success of the supply chain (Gurel, Acar, Onden & Gumus, 2015). In a current world, companies cannot afford to have a supply chain that is costing more than it is supposed to. Therefore, the selection process itself is highly important step in choosing suppliers. Increasing dependence on suppliers intensify consequences of poor decision-making (DeBoer, Labro & Morlacchi, 2001). This can become a very expensive issue if it is not handled correctly and as efficiently as possible.

Supplier selection is a multicriteria problem and it includes qualitative and quantitative issues and some trade-offs between them (Ghodsypour, O'Brien,

1998). The best possible selection finds balance between different attributes and trade-offs for specific company. Sometimes for example lowest price is not the highest quality, so there is a trade-off, and both cannot be attained simultaneously. It is crucial for companies to analyze and decide what are desired outcomes and most important attributes and from there form a strategy. First, evaluate best possible desired attributes and best possible type of relationship and budgets. After that, selecting best possible supplier based on these, using a method that suits required outcomes. post- selection, quality should be observed and relationship to the supplier kept beneficial. Also, after purchasing to analyze the successfulness of the purchase.

Before starting selection process, it is a good idea to decide on selection process method to follow. Some methods, such as total cost of ownership, focuses on understanding the costs happening also after the selection as a part of deciding factor for example. From all these different methods and processes, there are some common success factors that define successful supply process.

**TABLE 2 DIFFERENT PURCHASING SITUATION CLASSIFICATIONS (DEBOER, LABRO & MORLACCHI)**

New purchasing situation	<ul style="list-style-type: none"> <li>- New product and no previous experience</li> <li>- No previous known suppliers</li> <li>- Requires extensive problem-solving</li> </ul>
Modified purchase	<ul style="list-style-type: none"> <li>- New product or service from known suppliers</li> <li>- Modified products purchased from known suppliers</li> <li>- Medium level problem-solving</li> </ul>
Straight purchase	<ul style="list-style-type: none"> <li>- Perfect information of the product and supplier</li> <li>- Involves placing an order within existing contracts and agreement</li> <li>- No labouring problem-solving</li> </ul>

As seen on table 2, all purchases could be categorized into three different scenarios that all require different level on problem-solving capabilities. When a purchasing situation is completely new, most analysis needs to be done in lack of previous knowledge, but when either the suppliers or the product is known, there are some information already available. Straight purchasing situation is when everything is already set and only the purchase should be made in known environment. More

defined selection process analyses are needed when the purchasing situation is new or modified.

### **3.1 Total Cost of Ownership**

Traditional systems focus normally on material and labor costs, using direct labor costs as main focus (Yang, Lee & Chen, 2016), but public projects differ in a way that they are more complex and they include many activities in different proportions. So traditional costing systems as a base of supplier selection is not reasonable.

” (Total cost of ownership) It is a way to understand and manage all costs related to purchases, including upfront costs and after purchase direct costs”. When a company is purchasing items or services, the cost is not only the specific item or service alone, but rather a mixture of element related to that. For example, a car, there is a cost of the car, but also there is additional costs of gasoline, repair costs, insurance costs and so on. The budget of the purchase has to cover these all. Same can be applied to all purchases companies make, and that is the core idea of total cost of ownership (Day, 2000).

Usually for most cases, the price of the item is only a small part of the costs of the lifetime of that certain item, for example a certain company reported that product price was only 35% of the total costs over the life cycle (Ellram, 1990). Unless you plan the purchase throughout considering all aspects, also the costs that are formed after the purchase, investment can easily not return expected profits (Day, 2000). Critical costs that need to be considered consist of for example maintenance costs, downtime, repair and overhead costs and idle time costs for staff (Ellram, 1990). In service purchasing, there costs could be about surveillance and relationship costs.

Total cost of ownership thinking style for companies brings many benefits. When using TCO, it makes performance measurement much easier because it provides a framework where to evaluate supplier performance and measure quality results. TCO forces purchasing function to quantify possible tradeoffs, which makes it a good basis for decision making because of its structured problem-solving nature.

Also, TCO provides communication vehicle between the company and suppliers. It drives purchasers to have an awareness on issues that are significant non-price related and provides long-term orientation. This will result to continuous improvement efforts. (Ellram, 1990)

To implement TCO thinking, organization must move away from price orientation only and understand the idea of total cost being way more than only price (Ellram, 1990). To help this process, it is useful to group different cost factors in company. Total cost of ownership cost factors can be grouped into three categories:

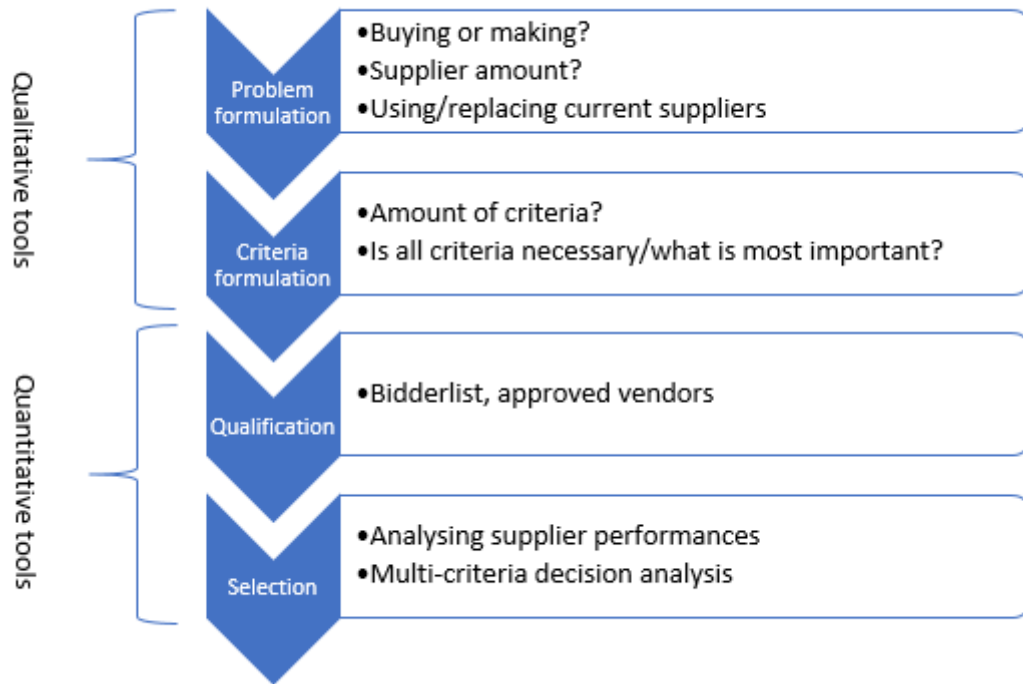
1. Acquisition costs
2. Control costs
3. Operations costs

(David, Schuff & St.Louis 2002)

For example when acquiring a new IT system, acquisition costs would be acquiring hardware and software. Control costs would be about IT centralization, for example specialized hardware and software to maintain centralized system and standardization. Operations cost would be in that sense about support, evaluation, installation, training, auditing etc. (David, Schuff & St.Louis (2002)

For public procurement organization that sources services, I feel that this model of a way of thinking would be beneficial. The model focuses for example in costs that happen also after the purchase already in the decision phase, which is an important factor especially for service industry, because the product itself is formed afterwards. So, the focus should be on analyzing this part. If a supplier is known for doing its work with good quality, it will be a lot more cost-efficient in the long run even though its initial prices were higher. Also, this model can also be applied as a way of noticing the possible costs after the purchase when choosing a supplier, not necessarily as an expensive analyzing software that requires extensive supplier data to work.

### 3.2 Evaluation, selection and post-selection



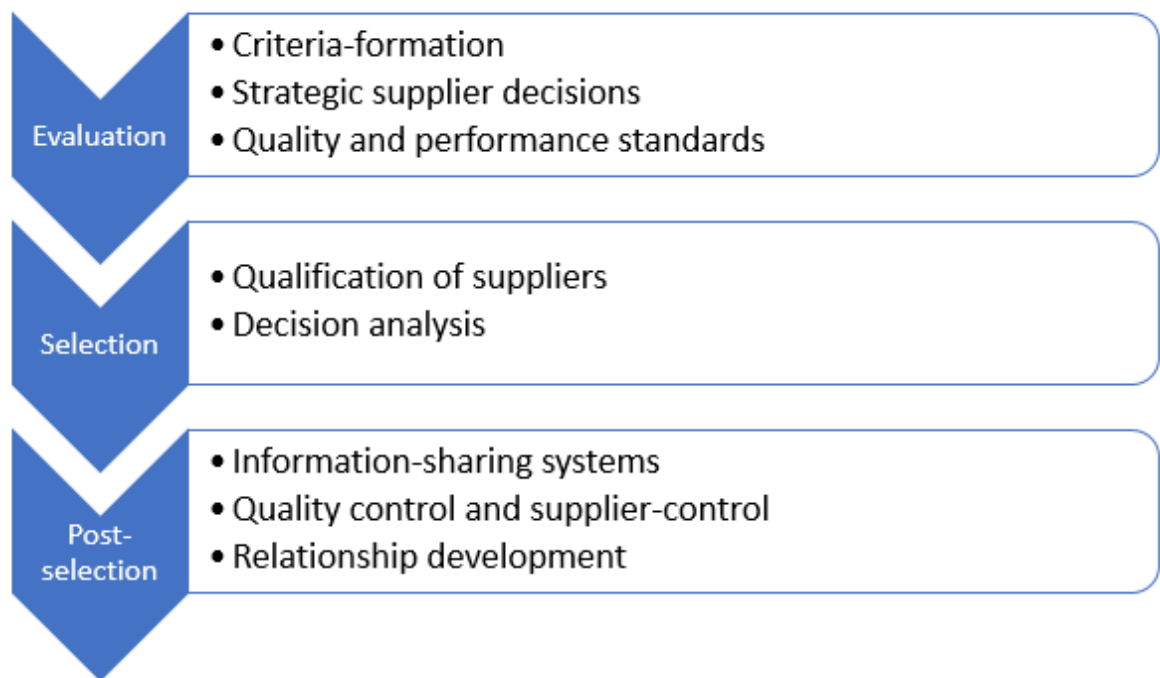
**FIGURE 2 DECISION PROCESS IN SUPPLIER SELECTION. (DEBOER, LABRO & MORLACCHI)**

As seen from figure 2, selection process can be divided into sections. Before actually beginning the supplier selection, there are qualitative issues that needs to be considered. In this step, preferred strategy is chosen, for example if the product or service is sourced from multiple suppliers or is it the focus on one supplier and forming a relationship with that supplier. Also, the decided criteria need to be chosen according to preferred end goal. In this section, buyers must do decisions between different trade-offs and find the optimal criteria. Finding and emphasizing on the most important criteria, but also finding what is not needed. The actual choosing process uses quantitative methods possibly doing multi-criteria analysis or in a smaller scale analyzing different price options and other numeric data that is available.

This selection process does not include costs and processes that occur after the selection. These costs are important especially when sourcing services. The product



is made after the selection in different. As noticed from total cost of ownership theory, costs that happen after the selection count as a big portion of the total costs. If this idea is added to previous image, supplier selection could be formed into three phases, evaluation or pre-selection, actual selection and finally post-selection phase.



**FIGURE 3 SUPPLIER SELECTION PROCESS**

As seen from figure 3, in the first evaluation phase, different desired element are decided and main strategic decisions are made. It is also important to set desired quality standards beforehand especially when sourcing services, so there be potentially less letdowns from supplier when all parties are knowledgeable on desired level of performance. Also, there should be criteria decided to later on assess if supplier performance has been up to standards and to form indicators.

