SUSTAINABILITY RISK MANAGEMENT IN PUBLIC PROCUREMENT: A PATHWAY TO RESPONSIBLE GOVERNANCE

Lappeenranta–Lahti University of Technology LUT

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ABSTRACT

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Sustainability Risk Management in Public Procurement: A Pathway to Responsible Governance

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Sustainability is very important and current topic, which has gained significant amount of attention over the past decades. The role of promoting sustainability and sustainable growth does not fall only on consumers and companies, but to public organisations as well. Public procurement of countries, municipalities and other public organisations plays a vital role in this fight as well, as it is a powerful force for economic growth and has a great opportunity to address the current sustainability challenges. In many industrialized nations, there are guidelines, tools, and available resources for putting Sustainable Public Procurement (SPP) into practice. Public organizations face sustainability risks and challenges, but it has been found that there is a difference or lack of alignment between how well the public sector performs in risk management and its understanding of risk, suggesting that the public sector might not be doing as well as it could in managing or addressing risks effectively. The aim of this study was to investigate the sustainability risk management in public procurement.

As a result of a qualitative research, the sustainability risk management process was presented, as well as the possible sustainability risks and their effects on public procurement and methods for successful integration of sustainability in risk management. It can be concluded that sustainability has to be integrated in to the procurement process as a whole and organizations must be systematic and have a integrated approach in their sustainability risk management.

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Kestävyys on erittäin tärkeä ja ajankohtainen aihe, joka on saanut merkittävästi huomiota viime vuosikymmeninä. Kestävän kehityksen edistämisen rooli ei ole vain kuluttajien ja yritysten vastuulla, vaan myös julkisilla organisaatioilla. Maat, kunnat ja muut julkiset organisaatiot ovat tärkeitä kestävän kehityksen edistäjiä, sillä julkiset hankinnat ovat voimakas talouskasvun moottori, ja niillä on suuri mahdollisuus vaikuttaa nykyisiin kestävyyshaasteisiin. Monissa teollistuneissa maissa on ohjeita, työkaluja ja saatavilla olevia resursseja kestävän julkisen hankinnan toteuttamiseksi. Julkiset organisaatiot kohtaavat vastuullisuusriskejä ja haasteita, mutta on havaittu, että on eroja tai puutteita siinä, kuinka hyvin julkinen sektori suoriutuu riskienhallinnasta ja sen riskien ymmärtämisestä, mikä viittaa siihen, että julkinen sektori ei ehkä hoida riskien hallintaa tai niiden tehokasta käsittelemistä niin hyvin kuin voisi. Tämän tutkimuksen tavoitteena oli tutkia kestävyysriskien hallintaa julkisissa hankinnoissa.

Laadullisen tutkimuksen tuloksena esitettiin kestävyysriskien hallintaprosessi, mahdolliset kestävyysriskit ja niiden vaikutukset julkisiin hankintoihin sekä menetelmät kestävyyden onnistuneelle integroimiselle riskienhallintaan. Voidaan päätellä, että kestävyys on integroitava hankintaprosessiin kokonaisuutena, ja organisaatioiden on oltava systemaattisia ja niiden on omaksuttava integroitu lähestymistapa kestävyysriskien hallintaan.

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My family has always supported me in every way since the very beginning, guiding me to the academic path and helping me whenever I needed help. This is an end of chapter, yet I have no doubt I have exciting ones ahead of me as well! I would not be who I am today if I had not ended up in Lappeenranta and I am most grateful for each person, who has been part of this journey. This is not a goodbye, but a see you later ♥

Katri Seppäläinen
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1 Introduction

In the era, where sustainability and responsibility are extremely important and the awareness of economic, environmental, and social challenges is heightened, the need for actions that secure our livelihoods for future generations as well is crucial. Fact is, that humans require a vast number of goods and services in their everyday lives and even if this does drive the current economic framework and promote welfare around the world, the cost has been on ecological and social systems (Villamil, Schulte & Hallstedt 2022). Human activities have significantly risen after the industrial revolution and one can see exponential growth in many areas, including damming of rivers, water use, paper consumption, international tourism and motor vehicle transport (Steffen, Persson, Deutsch, Zalasiewicz, Williams, Richardson, Crumley, Crutzen, Folke, Gordon, Molina, Ramanathan, Rockström, Scheffer, Schellnhuber & Svedin 2011), and not without putting the well-being of humans and nature to risk.

The role of promoting sustainability and sustainable growth does not fall only on consumers and companies, but to public organisations as well. Public procurement of countries, municipalities and other public organisations plays a vital role in this fight as well, as it is a powerful force for economic growth and has a great opportunity to address the current sustainability challenges. Governments around the world are battling to meet the complex requirements for sustainable development and one of the essential tools for this is managing, addressing, and resolving sustainability risks in public procurement (Kumar 2022).