The second phase is all about choosing an optimal supplier with the desired method. Competitive bidding is preferred method often for public organizations. In competitive bidding, in this phase different bidders are gone through and checked if they match the criteria. Decision analysis is made based on desired criteria. Some companies do multi-criteria selection analyses and choose based on that.

In third step, after the selection, the most important issue is to develop desired relationship and monitoring quality. Especially when purchasing services, this phase is critical, because the product itself is made in this step. Relationship formation is also important for sourcing services also to get accurate information during the process and solve potential problems as they appear. The relationship does not have to be strategic or meaningful, but at least a sort of relationship where common platforms are set and both can share about the process along the way.

### 3.2.1 Evaluation Phase

First step in choosing suppliers is pre-qualification, where suppliers are analyzed and required information is gathered (Winter & Lasch, 2016). For public procurement, this phase could mean the information that is gathered for example from the public tenders. Commonly product life cycles have shortened which has led to increasing need for new suppliers in order to upgrade their product range and availability and thereby purchasing process should start from finding exactly what is wanted to achieve by selecting a supplier (Aissaoui, Haouari & Hassini, 2007).

In this phase, different desired criteria are formed. In multiple objective vendor selection, it is important to pay attention to price, quality, delivery, performance, history, capacity, communication system, service and geographical location and the objective is to select suppliers that perform optimally on the dimensions that are chosen (Degraeve, Labro & Roodhooft, 2000). On the other hand, decision makers are facing multiple different sourcing scenarios nowadays that are distinct from traditional ones, such as establishing close relationships with suppliers, partnerships and long-term agreements, so the choice is not as single lined as before (Aissaoui, Haouari & Hassini, 2007).

If the objective is alongside with more traditional criteria to also have some other objectives such as environmental, it can be done through criteria. For example, Graafland 2002 Winter & Lasch (2016) tried to implement more ethical and

environmental issues inside supplier selection, so supplier audits were based on a list of requirements for social and environmental criteria. Also, they argued that if the supplier does not reach criteria, the supplier should have an opportunity to improve. Generally, there are two types of supplier criteria:

- Subjective criteria
- Objective criteria

Whereas objective criteria are the ones measured by numerical and measurable things such as price but subjective criteria cannot be measured as easily such as quality of the design (Aissaoui, Haouari & Hassini, 2007). The measurable criteria are the ones most of the time that are defining features when selecting suppliers. Subjective criteria are extremely difficult to consider and those are usually manifested after selection from the received products or services, so this kind of criteria can be taken into consideration if there is previous experience with working with that specific supplier.

Whenever a buyer is deciding vendor, there is a problem of evaluating multi-attribute selections when some of the criteria may be at conflict with each other, for example lowest possible price may not have the best quality or best quality might not be delivered on time (Wind & Robinson, 1968). Therefore, it is important to recognize the importance of certain factors and find best possible suppliers (Aissaoui, Haouari & Hassini, 2007).

When the capacity constraints are prevalent, problem becomes more complicated and managers should decide which suppliers are the best and how much should be purchased from each one (Ghodsypour & Brien, 1998). This concept of tradeoffs has been around in the articles for a long time, for example one article used in this is from 1968. It is a bit outdated, because qualitative factors are not considered very well in only focusing these measurable qualities of suppliers (Ghodsypour & Brien, 1998). Also, it does not bring to light anything about partnerships or developing suppliers and so on. Still, it does not bring down the fact that all desired attributes

are probably not found from single supplier and how this problem should be processed.

In chosen criteria, it is a good idea to set desired quality standards beforehand. If the expectations of end-users are not satisfied and quality is the issue, the trust of end-users is permanently damaged or lost and this might cause serious struggles for buying company (Lehtonen, 2006). These standards should notice that supplier may perform on different level of quality on different products so quality audits for different products or services and quality audits should be conducted later on (DeBoer, Labro & Morlacchi, 2001). For service procurement, expectations on certain level of service should translate into formal requirements through service level agreements and well-defined command structures and authority systems (Lehtonen, 2006).

For public procurement, competitive biddings are known for being transparent and making corruption much harder but also choosing suppliers based on their price offering, nothing else (Tadelis, 2012). This could be avoided in the evaluation phase. Providing suppliers opportunities to participate in contracting and preparing tendering reports can help to create a shared understanding between parties and find common strategic goals and exchange knowledge (Keränen, 2016). Also, having quality standards force public procurement practitioners to have more comprehensive view of the suppliers and consider other aspects than price. Also, using a model such as TCO help to focus comparing the cost of suppliers and supply solutions in its entirety (Karjalainen, 2011).

### 3.2.2 Selection Phase

In the supplier selection phase, analysis is conducted. Information gathered about suppliers are considered and supplier audits are conducted. It is important to notice if potential suppliers meet all the criteria required. Also, potentially supplier ratings are conducted, which involves extensive evaluation and selection of a new supplier. (Winter & Lasch, 2016) In today's co-operative supplier field, it is more common to

select a lower number of supplier as it is difficult to manage high number of suppliers, so the purpose of this phase is to rule out insufficient suppliers and reduce the number to range of acceptable ones (Aissaoui, Haouari & Hassini, 2007).

In selection process, elimination method is used, in where those suppliers that do not perform satisfactorily will be excluded of some sort of minimal threshold that is decided. The idea is that even though suppliers may perform highly in certain categories, it cannot be selected because of intolerable consequences on quality or other critical areas. (Aissaoui, Haouari & Hassini, 2007)

Companies use different methods in this phase, based on the need and preferences. Traditionally, public companies have had a bidding process in order to select suppliers (Jacobson & Choi, 2008). Competitive biddings in public sector is promoted because of well-known reasons, most notably its promotion of competition because they invite many potential suppliers from different fields and different sizes resulting in fair market price discovery (Tadelis, 2012).

Overall, usually selection includes multi-criteria selection and different alternatives must be analyzed (Wind & Robinson 1968), while also comparing them to wanted criteria and selection plans that were formed in the evaluation phase. A basic selection model follows single linear weighting model where first some form of scoring method is defined that consists of assigning weights to each criterion so biggest score indicates the highest importance and after that ratings from the criteria are multiplied by the weights and summed and so every vendor has a single figure and in the end supplier with the highest mark is chosen (Aissaoui, Haouari & Hassini, 2007).

### 3.2.3 Post-selection Phase

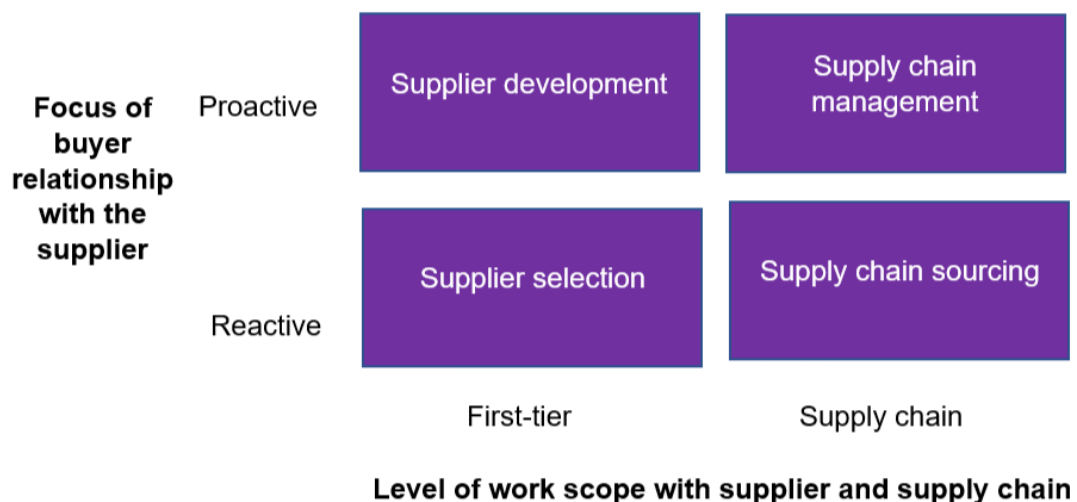
After selection, supplier controlling is a main focus and performance is evaluated. (Winter & Lasch, 2016) Monitoring suppliers' performance through the whole contractual period is beneficial to ensure suppliers performance level and suppliers

performance should be measured dynamically and be informed on improvement measures (Dey, Bhattacharya & Ho, 2015). Supplier may perform on different level of quality on different products or services so quality audits should be conducted for each one (DeBoer, Labro & Morlacchi, 2001). Especially in services, this step is important because it is difficult to evaluate if the service that is produced is up to expectations if they are not under supervision (Lehtonen, 2006). It is difficult to fix a bad service after it has happened and the damage is already done and possible reputation harm is already happened.

If a company has chosen an analyzing method such as TCO, emphasis on post-selection is given. When using TCO, it makes performance measurement much easier because it provides a framework where to evaluate supplier performance and measure quality results and TCO provides communication vehicle between the company and suppliers and drives purchasers to have an awareness on issues that are significant non-price related and provides long-term orientation (Ellram, 1990). In this phase, good communication is crucial. Only accurate information is necessary to share to keep up the quality and relevance of the information and some regular meetings are a good idea to keep up surveillance and quality control (Lehtonen, 2006).

### 3.3 Common success factors

Figure 4 explains the different strategies buyers can take when selecting suppliers. Even though collaborational supplier relationships seem to be what most research sees as current best form, sometimes it is not best possible. According to Cox (2004), there are four different sourcing options for buyers, where the relationship can be proactive or reactive and work scope can be first-tier or supply chain focus. Supplier selection category is based on an idea that most of the normal day to day sourcing done in firms is not usually long-term collaborative but more focused on short-term contracting, where the buyer is just selecting from currently available suppliers based on decision of the trade-off between functionality and price. Market provides innovation and buyer just simply responds with short-term relationship management. Supply chain sourcing is similar to supplier selection where instead of focusing on first-tier suppliers, but the focus is on as many tiers as possible from raw materials to final product and delivery. In this section, also suppliers select on basis of possible trade-offs between functionality and cost. (Cox 2004)



**FIGURE 4. BUYER STRATEGIES (COX, 2004)**

In supplier development category, focus is on finding long-term supplier relationships instead on reactively choosing available suppliers from the market. Supplier is developed by making jointly investments and relation-specific adaptations and creating superior product and service offerings that would not exist without supplier development. The markets don't offer suppliers that are already what is being searched but the supplier must be developed to suit needs. Supply chain management out of all the other supplier selection forms is the most potentially beneficial but also most difficult to implement. Buyers proactively develop suppliers through all tiers from raw materials to end products. If these relationships are directed with continuous innovation, it is the most advantageous position for the buyer at the end of the supply chain. (Cox, 2004)

It seems that it is a common element of success is that buyers know to select correct strategy to choose suppliers is key element. Strategic relationship is talked a lot in current articles, but it is not reasonable for every situation. Sometimes more traditional arms-length strategy is the best option, sometimes strategic partnership. But, when done right, proactive strategic relationship seems to bring most benefit for companies. Hughes and Wadd (2012) conducted a global study in 2006-2007 about relationships of purchasers and their most strategic suppliers. Those purchasers in the study noticed to have on average about 40 percent more value from suppliers that they have most collaborative relationships with.

**TABLE 3 ATTRIBUTES AND SUCCESS FACTORS OF COLLABORATIVE PURCHASING (LEHTONEN, 2006)**

Attributes	Success factors
<ul style="list-style-type: none"> <li>● Commitment</li> <li>● Ongoing continuous development</li> <li>● Involvement</li> <li>● Trust in two-ways</li> <li>● Openness</li> </ul>	<ul style="list-style-type: none"> <li>● Performance expectations are met</li> <li>● Defined mutually agreed goals</li> <li>● Joint problem solving</li> <li>● Involvement of development and planning from both parties</li> <li>● Mutual information-sharing</li> </ul>



As seen on table 3, certain attributes are important for functioning relationship and different success factors result to desired attributes. For functional relationship, these attributes are road to success according to Lehtonen (2006) these success factors result to desired attributes. For example, when performance expectations are met, trust in both ways is increased and also that is a start for mutual development and openness.

Chosen supplier decision methods should be based upon situational factors, such as number of suppliers available, the importance of the purchase, supplier relationship and the amount of uncertainty present. Variety of factors are proposed, but most common themes are centered around importance and complexity of the purchase. (DeBoer, Labro & Morlacchi, 2001) Commonly, it is seen a successful supply, if it is designed based on situational factors, not blindly just chosen strategy. For example, the amount of suppliers affects greatly to relationship type and so on. Quality, delivery schedule and costs are emphasized but it is equally as important to highlight organizational practices, risk management, environmental and social practices when choosing a supplier. (Dey, Bhattacharya & Ho, 2015)

For public procurement, it seems that successful strategy includes centralized framework agreements with competitive bidding. Competitive biddings promote competition because they invite many potential suppliers from different fields and different sizes resulting in fair market price discovery (Tadelis, 2012). Currently, public procurement is in a process, where tendering would not be the only used method (Arbjorn & Freytag, 2012). For example, public procurement practitioners are turning towards centralization because of conflicting goals of partnerships but also tendering (Keränen, 2016). Centralization means usually framework agreements. Partnerships are seen as beneficial aspect, but not the same way that in private companies but used as a method of making agreements for longer time period than normally and reducing supplier bases.

When sourcing services, supplier delivering a service that does not meet the required quality can be fatal for supplier. It is important to have formal requirements

set beforehand for example in service level agreements. Also, when sourcing services when problem arises, it is critical to react immediately. (Lehtonen, 2006)

Two-way information sharing for sourcing services is important to prevent accumulation of problems and develop the relationship. Lehtonen (2006) found in his research that the type of information shared is critical for good communication; only timely, accurate and relevant information should be shared to keep the quality of shared information. Then the message is received much better. It is a good idea to have regular meetings so partners engage in systematic information sharing. Participating in development is a sign of commitment so the relationship can be developed to benefit both parties.

What could be said to be common success factors in summary from evaluation phase are: Providing suppliers opportunities to participate in contracting and preparing tendering reports (Keränen, 2016), having quality standards (Karjalainen, 2011), using a model such as TCO help to focus comparing the cost of suppliers and supply solutions in its entirety (Karjalainen, 2011) and For service procurement, expectations on certain level of service should translate into formal requirements through service level agreements and well-defined command structures and authority systems (Lehtonen, 2006).

In selection phase common success factors seems to evolve around using a method of selection that takes note of trade offs and different attributes, for example using single linear weighting model where first some form of scoring method is defined that consists of assigning weights to each criterion so biggest score indicates the highest importance and after that ratings from the criteria are multiplied by the weights and summed and so every vendor has a single figure and in the end supplier with the highest mark is chosen (Aissaoui, Haouari & Hassini, 2007). All supplier decision criteria should be based on analysis, information-gathering and potential supplier ratings, which involves evaluation and selection of a new supplier (Winter & Lasch, 2016).

Success factors noticed from post-selection phase focused on supplier controlling and performance evaluation. (Winter & Lasch, 2016; Dey, Bhattacharya & Ho, 2015) Supplier may perform on different level of quality on different products or services so quality audits should be conducted (DeBoer, Labro & Morlacchi, 2001).

### **3.4 Special elements of service procurement**

Most of the supplier selection literature is written in the perspective of purchasing a product to be used in manufacturing environment (DeBoer, Labro, & Morlacchi, 2001). There is a limited number of studies about service supplier selection process and most of these studies use auction models and often using mathematical programming techniques (Aissaoui, Haouari & Hassini, 2007). Collaborative approach is chosen usually when the service is high of importance, there is sensitive of strategic information shared, purchasing volume is high or the management of the situation is difficult or complex (Lehtonen and Ventovuori, 2006).

Most notable difference in purchasing services is that services cannot be stored and so there is no inventory costs related to purchasing services (Aissaoui, Haouari & Hassini, 2007). The key issue with comparing selection methods in traditional kinds of products and services is that services differ from products by defining key elements: customer involvement in the service process, simultaneity, one-off nature, intangibility, and heterogeneity (Fitzsimmons & Fitzsimmons, 2006). Services are not tangible, so it makes it hard for the buyer and categorized details less precise (Lehtonen, 2006).

Because services are not tangible, supplier evaluation is more difficult and attaining desired outcome is less precise. It makes it difficult to evaluate if required expectations are met completely. Usually when sourcing materials, there are inspections of deliveries to make sure it is at a required level, so something is needed instead (Lehtonen, 2006). Communication with suppliers becomes even more important and after the contracts is made contact should be continuous and focus should be on effective interaction (Hallikas et al, 2013). Research by Plane and Green (2012) noticed that the risk in supplier- buyer relationships is not in the

common work itself, but it is defined if both parties are working under same principles and objectives. For example, if the understanding of required quality is different between both parties, the buyer won't be satisfied in the results.

When sourcing services, communication between buyer and supplier is very important because buying process is multidimensional and should be understood completely and lead in the level of interaction (Hallikas et al, 2013). Well-led partnerships are crucial when sourcing services to attain efficient sourcing and fluent partnership (Grudinschi, Sintonen & Hallikas, 2014). Active interaction and open communication between buyer and supplier should be required throughout the whole buying process (Hallikas et al, 2013).

On the other hand, Lehtonen (2006) found that in operational facility services at least, collaborative approach is chosen only when purchasing volume is high. It is debatable if more strategic relationship is needed as a default when sourcing services. It seems that it is used more when purchasing volume is also high, and that would make the supplier more significant also. If the supplier is small in volume, is it reasonable to use a lot of effort in establishing relationship and setting information-sharing platform and so on, when the effect to the whole picture is small. At least whenever services are sourced, it seems to be a good idea to monitor supplier and have quality agreements to make sure that the result is at a wanted level.

**TABLE 4 COMPARISON OF SCM AND OPERATIONAL FACILITY SERVICES(LEHTONEN, 2006)**

Supplier Chain Management (SCM)	Operational facility services
Justified with strategic importance	Justified mainly with purchasing volume
Numerous relation-specific investments	Only some relation-specific investments
High level of independence	Low level of independence
Suppliers bring clear value	Supplier should be replaced when needed
Shared benefits and risks	Benefits are not shared equally, no sharing of risks

In table 4, traditional supply chain management (SCM) is compared to purchasing operational facility services (Lehtonen, 2006). From the table, it is noticeable that service sourcing is justified from purchasing volume, not from strategic importance for the company. Emphasis to relationships is also at lesser level, even though when sourcing services, relationships seem to be more important and more beneficial for the company. Supplier is not seen as important and benefits are not meant to be shared. This kind of set up makes it difficult to have a relationship. On the other hand, Lehtonen (2006) only studied a couple of Finnish companies sourcing facility services, it cannot be generalized to all companies sourcing services. Still, it seems that sourcing services are less important for companies. Hallikas et al (2013) also stated that services that are being purchased many times are not seen as purchase but more as necessary additive for the company.

#### **4 RESEARCH METODOLOGY AND DATA COLLECTION**

The main aim of this study is to find practices of supplier selection process that can be used by public procurement but also at the same time understanding the difference in purchasing services. The aim is to compare good practices found in other public procurement organizations and private companies and find how they can benefit the city of Lappeenranta and can be implemented for other public sourcing organizations. The main selection process is centralized framework agreements and how they work compared to what was used before, is there any benefit of using this method.

##### **4.1 Qualitative research**

The research is done using qualitative research methods. The research is executed as a case-study of city of Lappeenranta supplier selection methods to find features of successful supplier selection method that can be used also by other public procurement practitioners. Also, it is important to find attributes that could be done better and find suggestions from theory how it could be also done. Mostly this is attained through semi-structured interviews. Also alongside interviews, data of

company's working methods and the centralized framework agreement itself is analyzed.

Usually, purely qualitative research method should be chosen when the number of participants is small (Alasuutari, 1994). This research is done without preferred hypothesis. In quantitative research advancing without a hypothesis means that the researcher does not have certain assumptions of the outcome or researched subject that are made in advantage (Eskola & Suoranta 1998, 19).

This qualitative research is Case study focusing on a single case, City of Lappeenranta and their sourcing process. Qualitative case studies provide tools to study phenomena within its context and it is used when researcher wants to cover contextual conditions because they are relevant to the phenomenon under studying (Baxter & Jack, 2008). In case studies, defining, analyzing, and solving problem are at center objectives (Eriksson & Koistinen, 2005). Unlike most statistic-heavy studies, the objective of case studies is often offer new questions and variables for further research to be done (CSU, 2017).

The interview method is semi-structured theme interview to get full potential information from the company. Case study emphasizes to understand and assemble diversely to grasp the phenomenon more deeply (Syrjälä 1994, 11- 12). In semi-structured interviews, interview guide is developed ahead of time of topics and questions that need to be covered during interview and this guide is followed, but interviewee may stray from it when it is felt appropriate (Crabtree, 2006). The main benefit of this method is attention towards experience while still addressing theoretical variables of interest at the same time and then the questions sufficiently address specific topics related to the phenomenon, while leaving space for new ideas and meanings (Galletta 2013, 24).

## **4.2 Data collection**

Data was collected through multiple interviews of different personnel of City of Lappeenranta employees. All personnel interviewed was involved in this case of sourcing suppliers for centralized framework agreement. The selection of personnel for interview focused on finding people who did the original planning of this framework but also people who are doing the execution to get as accurate picture as possible.

Semi-structured interview type played a key role in this research. Important issue was to get honest opinions on if this sourcing method is working for the company and the complaints also. Without the semi-structure, interviewees would have been manipulated into certain types of answers easily, when the study idea was to get realistic opinions. The main point of this research was to get ideas on how the project is going and is it a suitable option for future projects. Other goal was to find out if this type of sourcing method is potential for other public procurement purchasing projects when sourcing services.

Other key role in this research was other data and material provided by City of Lappeenranta. These include general supplier selection documents, documents describing this specific sourcing situation and the centralized framework agreement itself. These also played a vital role on analyzing and understanding the selection process of this case study company, City of Lappeenranta.

## **4.3 Reliability and validity of the study**

In qualitative research, concepts of reliability and validity are different than in quantitative research and traditional meanings of those terms don't apply. Main point is to ensure reliability in qualitative research and examination on trustworthiness is at key role. Other main concepts are quality of research and rigor of the study. Main

missions are to eliminate bias and increase the researchers' truthfulness of the certain social phenomenon. (Golafshani, 2003)

The nature of semi-structured interviews combined with case study model gives as accurate representation of the phenomenon as it can be which makes it more trustworthy. The main point of this case study is to find reliable answers through semi-structure interview model where interviewees are not led to only answer on wanted questions but also express other valid points throughout the interview to get reliable representation. But also as the nature of the case study, this may not be reproducible because it is only representative of one company and their experience of the phenomenon, and that brings down the quality of the study. Results also may not be consistent over time, because the study focuses only on current situation strongly.

Chapter 5 focuses on introducing the results of the study as they appeared in the documents and interviews, with one exception of section 5.4, that presents certain aspects as success factors based on researchers' opinion, even though all the material is straight from the interviews and documents. There might be some bias in the results and especially in section 5.4 because it is collected from the interviews based on an opinion. Discussion section goes through all the points from the results section and compares them to supplier selection process introduced in the theory portion of this research. This section tries to explain the social phenomena and find some common themes similar to what was found from theory portions to explain it as objectively as possible. This part also carries a risk of being biased as it contains some amount of assumptions of the researcher.