Risk management is very broadly known and researched topic in the private sector, but the research on public sector is not nearly as extensive. As the expectations for sustainability change and increase, the risk management must reach much further than just the traditional consideration of risks related to for example cost and quality (Wolke 2017, p. 7), and extend to for example consider the risks of, for example, environmental degradation and social injustice (Villamil et al. 2022). This thesis aims to investigate the sustainability risk management in public sector and give possible tools for managing these risks in the future

and thus fulfil the current research gap. In the following chapters, research questions will be presented, the research methodology is introduced, and conceptual framework is created.

1.1 Background of the study

Sustainability as a concept has been around for a surprisingly short time and just around 50 years ago, it was not discussed on the regular basis and even in the mid-1990s, sustainability was dismissed as a buzzword that would be soon forgotten (Caradonna 2014). This was not however the case, and today, sustainability is embedded in the everyday lives of almost everyone. This has led to sustainability risks in supply management having strong connection to for example company's brand image, which then leads to companies having to take the risks to account and manage them to maintain their customer loyalty (Hallikas, Lintukangas & Kähkönen 2020). Private organisations are not however the only organisations to benefit from good brand image; Berndtson (2017) concluded that a municipality with a good reputation attracts residents, businesses, employees and even legitimize maintaining a special position related to, for example, in the provision of services, so it is clear that public organizations can benefit greatly from risk management in their activities as well. Citizens always have expectations, even if they would not be vocal about them, and these expectations change as the society changes (Luoma-Aho, Olkkonen & Canel 2020), which has led to sustainability expectations rising as well.

In many industrialized nations across Europe, North America, as well as few in Asia and Latin America, there are guidelines, tools, and available resources for putting Sustainable Public Procurement (SPP) into practice. However, in the majority of developing nations, the idea of integrating sustainability into public procurement remains relatively unfamiliar and faces challenges in gaining recognition. (Kumar 2022, p. 7) In Finland, the situation is better than in many other countries. For example, Hankinta-Suomi, a joint initiative of the Ministry of Finance and the Association of Finnish Municipalities, aims to promote the sustainability of public finances and the societal impact of public procurement (Valtiovarainministeriö 2023). Sustainability is expected as well; according to a study made by Joutsenmerkki

(2021), the residents of municipalities expect municipalities to make sustainable public purchases and the municipalities should lead by example by making these sustainable choices.

The importance of sustainability risk management has been recognised already, but for example Anderson (2006) pointed out that these sustainability related issues and the risks that they create are still quite new, there is no ready solution for them, but the solutions must be found. Ignorance is in no way the solution in any case. Public organizations face similar sustainability risks and challenges as private sector but can have different starting points to adapt to these. In their study related to public sector risk management, Kong, Lartey, Bah and Biswas (2018) expected to find a significant difference or lack of alignment between how well the public sector performs and its understanding of risk, suggesting that the public sector might not be doing as well as it could in managing or addressing risks effectively.

1.2 Research questions, objectives, and limitations

As discussed earlier, this thesis aims to investigate the sustainability risk management in public procurement. Risk management is a complex process and as the sustainability risks are not simple either, sustainability risk management requires careful consideration, assessment, and actions to integrate to the procurement process successfully. This study's objectives are twofold; firstly, it aims to comprehensively understand the current landscape and preparedness of public organisations to implement sustainability risk management in their procurement. Secondly, it aims to offer insights and recommendations for future to better the sustainable risk management process in procurement, for example by developing strategies and policies on how to integrate the sustainability risks into everyday public procurement practices.

To help to reach the objectives of this study, there are research questions that support the goals of the study. The research questions are presented below. There is one main research

question (Q_1) and two sub-questions (Q_2 and Q_3) that aim to deepen the approach to the study and obtain broader picture of the topic of the study.

Q_1: How to manage sustainability risks in public procurement?

> *Q_2: What kind of sustainability risks does public procurement face and how do they affect public organisations?*
>
> *Q_3: How can sustainability risk management be effectively integrated to public procurement?*

The main research question (Q_1) is aimed at setting the framework for the entire study. It lays the groundwork for investigating the management of sustainability risks in public procurement. To deepen the understanding of the topic, Q_2 studies the risks that public procurement faces and their effect on the organisations. It is essential to understand what the most important sustainability risks and their impact on the procurement process are to manage them, which is why this question has been chosen for the first sub-question. Finally, the third question, Q_3, aims to investigating the challenges related to simultaneously managing the public procurement and sustainability. Integration of these two might not be effortless, which is why it is essential to understand these challenges to enhance the effectiveness of the sustainability risk management.

Like any research, this thesis has its limitations as well. This study is completed in Finland and the data is based on Finnish organisations. This means that the findings might not be directly transferable to other countries (however it is important to remember that EU-directives affect each EU-country), due to differences in regulations and business culture, for example. In addition to this, the study's most important data is collected via interviews. All the interviewees can only answer the question based on their best ability and based on what they remember. They are always representing their own opinions, which can affect the quality of data as well. The data is collected in a short time frame in beginning of winter 2023, which creates certain limitations as well and the data cannot consider possible changes in the future.