There are no bias or untruthfulness on the side of the researcher because of the circumstances. There is no conflict of interest in the form of employment or personal interests for certain type of results. Social phenomenon is described as accurately as possible on how the researcher sees it and how the interviewees described it to be.



#### 4.4 About the company

Lappeenranta is a city in Finland, located in South-Karelia next to lake Saimaa in its southern end next to Russian border. City has about 73 000 citizens but the number of people living there is higher due to high number of students located there. It is Finland's 13<sup>th</sup> biggest city. Green and sustainable values are highly important for the city. (Lappeenranta, 2017) The study focuses around City of Lappeenranta.

This study interviews personnel of the city of Lappeenranta regarding their supplier selection process for their centralized framework agreement for repair and renewal projects. The main goal was to find 2-5 contractors to do these projects in a time span of years 2017-2018 including an option for year 2019 (Puitesopimus, 2017).

The project break-down is (Lappeenrannan kaupunkikonsernin työyhteisliittymä, 2017):

- 60% of street construction
- 30% of construction of water supply
- 5% of district heating
- 5% of street light
- 2% of telecommunications networks

Some of these projects are sourced with standardized framework agreements and some through other methods. These standardized framework agreement projects are about 25-30 % of the whole volume, the volume is different between different years, but if the whole yearly volume would be 15 million, this project would be that (Interview 2, 2017).

The agreement includes three parties; the owner of networks, City of Lappeenranta as a buyer and contractors as suppliers, as seen from figure 5. Network owner party means participant in the process that is in need of end result that is satisfactory towards its certain requirements. (Toimintamalli, 2017)

**FIGURE 5. SOURCING HIERARCHY (LAPPEENRANNAN KAUPUNKIKONSERNIN TYÖYHTEENLIITTYMÄ, 2017)**



Network owner defines these requirements about functionality, technicality and quality and evaluates the scope and urgency of the project. The buyer is responsible for going through the process as executive participant. From network owners' initiative, buyer starts construction project by designing and choosing contractors. After that, buyer takes care of construction decisions and organizing and is responsible to manage the costs. Other important jobs are making a sourcing schedule and monitoring of design and implementation. Supplier acts as full-time implementer and coordinator and has overall responsibility from the project. (Toimintamalli, 2017)

The objective of the study was to find out if centralized framework agreement were a good fit for the city of Lappeenranta. What are potential benefits and challenges and how the process can potentially be improved and what this example can teach

for other public procurement buyers. In the theory, I recognized three categories of sourcing process that analyzes the whole supplier selection process; evaluation, selection and post-selection, based on DeBoer, Labro & Morlacchi (2001) framework presented in figure 2, but also learnings from total cost of ownership thinking, where also costs acquiring after the purchase should be noted.

## **5 RESULTS OF THE STUDY**

In this section, results of the study are discussed. All these results were attained through interviews and going through company documents provided to me beforehand. These include, as seen from table 5, standardized framework agreement used in this particular case and documents of planning and selection procedures as well as specific selection criteria for this case. All the data is organized into four different sections based on theoretical knowledge. First three sections are about going through supplier selection process in the same order it was dissected in theory part. Last part is about success factors that I felt were the reason for successful sourcing process based on the interviews.

**TABLE 5 DIFFERENT DOCUMENTS USED IN THE STUDY**

Interview 1	Personell of city of Lappeenranta
Interview 2	Personell of city of Lappeenranta
Tarjoustenavaus pöytäkirja	The list of requirements for suppliers
Hankinnan suunnittelu	General guidelines for planning the sourcing
Lappeenrannan kaupunkikonsernin työyhteisliittymä	Document explaining sourcing hierarchy
Urakkaohjelma	The standardized framework contract
Toimintamalli	Operating model from the moment of when project exists to the moment the project is released to its owner

The idea of using centralized framework agreements began from project with Tekes, where the theme was innovative sourcing. The end result was newly arranged sourcing process. When doing this reform, there was conversations of these hard to define, mostly urban renewal projects and how they should be sourced and what is the optimal method for tackling those. The problem with these projects where that they were hard to define and basis of sourcing was based on insufficient information. Attaining this information beforehand would cost the same amount as the project itself. (Interview 1, 2017)

Why standardized framework agreements were chosen was because first of all, it was a difficult process to come up with sourcing model, where it would be based on unit prices. Before, hourly prices were used as a measurement tool and it was not efficient. Secondly, there is two participants as buyers, so the process of dividing costs should be clearer and unit prices does that, where it can be decided who is responsible on what units. The objective was to gain better control with urban renewal and attaining cost savings but also dividing the costs. (Interview 1, 2017)

Before establishing shared standardized framework agreements, starting situation was that both parties, buyer, and network owner, had their own contracts with suppliers. Now these are connected to one standardized framework agreement. Before, the collaboration was not efficient because “Other person was buying apples and other bananas or other was buying kilos and other hours”. (Interview 1, 2017)

## 5.1 Evaluation Phase

The project started with formation of standardized framework agreement though analyzing these different mistakes that were discussed before, such as having confusing partnership and having hourly prices instead of unit prices (Interview 1, 2017). The basic planning process for sourcing for City of Lappeenranta is (Hankinnan suunnittelu, 2017):

1. Starting of sourcing
2. Selecting form of sourcing
3. Planning of objectives and eligibility
4. Selecting sourcing method
5. Planning comparison grounds and encouraging methods
6. Making the invitation to tender

In the first step, the main objective is to start the sourcing and create preconditions for successful sourcing. The main outcome should be that there is a named person responsible and possible team that forms strategic meaning of the project. (Hankinnan suunnittelu, 2017)

In the second stage, analysis should be made that clarifies the best possible sourcing method. In order to do that, firstly complexity of the project should be analyzed using necessary expertise. The main question here is about suppliers and buyers common risk taking and sharing and controlling them. The outcome of this

step is to have form of sourcing selected. Possible methods suggested are for example life cycle model, total responsibility model, cooperation model, project leader model, main contract model, partly contract model or whole contract model. (Hankinnan suunnittelu, 2017) In this particular case, total responsibility model was chosen, where the contractor is the main implementer of the project (Interview 1, 2017).

The objective of the third step is to design goals and define eligibilities of suppliers. End result should be a list of those ready for next step. Before starting to plan these, it should be decided if additional knowledge is needed based on sourcing method. After that, a meeting is set up if needed where most important objectives are decided and then put into order based on importance. Eligibilities are decided then firstly based on legality and then by doing analysis on technical performance or professionalism on subject needed though chosen supply form. (Hankinnan suunnittelu, 2017)

In fourth step, final sourcing method is selected. The objective is to create a sourcing method for the future. First step in achieving this is to evaluate how challenging the sourcing will be and evaluate the need to use appropriate expertise. In the next step, goals and objectives of the sourcing can be used. These objectives should be gone through:

- Complexity of the sourcing
- evaluated need of the plan
- Implementation of the solution
- The comparison grounds of the sourcing
- Risks of the sourcing
- Evaluation of the personnel qualifications
- Defining criteria of the buyers
- Ensuring of the buyers

Though these different objectives, the sourcing method is selected while taking note of the laws. (Hankinnan suunnittelu, 2017)

In this sourcing, an open method was chosen (Puitesopimustarjouspyyntö, 2017). Open method is usually used, when buyer has no justifiable reasoning to use other methods and it means a sourcing method, where all willing participants can leave an offer (Hankinnan suunnittelu, 2017).

In fifth phase, objective is to plan comparison grounds and define encouraging methods for the contract. If needed, appropriate professionals should be asked to help. Comparison grounds is planned in a five-step process (Hankinnan suunnittelu, 2017):

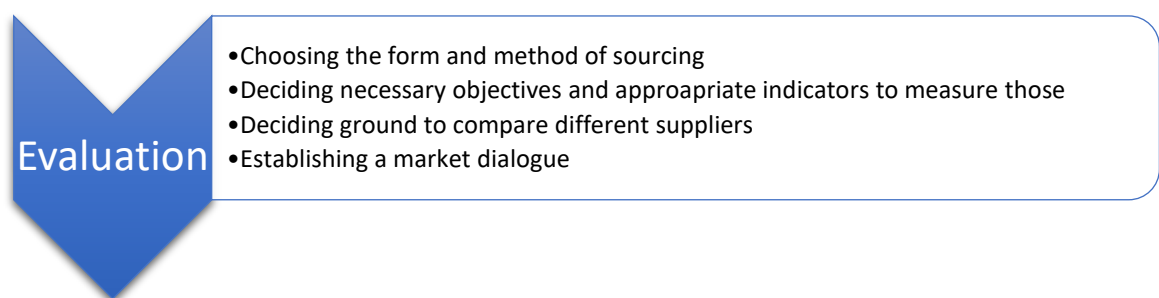
1. Recognize appropriate indicators for each goal
2. Analyze usability of known meters
3. Design payment criteria and based on that define price form as comparison
4. Choose indicators that are used based on how promising they are, how well they fit the plan foundation and/or how much evidence there is
5. Define appropriate level and scale for indicators
6. Define preliminary weights for comparison grounds

After that, encouraging methods are chosen by selecting methods that support selected objectives. Also it is important to make sure that encouraging methods from chosen comparison objectives are there, so competition edge without substance is eliminated. To fully understand these indicators, there should be limits for a good and a bad value. (Hankinnan suunnittelu, 2017)

In the last step, the objective is to plan and create clear and unambiguous documents of invitation to tender. Based on those documents, suppliers recognize relevant information to base their offer on. In this phase, all relevant information that are decided before are collected to the invitation to tender also by looking earlier documents and examples. (Hankinnan suunnittelu, 2017)

After the invitation to tender is made, market dialogue is held, where potential suppliers are invited with two main objectives, firstly to hear from the companies and give suppliers a change to affect the agreement and secondly create an environment where suppliers are comfortable to offer because this kind of agreement is new. It could be a possible outcome that suppliers were afraid to offer or would offer a deal that is too tight for them to win the competition. The objective was to create an open dialogue. (Interview 1, 2017)

It was important also to let suppliers know that in every different project involved in this centralized framework agreement, new sourcing agreement is also made that supplier must sign in order to get the project. The price won't be too low, because if someone is selected as supplier but because of prices, cannot sign any projects, it is not in anyone's interests. (Interview 1, 2017) In this dialogue, number of participants were more than expected, and there were around 20 different offers (Interview 2, 2017). The marketing of the agreement was successful based on that, because we got people to participate and also got many offers (Interview 1, 2017).



**FIGURE 6 EVALUATION METHODS OF CITY OF LAPPEENRANTA**

As seen from figure 6, City of Lappeenranta has a wide array of principles decided before the sourcing and in this phase, sourcing is planned throughout. In first steps, goals and objectives are decided and after that, indicators are selected to measure those. Also, by those, different suppliers can be compared easily with relevant



differentiations. Final step is to have a market dialogue so that there is an open environment for suppliers to voice their concerns.

## 5.2 Selection Phase

Selection process starts with sending the invitation to tender either through public platform or if the private method was chosen, by sending the invitation to those specific suppliers (Hankinnan suunnittelu, 2017). In this case, open method was chosen and the invitation was published online and offers were sent by post to City of Lappeenranta or brought to city hall reception (Puitesopimustarjouspyyntö, 2017).

*“In selection process, there were a list of requirements that has to be fulfilled before any of the offers were opened and for those offers that did not have required qualities were not opened at all” (Interview 2, 2017).*

Needed documents are (Katujen peruskorjaus ja saneerausurakoiden puitesopimus pöytäkirja, 2017):

- Document of the trade register
- Credit standing
- Tilaajavastuu.fi trustworthy partner report
- Liability insurance
- Proof of certain level of revenue
- Building quality proof RALA oy capability register
- At least minimum amount of references
- At least minimum amount of references of the supervisor
- Certificate or outsiders' evaluation of confirmed level of quality

These documents are related to suppliers' suitability and eligibility. The objective is to evaluate if the supplier can fulfill all requirements set by buyer. Only suppliers, that fill all the requirements can be noticed in the bidding process and those who

does not deliver don't get their offer evaluated as a part of the bidding competition. (Puitesopimustarjouspyyntö, 2017)

Supplier responsibility laws in Finland require suppliers to fill certain standards. Buyer must be registered into trade register or other equivalent professional register and other relevant registers. Trustworthy partner report includes these registers, and other mandatory reports such as proof of tax paying reports, proof insurances and so on. (Puitesopimustarjouspyyntö, 2017)

Supplier must deliver required financial information, more specifically proof of revenue and financial situation. This means financial statement from past two years. Minimum turnover required must be 1,5 million euros and it is counted as average from past two years. Also, liability insurance must be provided with minimum amount 1 million euros. (Puitesopimustarjouspyyntö, 2017)

Supplier must present proof of technical performance capabilities and professional capabilities. Supplier must present organization plans and resource plans for all work that it is offering. The company must have at least three references from last five years working in equivalent renovation and urban renewal projects. Also, supplier must present references for the head supervisor, having at least five years of work experience. (Puitesopimustarjouspyyntö, 2017)

Supplier must provide documents for building quality and certificate of quality done in previous jobs (Puitesopimustarjouspyyntö, 2017). In this project, RALA certificate was required or optionally outsiders statement of the quality of work (Interview 1, 2017). Also for this project, if the certificate was missing, the quality could be certified on first construction site so the quality certificates did not exclude anyone out at this point (Interview 2, 2017). This is an issue that was brought up in market dialogue, if suppliers could make an offer even though these quality certificates were missing and it was changed into conditions that work could be certificated in first site

(Interview 1, 2017). Some of the selected suppliers did not have all required quality certificates yet (Interview 2, 2017).

One part of the requirements for suppliers also was to help the city of Lappeenranta on social responsibility and the idea was to help unemployed workers to have a change in open labor market. Suppliers were asked to employ unemployed person at least half of the time supplier is doing the contract. Supplier would receive wage subsidies from the government. (Puitesopimustarjouspyyntö, 2017)

The reasoning behind this principle is because city must pay penalty payments for long-term unemployed people about 6 million per year. With this money, city could employ lot of these unemployed people and avoid penalty payments with 6 million. Amount of work found in city jobs are limited, to part of this responsibility is transferred to suppliers. Suppliers receive payments from government to support employment efforts. (Interview 1,2017)

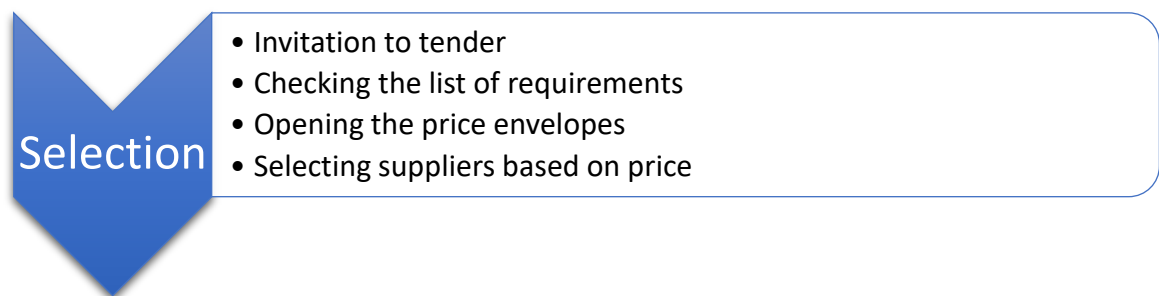
After receiving all data from participants, offers are compared and sourcing decision is made. Offers are not opened publicly. Evaluating of the offers happen in three-step-process (Puitesopimustarjouspyyntö, 2017):

- Analyzing suppliers' eligibility
- Checking if the offer follows invitation to tender requirements
- Comparing of the offers, choosing suppliers and making sourcing decision

Approved offers are those that fulfil all requirements and eligibility terms and fill absolute requirements for the job. Offers that don't fill all requirements can be dismissed. Buyer can also ask further clarifications from suppliers that are needed to compare. After all pre-qualificative criteria is gone through, the final selection is based on unit prices that form offers price. (Puitesopimustarjouspyyntö, 2017)

*“Compared price is the number one issue when it comes to final selection and is the most important, but also offers where not even looked at if they did not fulfill required standards of performance and quality for example” (Interview 2, 2017).*

Final decision of sourcing is not formed through this centralized framework agreement, but individual project agreements must be signed beforehand, with written contract agreement (Puitesopimustarjouspyyntö, 2017). If the prices are not possible for any of the chosen suppliers, it is possible to arrange new small-scale bidding and it is used if the project is in some way more unusual than normal where suppliers don't dare to carry out project with original prices, but it is not a normal practice and not a wanted one either (Interview 2, 2017).



**FIGURE 7 SELECTION PROCESS OF CITY OF LAPPEENRANTA**

As seen in figure 7, selection process starts with sending invitation to tender, in this case it was released on a website. Then potential suppliers send out all required documents and proofs beforehand with price envelope. Pre-requirements involve criteria of past projects, financial stability, and work-force professionalism alongside with some legal requirements. If all these requirements are met, those price envelopes are opened that filled out the criteria and the final selection is based on lowest price. In this case, four suppliers were selected, where three first ones were close to each other and fourth was more expensive.

### 5.3 Post-selection Phase

After the selection is made, feedback is collected from suppliers and those are analyzed if there is anything useful information for future sourcing possibilities (Hankinnan suunnittelu, 2017).

*“In this sourcing, few potential suppliers that were thought of being more prominent were eliminated and that might be because some of the criteria were too demanding. It is probable that those who were not elected will have negative feedback, but this is not taken note too much, maybe something is learned from those.”* (Interview 2, 2017)

The project will start with making a schedule with each construction site. Buyer must meet with network owners to see appropriate projects for suppliers. Buyers are contacted in an order starting with winner of the competitive bidding and negotiations are started if the project will fit into suppliers' schedule and then on offering all planned sites to suppliers in an order of urgency for buyers. (Interview 2, 2017)

Work schedule needs to be done for the whole work season so suppliers for each project is decided well in advance. When suppliers for each project is found well in advance, certain work entitlement is set up and builders and contractors resources are levelled up. It would not make sense to start all projects at a same time, it would mean way more resources from suppliers at one time. It is not cost-efficient eventually and it would be cheaper for city of Lappeenranta too that suppliers have regular work-flow if it is not highly necessary that something is done in that exact time. (Interview 1, 2017)

*“Centralized framework agreement system makes pre-planning of sites and schedules possible for everyone” (Interview 2, 2017)*

At key position after the selection is project managers, that start running this process focusing in individual projects (Interview 2, 2017). Project managers responsibility is to deal with running things and be responsible of execution of the projects. Project manager is responsible of defining and monitoring economical, technical, and scheduling of the project form starting of the project all the way to finishing it. (Toimintamalli, 2017)

It is probable that all four chosen suppliers don't get any work in the first year. In the future also, it is possible that about 2-3 contractors get some of the work scheduled. Only if the first chosen suppliers are unable to do scheduled projects, it might be possible that fourth chosen would get some of them. Top three of the chosen suppliers were closer to each other regarding the price, but after that there was a leap in prices. (Interview 2, 2017) It could be said that the fourth supplier is more of a backup resource. Fourth supplier could get more projects possibly if small scale bidding is arranged. (Interview 1, 2017)

*“Monitoring the process happens with follow-up meetings with buyer and network owner representatives.” (Interview 1, 2017)*

In that meeting, all issues and projects are gone through. Also, issues related to sourcing and development is also discussed. If there are issues related to any of the projects, it will be brought up there. (Interview 1, 2017)

Towards suppliers, there are project managers, head designers, supervisors and coordinators that have a relationship with and all feedback is directed to them. If the issue in hand is more official in nature, right place to direct it towards is construction

site meetings. If there is a reoccurring problem or something is not functioning as agreed, it will be managed in monthly meetings. Then it is gone thought trough together on how it should be handled in the future and what is the position that will be taken and if there are any issues with planning or other aspects, so the issue won't remain just between project manager and buyer. (Interview 1, 2017)

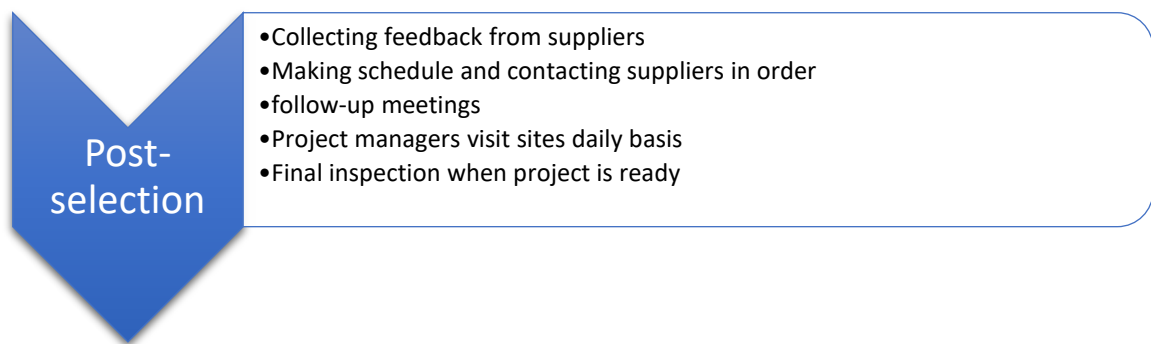
Other monitoring method is to follow schedules and progression of the project. Budgeting is not monitored in the level of individual euros, but if there is something unusual in the budget, it is brought up. Scheduling is followed also because it is highly important that projects are on time, so there won't be any resource spikes on builders' side, but the work is done in steady flow. When the work flow is steady, suppliers don't have to for example sometimes lay off workers and then rehire them is a short while. (Interview 1, 2017)

Some of the suppliers are very familiar to us and it could be said that project managers are on the construction sites almost daily and know the suppliers well. Project managers talk with suppliers a lot and is always quite aware on what is going on in the construction site and know from other project managers sites well because of other random meetings. It could be said that sometimes more old-fashioned model also works well, suppliers bring issues up more openly in casual conversations. (Interview 2, 2017)

*"When individual project is ready, there is final inspection and financial inspection where everything that happened is gone through."* (Interview 1, 2017)

There might be for example some quality deviations and that could cause some sanctions or compensations for either party, depending what happened. Also, costs are gone through, how they materialized and how much they were. (Interview 1, 2017)

If there is one big failure in production, that can be worked through, but if there is more than one case there should be new negotiations. That of course depends on the reason, for example if there is something wrong with designs that the buyer side provided or so on. (Interview 1, 2017) At some point it is ground for refusal if there are enough reclamations and it can be decided that the relationship with particular supplier is not working if there is enough evidence on that. There is certain warranty period defined by building laws, where supplier has to repair the caused damage. (Interview 2, 2017) Normally supplier is given a chance to repair the damage it has caused, but if this is not happening for some reason, there are warranty money collected before starting the project and those can be used to repair the damages (Interview 1, 2017).



**FIGURE 8 POST-SELECTION PROCESS OF CITY OF LAPPEENRANTA**

As seen on figure 8, first thing done after the suppliers are selected is collecting information of the competitive biddings in the form of feedback which is analyzed if there is any helpful information for the future sourcing. Next, schedule is made for the projects and based on that, suppliers are contacted in the order of the price offerings. Then, when the actual projects are started, city of Lappeenranta and network owners have meetings to discuss if everything is going according to plan. Project managers keep in touch with suppliers and visit the sites almost daily to monitor the project. After the site is finished, there is a final inspection and discussion on how the budget kept and if there are any issues.