1.3 Theoretical framework

The theoretical framework of this research is presented in the following Figure 1. Framework represents the main topics of this research, and the entire study is built around these concepts. This framework is an essential tool for guiding this research, and it provides a conceptual foundation for the work. This study's framework consists of five parts, of which one is divided into three smaller parts.

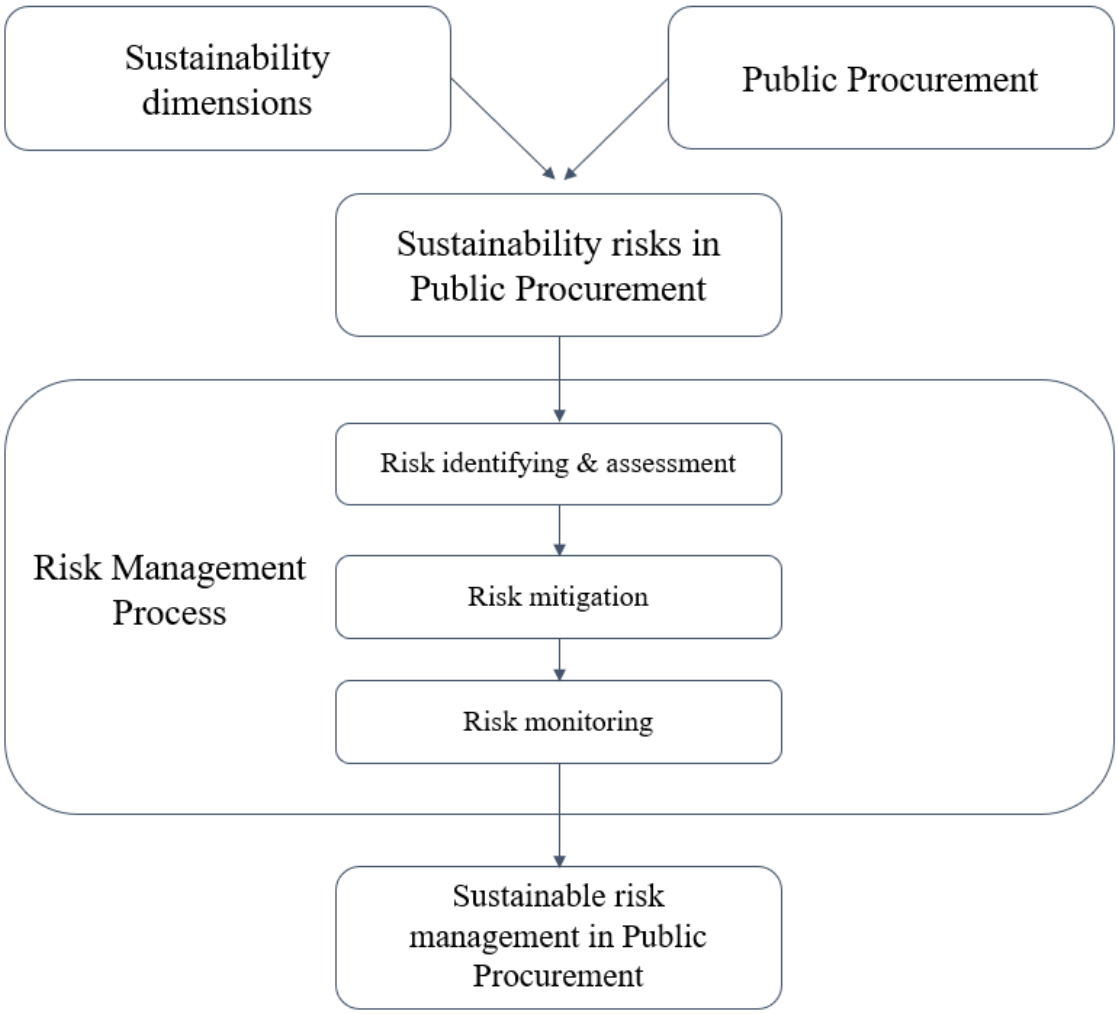

Figure 1. Theoretical Framework

The first two terms in the framework are the foundation of the study; to study sustainability risk management in public procurement, it is essential to understand the concepts of sustainability and public procurement. Sustainability dimensions refer in this context to the dimensions of Triple Bottom Line, which John Elkington first presented in 1997. Triple Bottom Line is introduced in more detail in later chapters. Together with these, one can study the sustainability risks in public procurement, which is the next part in the theoretical framework. Understanding the possible sustainability risks that public organisations face is the key to being able to manage these said risks, which is then the next part of the framework. Risk Management Process is divided into three smaller sections, which represent the necessary steps in risk management process: risk identification and assessment, risk mitigation and monitoring of the risks. After this, the final part of the framework is reached, sustainable risk management in public procurement. The objective of this research is to offer insight into the successful risk management of sustainability issues in public organisations and by adapting this framework and using it as a guideline for the study, this goal is hoped to be reached.

1.4 Key concepts

As every study, this thesis has its key concepts, which create the framework for the research. They help to comprehensively understand the topic and are essential for conducting the research. These terms will be revisited in the later chapters, but in here, they will be initially presented and explained.

Public Procurement: Public organizations require vast number of, for example, goods and services. Public procurement can be defined as “the acquisition of works, supplies, or services by government or public organizations from the market or another outside body, while simultaneously creating and safeguarding public value from the perspective of their own organization” (Grandia & Volker 2023)

Sustainability: Sustainability is often defined as economic development, which "meets the needs of the present without compromising the ability of future generations to meet their own needs" (Portney 2015, p. 4)

Risk Management: Risk management is an essential part of any business venture, which focuses on identifying, assessing, mitigating and monitoring risks. Business' face risks related for example to financial, legal and physical causes. (Jordao & Sousa 2010, p. 8)

Sustainability risks: Sustainability risks refer to possible risks and negative impacts related to the environmental, social, and economic aspects of sustainability (Kim, Wagner & Colicchia 2019).

Sustainable Public Procurement (SPP): SPP integrates all three aspects of sustainability into public purchasing choices. This approach aims to produce advantages not only for the organizations themselves but also for society and the economy, all while substantially decreasing adverse environmental effects. (Kumar 2022, p. 5)

Triple Bottom Line: Triple Bottom Line (TBL) is an extremely popular sustainability framework, first presented in 1997 by John Elkington. The means of the TBL are related to achieving more sustainable development and it expands its point of view from just economic view to environmental and social views in business as well (Rambaud & Richard 2015).

1.5 Thesis outline

This thesis will be consisting of introduction chapter, which presents the background of the study, research questions, theoretical framework, and key concepts. The background of the study aims to set the foundation for the research, offering insights into the circumstances, motivations, and gaps in existing knowledge that prompted this thesis. Based on the

background, research questions are presented, and these define the aim of the study. This sub-chapter addresses the limitations of the study as well.

The theoretical framework is established based on the theoretical aspect of the study and research questions, acting as a guideline to the contents of the theoretical part. Following the theoretical framework, the key terms relevant to the study are defined. The itself thesis consists of two main sections: the theoretical and empirical parts. The second and third chapters dive into the theory of both sustainability and risk management, as well as sustainable public procurement, presenting previous literature and theoretical perspectives. This section is rooted in the theoretical framework introduced in the introduction chapter. The examined topics are expounded upon in greater detail, beginning with an introduction to sustainability. Following that the main points of risk management process are examined and finally, sustainability risk management is presented. Third chapter dives into sustainable public procurement, considering its differences from supply management, as well as its drivers and challenges.

Fourth chapter is devoted to the methods of the study. This chapter presents the used methods as well as the data and its collection methods, and data analysis. Fifth chapter presents the findings of the study offering a comprehensive narrative that aims to show the outcomes of the research. The insights presented in this chapter contribute to the broader understanding of the topic and provide information for the reader to understand the implications of the study. The final sixth chapter is devoted to discussions and conclusions. It provides answers for the research questions and addition, aims to draw conclusions from the gathered data, synthesizing key insights and implications of the study. Additionally, the sixth chapter goes beyond conclusions, offering suggestions for future research as well. The final chapter is followed by references section, which lists all the sources used in the making process of this study.

2 Sustainability and Risk Management

This chapter is dedicated to analysing existing literature on sustainability, risk management and sustainability risk management. The theoretical framework of this thesis is built around Triple Bottom Line, so it will be presented as well in detail.

2.1 Sustainability

Sustainability is a term one hears almost every day nowadays in many different contexts. There are endless definitions for sustainability, but most of them have idea of preservation of the world as we know in some form in common. Even if sustainability in a term might be quite new and it has only been known by the public for about fifty years, it has a longer history. Many of today's sustainability issues of today root back in the industrial revolution of the 1700s and 1800s and for example the rise of greenhouse gases in the atmosphere can be linked to the industrial revolution. Of course, the growth in the amounts of greenhouse gases can be linked to many other human activities as well, such as clearing of forests. (Caradonna 2014, p. 58) Science and industrial development have shaped our world significantly and have also caused significant burdens to our planet and the entire ecosystem it provides. Now the science should be able to solve the issues, caused by previous innovations and human activities (Dedeurwaerdere 2014, p. 134). The sustainability issues are today well recognised and there has been a clear shift in the attitudes towards sustainability; a study found that in 2010, 96 percent of CEOs agreed or strongly agreed that sustainability ought to be fully embedded into company's strategy and operations, whereas in 2007 only 72 percent thought so. This means a 24 percent increase in only three years. Compared to 2007, in 2010 there was 29 percent increase in CEOs that believed that sustainability should be embedded throughout the global supply chain. (Willard 2012, p. 3) This implies that sustainability has been and continues to be increasingly important topic, which must be considered in every aspect of business.