#### 5.4 Success factors of City of Lappeenranta

In this section, I discuss success factors that came out of this project. These are what the researcher felt were successful points of this sourcing project because of certain points that came up in the interview, and were not presented as success factors necessarily directly by City of Lappeenranta.

Standardized framework agreement projects are about 25-30 % of the whole volume. The volume is different between different years, but if the whole yearly volume would be 15 million, this project would be around fourth or third of it. (Interview 2, 2017) So it is critical that the project will be successful. City of Lappeenranta has already noticed some benefits using centralized framework agreements, so this section will discuss those.

First benefits were noticed when market dialogue was held. In market dialogue, potential suppliers are invited with two main objectives. Firstly, to hear from the companies and give suppliers a change to affect the agreement and secondly create an environment where suppliers are comfortable to offer because this kind of agreement is new. It could be a possible outcome that suppliers were afraid to offer or would offer a deal that is too tight for them to win the competition. The objective was to create an open dialogue. (Interview 1, 2017) This seemed to be successful, as there were more than ten participants and more than twenty offers were made (Interview 2, 2017).

For centralized framework to be successful, market dialogue was important to make suppliers understand the fact that separate agreement is made before every project. Even if supplier is part of centralized framework agreement, it can choose not to sign for the project if supplier feels that it is not fair somehow. This situation would not be in anyone's interests. This made the market dialogue successful and suppliers felt comfortable to make offers. (Interview 1, 2017)

One explanation on why there were many participants is because of the changing economic situation. Job situation is not ideal in the industry currently. Also, there has been major changes recently, when hourly based costing system were changed into current unit-based system. Before City of Lappeenranta was acting the role of foreman and nowadays acting as buyer. (Interview 2, 2017)

Biggest advantage of centralized framework agreements is involved into time that needs to be spend per project. Every routine project doesn't need to have its own competitive bidding. Competitive biddings are time consuming laborious projects. Now for these projects, competitive bidding is already done and individual contracts can be made instantly without new biddings. (Interview2, 2017)

When using framework agreements, schedule risks decreases. All projects are predictable. Cost estimates can be done long time in advance because the suppliers and projects are already decided. The price is already negotiated to certain level, so suppliers cannot decide to ask much higher prices when market situation changes dramatically. Prices are made couple of years in advantage. (Interview 1, 2017)

It has been noticed that large number of pre-selected criteria limits the number of suppliers participating, but not so much that there are no good offers left. It is purposeful that criteria limits suppliers that cannot reach certain level of performance. Sometimes there are suppliers for example that don't fully understand what these jobs require and what they are offering. This is prevented by putting enough criteria beforehand. (Interview 2, 2017)

There are no observations of supply process being too inflexible because of competitive biddings. Suppliers have a chance to get involved to the criteria with

market dialogue meetings. Also, when the agreement is made, additional concerns can be brought up in contracting negotiations. (interview 1, 2017)

It was noticed that in this standardized framework agreement system, small and medium-sized companies participated more than usual. This was one of the objectives also, to increase offers made by SME's. Large nationwide companies made offers also, but in this case, prices were more competitive from smaller and medium-sized companies. It could be explained through issues that their organizations are much more expensive to run and that was displayed in the prices.

Changes in the results also could be because of innovative sourcing project that happened before this sourcing. Importance of setting goals before sourcing was seen more important. One of the goals was to improve participation from SME's. Other goals included getting genuine competition, that was a success. Other goals included work safety and quality, these are attained through quality requirements and standards. Work safety and quality are more difficult to ensure beforehand because it is realized during the process. Before the project, designs and plans are at key position. The work to attain these goals is constant work load during the process. (Interview 1, 2017)

Some jobs, for example street light building, takes years to build. The constant change in suppliers is not beneficial, because there is one type of relationship and operating model already developed and that has to be started from beginning again with new supplier. Also, misunderstandings lessen when there is a set routine and relationship (Interview 2, 2017)

## 6 DISCUSSION

In this part, results of the study are discussed and actively compared against findings from theory parts of this study. First section summarizes and analyses the results of this study. Suggestion part makes suggestions based on this analysis.

### 6.1 Summary and analysis

In this part, present summary and own analysis based on previous parts. I compare the supplier selection process of City of Lappeenranta with the process that was found in theory sections. The idea is to compare these processes with each other finding similarities and differences and analyzing potential reasons behind it. All opinions stated are based on researchers' opinions derived from theory, not City of Lappeenranta, if it's not stated with references.

**TABLE 6 COMPARING EVALUATION PHASE THEORY AND RESEARCH**

Evaluation phase from theory	Evaluation phase from research
<ul style="list-style-type: none"> <li>• Criteria-formation</li> <li>• Quality and performance standards</li> </ul>	<ul style="list-style-type: none"> <li>• Deciding necessary objectives and appropriate indicators to measure those</li> </ul>
<ul style="list-style-type: none"> <li>• Strategic supplier decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Deciding ground to compare different suppliers</li> <li>• Choosing the form and method of sourcing</li> </ul>
	<ul style="list-style-type: none"> <li>• Establishing a market dialogue</li> </ul>

In evaluation phase as seen from table 6, when comparing expected results to research, these are quite similar. Criteria-formation in City of Lappeenranta is started with deciding objectives and indicators for the objectives. Certain objectives

were placed as a criterion to enter the competitive bidding, even before any of the prices were looked at. Criteria revolved around legal requirements and performance indicators such as revenue minimums and references.

Quality and performance standards are also decided in the objectives and indicators phase by deciding criteria based on wanted quality and performance standards, for example suppliers were required to reach certain level of financial performance. Quality was checked with criteria that supplier must have previous experience working with similar cases and have minimum amount of references. Also, quality should be proved with Building quality proof RALA oy database register.

Generally, selection criteria can be divided into two categories; Subjective criteria and objective criteria. Whereas objective criteria are the ones measured by numerical and measurable things such as price but subjective criteria cannot be measured as easily such as quality of the design (Aissaoui, Haouari & Hassini, 2007). All criteria used in this process are measurable subjective criteria, which is common. Quality of design issues are solved through planning the construction properly and by setting warranty money. In the agreements, there are defined possible sanctions and compensations. If the issues are big enough, buyer can terminate the relationship.

These actions are set in place to react to possible problems, but there are not that many proactive measures taken to prevent quality problems. Warranties and need to sustain relationship do also work as preventive measure, but there could be something proactive in the selection criteria to prevent future quality issues. Usually for most cases, the price of the item is only a small part of the costs of the lifetime of that certain item, for example a certain company reported that product price was only 35% of the total costs over the life cycle (Ellram, 1990) Theories of total cost of ownership could be cooperated into this because the model focuses for example in costs that happen also after the purchase already in the decision phase, which is an

important factor especially for service industry, because the product itself is formed afterwards, so the focus should be on analyzing this part.

Whenever a buyer is deciding vendor, there is a problem of evaluating multi-attribute selections when some of the criteria may be at conflict with each other, for example lowest possible price may not have the best quality or best quality might not be delivered on time (Wind & Robinson, 1968). This was battled through requirements. If suppliers were not at required quality, the price offer was not even looked at. This seems to be legit answer to problems of only focusing on price or trade-offs. City of Lappeenranta could potentially benefit from more in-depth quality requirements that are more proactive and preventive. For services, expectations on certain level of service should translate into formal requirements through service level agreements and well-defined command structures and authority systems (Lehtonen, 2006).

Strategic supplier decisions were made by choosing the form and method of sourcing and deciding grounds to compare different suppliers. City of Lappeenranta chose competitive bidding as a method. Normally, in public organizations, competitive biddings are the norm and if any other method is chosen it should be justified. Also, normally if all other criteria are filled out, the comparing grounds is price. This is also typical for public procurement organizations. It should be noted that other aspects are taken notice before comparing prices and the price is compared only for those suppliers that fill out the criteria.

As a final step, city of Lappeenranta arranges market dialogue before the price envelopes are being opened. Providing suppliers opportunities to participate in contracting and preparing tendering reports can help to create a shared understanding between parties and find common strategic goals and exchange knowledge (Keränen, 2016). Dialogues are arranged to build relationship with suppliers and address if there are any issues with required criteria. Suppliers can see that buyer is ready to adjust if needed. That is important step to start building trust and starting to establish the relationship. Companies are facing multiple

different sourcing scenarios nowadays, such as establishing close relationships with suppliers, partnerships, and long-term agreements (Aissaoui, Haouari & Hassini, 2007). So, it is a good idea to start setting up the relationship and trust in early stages.

Interviewee mentioned the need to focus more on environmental protection and other environmental aspects. This could be made possible in evaluation phase by adding environmental criteria into required criteria. Graafland 2002 Winter & Lasch (2016) tried to implement more ethical and environmental issues inside supplier selection, so supplier audits were based on a list of requirements for social and environmental criteria. Also, they argued that if the supplier does not reach criteria, the supplier should have an opportunity to improve.

**TABLE 7 COMPARING SELECTION PHASE THEORY AND RESEARCH**

Selection phase from theory	Selection phase from research
Qualification of suppliers	<ul style="list-style-type: none"> <li>• Invitation to tender</li> <li>• Checking the list of requirements</li> </ul>
Decision analysis	<ul style="list-style-type: none"> <li>• Opening price envelopes</li> <li>• Selecting suppliers based on price</li> </ul>

Again, when comparing the expected results to research, there are a high number of similarities, as seen from table 7. Qualification of the suppliers start with invitation to tender, where suppliers must deliver certain list of requirement documents. All suppliers are qualified that have all requirements filled out. Decision analysis involves opening the price envelopes and making the final decision based on that. In this step, other aspects are not being looked at anymore.

In theory part, many articles talked about using weighting methods to bring more emphasis for certain criteria. Method consists of assigning weights to each criterion so biggest score indicates the highest importance and after that ratings from the

criteria are multiplied by the weights and summed and so every vendor has a single figure and in the end supplier with the highest mark is chosen (Aissaoui, Haouari & Hassini, 2007). It is also possible to go step further and present potential supplier ratings based on scores (Winter & Lasch, 2016). It might not be possible to use this style for public procurement, because of law restrictions. Final decision should be based on price. But possibly it could be arranged where supplier should have a certain rating in order to open the price envelope etc.

**TABLE 8 COMPARING POST-SELECTION PHASE THEORY AND RESEARCH**

Post-selection phase in theory	Post-selection phase in research
Information-sharing systems	<ul style="list-style-type: none"> <li>• Making schedule and contacting suppliers in order</li> <li>• follow-up meetings</li> <li>• Project managers visit sites daily basis</li> </ul>
Quality control and supplier control	<ul style="list-style-type: none"> <li>• Project managers visit sites daily basis</li> <li>• Final inspection when project is ready</li> </ul>
Relationship development	<ul style="list-style-type: none"> <li>• Collecting feedback from suppliers</li> <li>• Project managers visit sites daily basis</li> </ul>

In post-selection phase, it could be said that the phases are not as easily separated from one another as seen from table 8. Instead, different aspects serve a purpose in many fronts. For example, regular meetings with suppliers' act as a platform for information-sharing but also works in quality and supplier control. At the same time, meeting suppliers in regular basis develops relationship.



Information-sharing systems focus on face-to-face communication. In this phase, good communication is crucial. Only accurate information is necessary to share to keep up the quality and relevance of the information and some regular meetings are a good idea to keep up surveillance and quality control (Lehtonen, 2006). Before any projects start, schedules are made and then suppliers are contacted in order. Project managers are at key position, visiting different building sites almost daily. City of Lappeenranta also has regular meetings with third party, network owners. This seems to be working communication system. Daily issues and problems are discussed with project managers. General lines are then discussed with network owners in regular meetings.