There are various frameworks and models for analysing and understanding sustainability. This study is using Triple Bottom Line as the basis for the study, as it offers a clear viewpoint for sustainability. Triple Bottom Line, or the TBL from now on, was first presented by John Elkington in 1997 and Elkington first introduced the concept of the TBL for sustainability, which consisted of economic, environmental, and social aspects (p. 70-71). Elkington emphasized the importance of the business community in the resolving process of sustainability problems. The TBL challenged the idea that sustainability would only be about productivity and saving costs, but also about preservation of environment and livelihoods of people.

As discussed earlier, the TBL is divided into three aspects: economic, environmental, and social. All of these are essential in sustainability process and Elkington argued that organisation cannot be considered sustainable unless it adapts to all these aspects in its endeavours. The TBL is presented in the figure below.

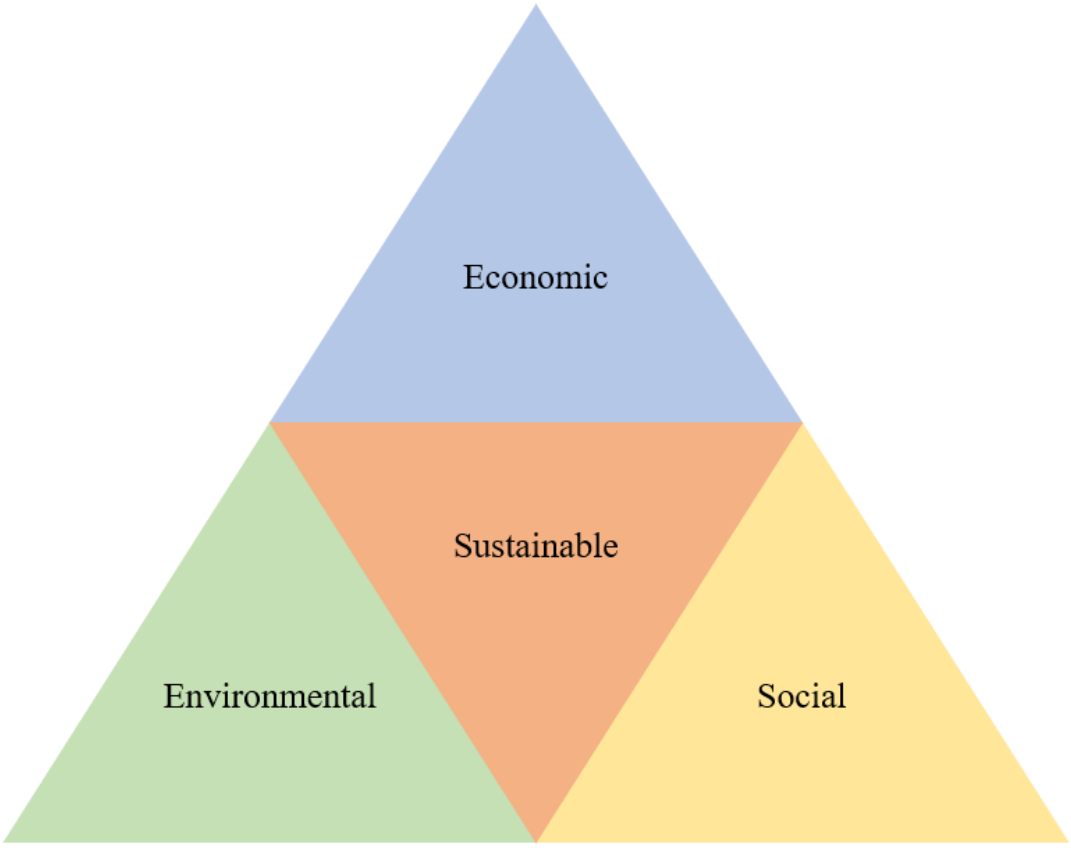

Figure 2. The Triple Bottom Line (TBL)

The first dimension of the TBL is **the economic dimension**. This dimension is the most unambiguous and can be measured with money for the most part (Slaper & Hall 2011). Alhaddi (2015) argued that economic aspect of the TBL framework concerns how an organization's actions impact the broader economic system, assessing the economic system's ability to endure and progress, ensuring its sustainability for future generations. This aspect links an organization's growth to the growth of the economy and evaluates how well the organization contributes to its support. Economic dimension could be measured with for example by income and expenses and the made profit.

Harmaala and Jallinoja (2012, p. 18-19) mention that in the context of corporate responsibility, economic sustainability refers to two things, both to the long-term viability, as well as the question of how much the organization contributes to the economic well-being of the community around it. As an example of this, they argued that companies can affect the economic conditions and competitiveness of local areas, for example through its purchases and investments. From the perspective of corporate responsibility, an organization that carries economic responsibility contributes to economic well-being equitably in the environments in which it operates. (Harmaala & Jallinoja 2012, p. 19)

Second dimension of the TBL is **the environmental aspect**. The environmental aspect within the TBL framework revolves around adopting practices that ensure the preservation of environmental resources for future generations. This involves for example using energy resources efficiently, curbing greenhouse gas emissions, and minimizing the impact on ecosystems. (Alhaddi 2015) As the impacts of the business world that has been built in the last century are harming the ecosystems, it is more than essential for organizations to adapt the environment work in their activities. Organizations are directly responsible for the environmental impacts they cause. (Harmaala & Jallinoja 2012, p. 22) Environmental dimension is harder to measure than the economic, but for example, fossil fuel consumption could be used as a variable (Slaper & Hall 2011).

Over the past years, environmental aspect has expanded from merely cleaning up emissions to managing and reducing environmental impacts throughout a product's entire life cycle.

Outsourcing and networking of business operations have also increased the significance of an organization's indirect environmental responsibility, extending it to include the management of the environmental impacts of business partners as well, in addition to the consideration of the organization’s impacts itself. The goal would be to consider environmental aspects when designing and developing products or production processes and in the entire production chain, while collaborating with various partners. (Harmaala & Jallinoja 2012, p. 22)

The final dimension of the TBL is **the social aspect**. The aim of the social dimension can be said to be creation of value for the society and the positive contribution to the community. If the organisation fails to meet the standards for the social dimension, it is not only morally questionable, but it might affect organisation’s performance and long-term viability. (Alhaddi 2015) However, the research of the social dimension is still in child’s shoes (Seuring & Müller 2008) and arguments can be made that the research on this aspect is lacking (Anisul Huq, Steveson & Zorzini 2014). Harmaala and Jallinoja (2012, p. 23) divided the social responsibility to four dimensions, which are human resources, products, society, and cooperative partners. Possible variables to measure organisation’s performance on this dimension could be for example workplace equality and health benefits.

Even though the main impact in social aspect is the organisation’s impact on its own workforce, there are obligations related to the societal perspective as well. Organisations are for example responsible for example promoting employment and they have indirect effects on the personnel of partners, subcontractors, and raw material suppliers. (Harmaala & Jallinoja 2012, p. 23)

Even if the TBL is widely used and often referenced, it does have its flaws. One of the criticisms towards the TBL is the difficulty of measuring it. There are no unambiguous measurements that would be a ready set for organisations to use and many of the variables can be hard to measure coherently, and there can be issues in the objectivity and reliability of the measured values. (Sridhar & Jones 2013) Another issue pointed out by Sridhar and Jones (2013) is the lack of integration of the TBL. This can cause significant issues in

adapting the model; the three aspects of the TBL are quite separate and in many organizations, all of these aspects usually have experts on their own fields, related to one of the sustainability dimensions, but often are not so familiar with the other two. This leads to the TBL discussing the need of integrating all of these aspects together to understand how they affect in the bigger picture, but lacks the possibilities to adapt this in practice, focusing more on these three existing together rather than showing how they depend on each other.

These flaws are important to recognize when adapting the TBL in organization's activities. The TBL is a good starting point for understanding the level of sustainability in an organization and a valuable tool for encouraging organizations to promote sustainability in their activities beyond just economic view.

2.2 Risk Management

Traditionally, risk is often linked to for example accidents or natural disasters, overall, in some sort of uncertainty (Jordau & Sousa 2010, p. 8). Uncertainty is however different from risk. These two are similar with each other and the difference is related to prediction of outcomes. Uncertainty often refers to situation where the end result is unknown, whereas risk often refers to something where the end result is known, but the probability or severity can vary. (Mullner 2016) Business endeavours have a variety of risks and uncertainty facing them, including risks as these mentioned before, as well as many others, but in this thesis, the topic is limited to addressing risks.

As the environment where organisations exist is changing, the risks are changing as well, and this is why it is essential for organisations to adapt at least some sort of risk management in their activities. According to Gurtu and Johny (2021), risk management refers to "the implementation of strategies and plans to manage supply chain networks through constant risk assessment and reduce vulnerabilities to ensure resilience in supply chains". The study of risk management dates back to the 1950s, after the second World War and modern risk management can be said to begin in 1955 (Dionne 2013). Over the years, risk management

has developed, and it is integrated at least on some level to almost every, if not all, organisation. Risk management is essential for businesses to thrive and secure their place in the business world on the long haul, but it can be a competitive advantage as well; case studies have shown that ability to recognize most important risks and their nature, as well as organizations competencies to react are critical in dealing with the risk (Walker 2013). The significance of risk management is related to its ability to help organizations to make decisions, look for new opportunities and minimize losses at the same time (Chapman 2011).