Quality and supplier control is also done through project managers. A huge part of the quality also comes from building designs that are done. Good designs prevent large portion of potential quality issues. Project managers visit the site and are aware of project progression. Final inspection is last step at quality control. This is the final point where issues could be noticed before customers are introduced with the final product. Usually issues that customers notice are related to designs, not actual building quality even though that has happened in some incidents.

I feel that theory matches well with case organization City of Lappeenranta regarding supplier monitoring. Monitoring suppliers' performance through the whole contractual period is beneficial to ensure suppliers performance level and suppliers performance should be measured dynamically (Dey, Bhattacharya & Ho, 2015). There was almost daily communication. Especially in services constant communication is crucial because it is difficult to evaluate if the service that is produced is up to expectations if they are not under supervision (Lehtonen, 2006). There is a constant communication, through project managers and meetings. Supplier may perform on different level of quality on different products or services so quality audits should be conducted for each one (DeBoer, Labro & Morlacchi, 2001). Different projects are handled separately even though the sourcing is done

through same contract. Supplier should be informed on improvement measures they could take as result of continuous evaluation (Dey, Bhattacharya & Ho, 2015).

Relationship development started already in evaluation phase with market dialogue meetings. The idea was to create an environment where suppliers feel comfortable to offer because this kind of agreement is new. After the selections are made, feedback is collected from suppliers. This also creates more open dialogue between suppliers and buyers. After the project starts, project managers keep daily conversation going and are at the key position to maintain relationship towards suppliers.

Competitive biddings in public sector is promoted because of well-known reasons, most notably its promotion of competition (Tadelis, 2012). This project seemed to be successful, as there were more than ten participants and more than twenty offers were made (Interview 2, 2017). So, it seemed to promote true competition, and that was one of the objectives also for this project.

Competitive biddings were an issue in theory because of flexibility suffers and also limits smaller companies of participating. Also, it is placing a lot of focus on market price only, and that itself limits the thinking of costs to just market price, when in fact there are more factors included (Tadelis, 2012). These were common themes that criticized public procurement competitive biddings.

Limiting smaller companies of participating was not noticed in this study. The contrary happened, and the best offers came from smaller companies. It was noticed that in this standardized framework agreement system, small and medium-sized companies participated more than usual. This was one of the objectives also, to increase offers made by SME's. (Interview 2, 2017) I feel that the reason SME's were reached well in this source is the fact that increasing the amount was one of the objectives and the requirements were selected in a way that smaller companies

can also participate. Also, this project only included building projects in one city, whereas in some of the research, the projects were bigger in scale which makes it harder for SME's by default because of the volume required.

Flexibility issues were tackled with centralized framework agreement and market dialogue. In market dialogue, potential suppliers are invited with two main objectives: firstly, to hear from the companies and give suppliers a change to affect the agreement and secondly create an environment where suppliers are comfortable to offer because this kind of agreement is new (interview 1, 2017). This gives competitive tendering a whole new layer of flexibility, where suppliers are heard before any decisions are made. Even if supplier is part of centralized framework agreement, it can choose not to sign for the project if supplier feels that it is not fair somehow (Interview 1, 2017). This is a unique quality of centralized framework agreement and a reason why it is more flexible. Even if the supplier doesn't want to do certain project, it is still in agreement with the city and can receive other potential jobs.

Biggest issue with competitive biddings criticized in research is the limited focus to price. In building processes, products are conducted from certain components that have quality standards. When these quality standards are fulfilled, the product will be good. What makes the project better than good is attained from designing and planning. (Interview 1, 2017) What is harder to control is work quality, and this is tackled with quality audits and relationship development. What could be done more is proactive measures to prevent quality issues before they happen. Warranties and need to sustain relationship do also work as preventive measure, but there could be something proactive in the selection criteria to prevent future quality issues.

When sourcing services, supplier delivering a service that does not meet the required quality can be fatal for supplier so it is important to have formal requirements set beforehand for example in service level agreements and, when sourcing services when problem arises, it is critical to react immediately (Lehtonen,

2006). There could be some other measure for that. Also for project managers, there could be some sort of systematic checking method. Lehtonen (2006) found in his research that the type of information shared is critical for good communication; only timely, accurate and relevant information should be shared to keep the quality of shared information. Then the message is received much better. It is a good idea to have regular meetings so partners engage in systematic information sharing. Participating in development is a sign of commitment so the relationship can be developed to benefit both parties.

In supplier development category, focus is on finding long-term supplier relationships instead on reactively choosing available suppliers from the market. Supplier is developed by making jointly investments and relation-specific adaptations and creating superior product and service offerings that would not exist without supplier development. The markets don't offer suppliers that are already what is being searched but the supplier should be developed to suit needs. (Cox 2004)

I feel that most of service procurement is in supplier development category, because every project is different. So, there are no ready packages to choose from, rather suppliers should be developed to suit needs. But also, the influence of public procurement makes it impossible to just develop supplier to suit need and stick with that same supplier. Laws require competitive biddings and previous jobs done for city of Lappeenranta can't be evaluated as one of the criteria. So, it wouldn't be reasonable to make common investments for mutual benefit because the relationship will only last the agreed amount of time. Still, in this project, the relationship with suppliers are kept quite close. There are daily communication and trust-building through market dialogues and meetings.

Quality, delivery schedule and costs are emphasized but it is equally as important to highlight organizational practices, risk management, environmental and social practices when choosing a supplier. (Dey, Bhattacharya & Ho, 2015) Especially

when talking about public procurement, these issues are crucial. The city of Lappeenranta expressed a need to focus more on environmental issues when selecting suppliers. Easiest way of implementing these is putting them into requirement criteria, but that may not be best possible solution. Already many criticize public procurement of too demanding list of requirements. Better solution would be through supplier development. Educating and inspiring chosen suppliers and making incentives to make investments towards that.

## **6.2 Suggestions**

In this section, I'll provide recommendations and suggestions based on the analysis of findings of the study compared with theory. Also, I present main success factors of City of Lappeenranta that could be used by other public organizations dealing with issues that was resolved in this competitive bidding.

Main lesson learned from evaluation phase was, that more could be done in preventing quality of the suppliers' work. Main concept of TCO is that in the selection phase, also costs occurring after selection should be included in the selection phase. For public procurement competitive bidding, only way to implement this is to add more specific requirement for performance quality beforehand. Quality requirements already in place are:

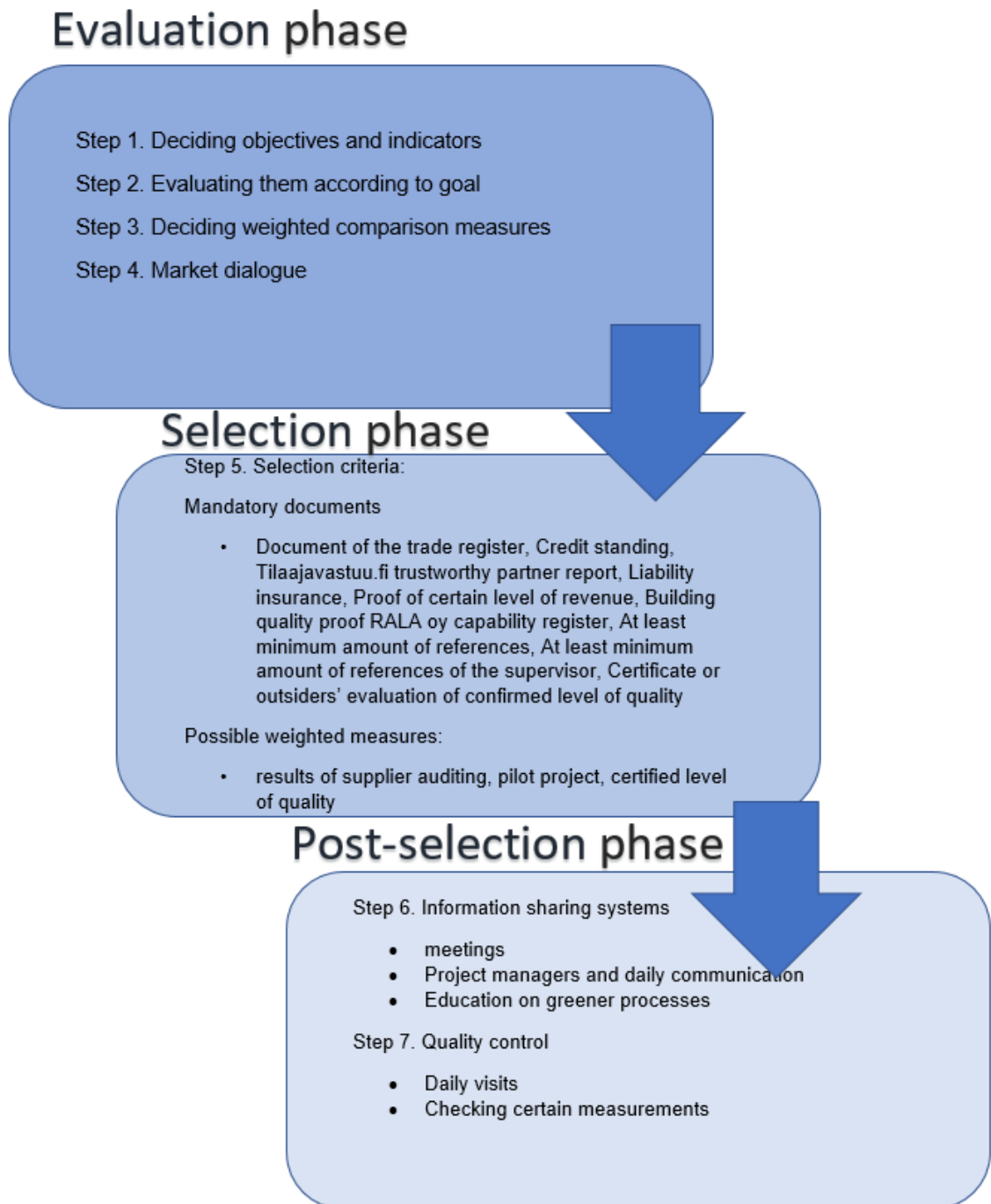
- Proof of certain level of revenue
- Building quality proof RALA oy capability register
- At least minimum amount of references
- At least minimum amount of references of the supervisor
- Certificate or outsiders' evaluation of confirmed level of quality

More specific criteria demand on work quality could be beneficial. Certificate or outsiders' evaluation of confirmed level of quality requirement is fitting, if the certificate indicates the past project truthfully, indicating past mistakes and so on.

Then set required levels that must be filled for that certificate. I understood that currently this requirement wasn't that important because suppliers could be selected without it. So, the potential quality of work rests on RALA certificate, references and revenue level. RALA certificate can indicate about technical know-how (RALA, 2017), but again it is not a proactive measure to evaluate which supplier delivers better quality than others. It would be beneficial to have some kind of measuring values that have different weighting numbers based on performance, which would put suppliers in some sort of order, similar to what has been suggested in Menettelyohje H6 and H7.

From documents provided by City of Lappeenranta, before selection there should be defined eligibilities and goals and based on those, encouraging methods should be chosen. From these, appropriate measuring methods and tools should be chosen. I did not notice that this step was actually being done, so I recommend analyzing suppliers using this method suggested in menettelyohje H6 and H7. This makes analyzing suppliers in selection phase more based on different performance measures easier and helps to have more specific demands on for suppliers.

What I would recommend based on post-selection phase analysis, is educating suppliers in environmental building procedures. At this point, it is not reasonable to put more criteria on selection phase, but rather choose developing method because there are probably no ready suppliers with all criteria demanded. It is easier and develops supplier-buyer relationship. Also, there could be incentives and benefits for suppliers to apply more environmental-friendly procedures.