Risk management cannot be described as sort of "one size fits all" solution. Every enterprise and organisation have their own aspect for risk management, and these can vary significantly, as do risks faced by the organizations as well. Another important note of risk management is that risks vary significantly also depending on which activity they are related to. In this thesis, the focus is on risk management in supply chains and procurement, as the topic of the thesis is sustainability risk management in public procurement.

Risk management in supply chains was defined by Ho, Zheng, Yildiz and Talluri (2015) as an inter-organizational use of both qualitative and quantitative risk management methods to "identify, evaluate, mitigate and monitor unexpected macro and micro level events or conditions, which might adversely impact any part of a supply chain". They identify four steps in supply chain risk management: risk identification, risk assessment, risk mitigation and risk monitoring. These steps are the base of the theoretical framework of this thesis as well.

Risk identification is crucial part of risk management process and without it, it is impossible to reach success in risk management. However, nevertheless the inarguable importance of the subject, it has been argued that the research is lacking on risk identification in supply management. To address this gap in research, risk identification process requires approach which can present the supply chain structure in a clear way, explain how risks are linked to various parts of this said structure, categorize the types of risks, and establish important standards for recognizing and evaluating these risks. (Neiger, Rotaru & Churilov, 2009)

Risk assessment can be described as the process, which decides whether or not the identified risk requires control measures and if it does, what kind of investment is required for the said measures (Card, Ward & Clarkson, 2014). The acceptability of risk is a subjective notion influenced by various factors. When assessing risk, there are several factors that come into play, for example, the level of certainty and severity and familiarity with the risk. In essence, determining the acceptability of risk is a nuanced process, and individuals may perceive and tolerate risks differently based on these considerations and their unique perspectives. (Fischhoff, 1994)

Third step in supply chain risk management is risk mitigation. It aims to ensure that potential risks are effectively addressed. Successful risk mitigation not only facilitates the management of issues but also prevents them from escalating into unacceptable situations.

Final step in supply chain risk management process is risk monitoring. Risk monitoring refers to the constantly ongoing process of observing, tracking, and assessing potential risks and their associated factors throughout the course of the supply chain. The aim of risk monitoring is to ensure that the possible risks are continuously evaluated, allowing for timely identification of changes, new risks, or developments in existing risks. (Blancher 2013, p. 5-7)

There are several types of risks, that can be faced in supply chains. These risks can be categorized in many ways. Helmold, Kucuk Yilmaz, Dathe and Flouris (2022, p. 5-6) divide risks into two major types, internal and external. Internal risks include risks related to manufacturing, business, planning and control, mitigation, and contingency as well as cultural risks. External risks, on the other hand, include risks such as demand, supply, business, physical plant, and environmental risks. In the following sub-chapter, sustainability risks as a concept will be further discussed.

2.3 Sustainability risk management

As discussed earlier, sustainability is threefold topic, including the aspects of economic, environmental and social sustainability. Thus, there are three types of sustainability risks as well, related to each dimension. Sustainability risks differ for ordinary risks, and ordinary risks are characterized by supply chain disruptions, rising from challenges like a supplier's difficulty in adjusting to demand changes, quality issues, and delivery hitches (Zsidisin, 2003). These risks are primarily addressed through risk management. The focus of managing these risks is on sustaining operational efficiency and meeting financial objectives within the supply chain. (Shafiq, Fraser, Klassen & Awayseh 2017)

On the other hand, sustainability risks, as discussed by Hofmann, Busse, Bode and Henke (2014) differ significantly. These challenges prompt responses from stakeholders and are characterized by four strategic approaches: involving stakeholders directly, translating their expectations into actionable measures, effectively managing relationships with suppliers, and implementing comprehensive stakeholder management practices. Sustainability risks are associated with meeting the expectations of external stakeholders, including customers, investors, regulators, media, and the general public (Kocabasoglu, Prahinski & Klassen, 2007). The management of sustainability risks involves assessing and addressing stakeholder expectations, translating them into operational criteria, and ensuring continuous compliance through audits and quality controls.

Sustainability risk management involves addressing social, economic, and environmental responsibilities. While managers typically aim for cost efficiency, sustainability evaluation, can guide decision-makers in determining which activities contribute most effectively to sustainability. It has also been emphasized that sustainability evaluation ensures project schedules and activities make optimal contributions to sustainable improvement. (Moradi, Hafezalkotob & Ghezavati, 2019) It is extremely important to study environmental and social indicators in decision making, in addition to the economic considerations (Van Bueren & De Jong 2007).