**FIGURE 9 ANALYZING TOOL FOR SUPPLIER SELECTION PROCESS**

Figure 9 lays down an example on how the supplier selection process could be handled in seven steps. All these were formed through existing steps but also modified little to bring emphasis to quality control and different options to base selection that is not solely focused on price.

Step 1 is deciding objectives and indicators. There were objectives selected for this source, but indicators were not used as a part of decision process even though it was in company papers. These indicators could include for example viability, costs, supplier efficiency and so on. They should be decided based on the objectives. Some indicators are about helping selection and some are about measuring the successfulness of the supplier. Steps 2 and 3 are about what should be done with chosen objectives and indicators. All the chosen aspects should be evaluated if they deliver information according to goals. Step 3 is a suggestion on how these different goals could be evaluated against each other to help make it clearer of what is of main importance and what is second and so on. Then, when selecting suppliers, it is easier to evaluate which is the best supplier that delivers also the most important goals. Step 4 is a practice found useful by City of Lappeenranta and thus should be used in coming selection processes.

Step 5 tries to bring suggestions on how there could be different criteria also that brings stronger emphasis on quality of the suppliers and their work. These are some methods that came up in literature about other companies. DeBoer, Labro & Morlacchi (2001) suggested notice that supplier may perform on different level of quality on different products so quality audits for different products or services and quality audits should be conducted later. Lehtonen (2006) talked about expectations on certain level of service should translate into formal requirements through service level agreements and well-defined command structures and authority systems. Also, it is common to have supplier auditing's, evaluations and pilot projects before selection. The document *menettelyohje H6* and *H7* have some suggestions on how to plan evaluation criteria, encouraging methods and weighting methods for those.

Steps 6 and 7 focuses on having constant information-sharing systems in place. For this project, most of the suppliers have not started projects yet, but it can be said from earlier projects that this is being done well within City of Lappeenranta because of project managers and daily communications. Some of the indicators from first



steps could be linked into this phase and monitored throughout the process to get more accurate and relevant information.

What was done well in this supplier selection that other public procurement organizations could learn from are:

- taking SME's as one of the goals
- Centralized framework agreements increase communication, flexibility and predictability
- Importance of market dialogues

These all hit the main issues many public organizations face. SME participation was not a problem with City of Lappeenranta because it was taken up as main goals to increase the participation. Centralized framework agreements brought balance to competitive biddings, bringing it an element of flexibility and predictability, that were described as issues with competitive biddings. Market dialogues also tackled the issues of flexibility and relationship building in public procurement organizations.

## **7 CONCLUSIONS**

In this section, I present my conclusions on this master's thesis and research. The main aim of this study was to find practices of supplier selection process that can be used by public procurement but also at the same time understanding the difference in purchasing services. The aim was to compare good practices found in other public procurement organizations and private companies and find how they can benefit the city of Lappeenranta and can be implemented for other public sourcing organizations.

### **7.1 Summary of the findings**

The main research question presented was:

*What are success factors of supplier selection process for public institution when sourcing services?*

The main success factor noticed was the use of centralized framework agreement. This provided a good base to build more cooperative and flexible supply system. The **main benefits noticed were increased communication, flexibility and predictability.**

These are all important qualities that are also important for especially when sourcing services. Main issues generally when sourcing services were problems related to predictability and quality control. Also, efficient communication was at key position when sourcing services. Main focus should be timely accurate information delivery. So centralized framework agreement seems to work well with sourcing services.

Other research questions were:

*How public procurement differs from private?*

Main difference is based on the nature of the customers. Public organizations **provide services for citizens** instead of customers. Public organizations are **controlled with laws. Decisions are politically driven** more often than driven by demand. Public institution is **more budget-driven** and aiming for multiple goals and less focused on market innovation Public sector traditionally has a **larger range of stakeholders**, emphasizes **accountability and transparency** Other defining feature of public sector is its supplier selection procedures are mostly **competitive biddings.**

*What is the decision process of supplier selection?*

When analyzing supplier selection process, it can be divided into three groups; actions before, during and after the supply, called in this study evaluation, selection and post-selection phase. In evaluation phase, **suppliers are analyzed** and

required information is gathered. It is important already in this phase to notice different costs that may occur after the selection as part of pre-qualifications. In the supplier selection phase, **analysis is conducted. Information gathered** about suppliers are considered and supplier audits are conducted. It is important to notice if potential suppliers meet all the criteria required. After selection, **supplier controlling** is a main focus and **performance is evaluated**.

*What are common success factors of supplier selection?*

What is found successful is to analyze the sourcing type: there are four different sourcing options for buyers, where the relationship can be proactive or reactive and work scope can be first-tier or supply chain focus. Even though collaborational supplier relationships seem to be what most research sees as current best form, sometimes it is not best possible. It seems that it is a common element of success is **that buyers know to select correct strategy to choose suppliers** is key element. Strategic relationship is talked a lot in current articles, but it is not reasonable for every situation. Sometimes more traditional arms-length strategy is the best option, sometimes strategic partnership. But, when done right, proactive strategic relationship seems to bring most benefit for companies.

*What are special characteristics when procuring services?*

Because services are not tangible, **supplier evaluation is more difficult** and attaining desired outcome is less precise. It makes it difficult to evaluate if required expectations are met completely. When sourcing services, **communication between buyer and supplier is very important** because buying process is multidimensional and should be understood completely and lead in the level of interaction. The risk in supplier- buyer relationships is not in the work itself, but it is defined if both parties are working under same principles and objectives. For example, if the understanding of required quality is different between both parties, the buyer won't be satisfied in the results. Also, **quality should be emphasized** because nature of services, especially its: simultaneity, one-off nature and heterogeneity.

## **7.2 Theoretical contributions and Managerial implications**

The scientific goal of this study was to add and create knowledge about supplier selection process in public procurement organizations when sourcing services. This combination is not researched a lot, so my research serves as an initiation to do more extensive research in some of the topics that was raised in my research. My findings were similar to theory in some parts, but parted in some.

Supplier selection process is similar as it was in theory, but new ideas for public procurement were added. Importance of market dialogues as found crucial for City of Lappeenranta to establish relationships and increase communication and trust. Also, having many pre-selected criteria limits the number of suppliers participating, but not so much that there are no good offers left. It is purposeful that criteria limits suppliers that cannot reach certain level of performance.

Some problems that public procurement had was absent in my research because of centralized framework agreements. There were only a few studies mentioning this framework agreement, it could be researched more. The study successfully found success factors from there, where centralized framework agreements increase communication, flexibility, and predictability. Problems related to quality of suppliers participating, small amount of small- and medium sized companies and no real negotiations and competition were not present in this selection process.

The managerial objective of this study was to provide success factors for public procurement institutions while sourcing services and find some elements that case organization could improve upon based on general supplier selection theories. The study emphasizes the importance of Total Cost of Ownership thinking, ideas and innovations cooperated into supplier selection process for public institutions to decrease risks and increase supplier control and relationships. It was found important to emphasize quality of the work already when selecting suppliers and analyzing different suppliers based on this in the selection phase. Also, it was found

that constant communication is at key position in service supply to decrease quality issues and to increase supplier relationship and trust. Also for more greener future, educating suppliers in environmental building procedures would be beneficial strategy.

### **7.3 Limitations and future research topics**

There are many limitations for this master' thesis research. This is applicable only for public procurement practitioners that source services. Also, it is targeted towards those that are interested in the benefits of centralized framework agreements, as the main benefits were found from that model and empirical data attained was from interviews about project where centralized framework agreements were made.

There are some improvements that could have made for better results. Only one public procurement organization was interviewed. More stable results would have been attained if more public procurement service purchasing situations would have been analysed to find more common grounds between different types of services and so on. Also, better results would have been attained if the centralized framework project would have follow-up meetings after there are true answers on quality and work performance and so on.

Results may have been different for example in a situation where the service sourced would be different or of less importance. Different services act completely different for example if analyzed service would have been cleaning, where end customers are witnessing the service process happen in a different way than in construction. Also, in this particular case the agreement was of high importance. The results may have been different if the situation was with less-important purchase.

For future research topics, this similar qualitative interview based research could be done about standardized framework agreements in a larger scale to get better picture of these agreements. Interviews could still focus on sourcing services, but including many different services to find if there are any similarities between them. Main focus would still be public institutions, because standardized framework agreements are working solution for those, not so much for private companies. It is a solution for public companies that want to include more cooperative supplier relationships when competitive biddings are only selection method used.

Centralized framework agreements in public procurement could also be a good topic in more traditional material-sourcing projects. It would be interesting to see if the results are similar than service sourcing. These results would be interesting also in a way to demonstrate differences of product sourcing and service sourcing in public procurement. These kinds of comparisons are made a lot when researching private companies, but not in public institutions.

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## Appendices

### APPENDIX 1

#### Semi-structured interview questions

#### Toimittajien valinta julkisissa hankinnoissa

Onko tämä kyseinen hankinta strategisesti tärkeä lappeenrannan kaupungille

Onko se volyyminsä kannalta suuri/pieni yms verrattuna muihin hankintoihin?

Miten se vaikuttaa valintamekanismeihin?

Mikä on yleisin valintamekanismi, käytetäänkö muitakin kun kilpailutusta

Kuinka paljon kilpailutuksen toimittajat voi vaikuttaa ehtoihin yms kilpailutuksessa?

Millainen paine säästöjen saavuttamisesta on ja vaikuttaako se toimintaan?

#### Toimittajien valintaprosessi

Onko kyseisen hankinnan toimittajat ennestään tunnettuja ja jos on, vaikuttaako se valintaan? Onko kyseiseen palveluun ennenkin hankittu toimittajia?

Mitä tehdään ennen toimittajien valintaa? analyointi, kriteerit... yms

Miten haluttujen toimittajien määrä päätetään?

Onko etukäteen päätetty muita kriteerejä toimittajille kun hinta, millaisia ja koetaanko ne tärkeänä?

Onko olemassa laatumääritelmiä halutulle lopputulokselle ennen valintaa?

Millä perusteilla kilpailutuksesta valitaan toimittajat

vaikuttaako siihen muita asioita hinnan lisäksi

Mitä tapahtuu jos kukaan kilpailutuksen toimittajista ei yllä haluttuihin kriteereihin?

Mitä tapahtuu valinnan jälkeen?

Miten toimittajiin pidetään yhteyttä projektin käynnistettyä?

Miten toteutuvaa laatua valvotaan?

Miten toimitaan jos se ei toteudu?

Millaisia mahdollisia kommunikaatiokanavia toimittajien kanssa on?

Mikä on minikilpailutusten tarkoitus ja millä perusteella toimittaja valitaan niissä?

### Menestystekijät sekä haasteet

Kuinka paljon puitesopimuksia on käytetty ja onko niistä huomattu etua verrattuna muihin vaihtoehtoihin

Mitkä asiat on huomattu hyviksi nykyisessä toimittajienvalintaprosessissa?

Teoriassa on paljon puhuttu, että pidempikestoiset toimittajasuhteet ja yhteistyö toimittajien kanssa on toimiva strategia. Onko tällaista havaittu?

Mitkä asiat on huomattu haasteellisiksi nykyisessä toimittajanvalintaprosessissa ja miksi?

Mitä toimenpiteitä on aikaisemmin tehty parantamaan valintaprosessia ja ovatko ne tuottaneet tulosta?

### Palveluiden hankinnat

Miten palvelun laadun toteutumista varmistetaan?

Millaisia metodeja käytetään arvioidessa vastasiko lopputulos haluttua?

Vaikuttaako aikaisemmat projektit toimittajan uudelleenvallinnassa?

Koetaanko kommunikaatio projektin aikana toimittajan kanssa tärkeäksi