Sustainability is coming more relevant topic in supply chains all the time. As discussed earlier, sustainability risks are often associated with meeting the expectations of stakeholders. The bare minimum is obeying sustainability related legislation, but in the long term it is beneficial to show stakeholders that the organization can meet the higher and higher expectations and sustainability risk management is a key tool for this. (Multaharju, Lintukangas, Hallikas & Kähkönen 2017)

As sustainability risks differ from traditional supply chain risks, there are differences between sustainability risk management and traditional supply chain risk management and the differences can be seen in each step of risk management. Giannakis and Papadopoulos (2016) pointed out that for example, in risk identification, the focus in typical risk management efforts is based on the issues that can cause problems in the supply chain, such as delays, mistakes in predicting demand, inventory challenges, and limitations in capacity, where as in sustainability risk management the focus lies in harm to natural environments, impact on community values, and the need for responsible management. Another example in differences can be seen in risk assessment, where typical risk management focuses on measuring the risks on operational or financial methods, sustainability risk management bases the assessment on inductive studies. (Giannakis & Papadopoulos 2016)

One important component of sustainability risk management is supply chain transparency. It involves the visibility and traceability of products, processes, and practices throughout the supply chain, from raw material sourcing to the delivery of final goods or services (Morgan, Roath & Glenn Richey 2023). Transparency enables organizations to identify and assess potential sustainability risks associated with their supply chains, such as environmental degradation, social injustice, and ethical violations.

Methods to addressing sustainability risks in supply management are changing, as are the methods for traditional risk management. Etemadi, Borbon-Galvez, Strozzi and Etemadi (2021) point out that the emerging trend in the literature highlights the pivotal role of emerging technologies, including digital technology, Industry 4.0, and blockchain, in addressing supply chain disruption risks. What is interesting though, is that if one uses

fairness-based criterion for sustainability in situations of uncertainty, the connection allows for the transfer of risk management tools from their usual positive context, where they focus on what is, to a normative setting. In this normative setting, questions about what should be done for sustainability are commonly discussed. It has been argued that by doing this, organizations can explore how risk management tools can be applied to discussions and decisions about sustainability. (Krysiak 2009)

3 Sustainable Public Procurement

Public procurement has proven repeatedly its importance and effect in the business world. It can be defined as “the acquisition of goods and services by public entities” (Rainville 2017). In European Union, the value of public procurement was 1 700 billion Euros in 2013 and from the members of EU, the value of public procurement from the GDP was between 6 to 25 percent. (Eskola, Kiviniemi, Krakau & Ruohoniemi 2017, p. 19) In Finland, which is the only country that this thesis considers, the value of public procurement was over 45 billion Euros (equivalent to around 17 percent of the GDP) in 2022. Of this 45 billion Euros, a little over 17 percent was made the government, a little over 20 percent by federations of municipalities and almost 60 percent by municipalities. The remaining was made by congregations. (Valtiokonttori 2023) Public procurement has a strong effect on the overall market situation and can either promote or demote sustainable development.

As public procurement plays a vital role, it is being regulated by several laws, both on government level (Finnish laws in this case) and on EU level. The legislation on public procurement in Finland, known as the Act on Public Procurement and Concession Contracts (1397/2016), establishes the regulatory structure for public procurement within the country. The primary objectives of this legislation include improving the efficiency of public procurement, fostering high-quality outcomes, and ensuring equal opportunities. The procurement process is expected to be economically sound, well-organized, and of high quality, taking into consideration competitive conditions as well as the social and environmental dimensions of procurement. The overall aim is to conduct procurements as efficient operations.

On EU-level, to ensure fair competition for businesses throughout Europe, the EU legislation establishes standardized minimum rules for public procurement. These regulations dictate how public authorities and specific public utility operators should acquire goods, services, and work. These rules are integrated into national laws and are applicable to procurement processes exceeding a specified monetary threshold. For contracts of lesser value, national

regulations are followed. However, even national rules must adhere to the overarching principles of EU law. (European Commission 2023)

Sustainable public procurement, or SPP, is procurement, where "the procurement specifications require a product/service with minimum or lower environmental impact and/or a positive social outcome in relation to another product/service that meets the same purpose" (Uttam & Le Lann Roos 2015). Similar concepts often coming up in the literature are green public procurement and environmentally responsible procurement. Green public procurement, or GPP, is used when the government agencies aim to purchase goods and services that have a lower environmental impact over their entire lifespan compared to alternatives with similar functions that might be chosen otherwise (Cheng, Appolloni, D'Amato & Zhu 2018). Quite similarly, Li and Geiser (2005) describe environmentally responsible procurement as authorities having implemented policies and practices to motivate procurement to buy products and services that cause less harm to the environment by enhancing the overall environmental impact of public procurement.

The shift in public procurement is driven by the highly increased focus on sustainable development, all over the world. Governments are expected to ensure that values such as environmental sustainability, fairness, equal treatment, human rights, peace, security, gender equality, and cultural diversity are integrated into all public policies, including those related to procurement. The aim of SPP involves not only achieving cost-effectiveness and efficiency in public services but also considering broader values such as social, economic, and environmental factors in purchasing decisions. (Kumar 2022, p. 27)

3.1 Comparing supply management and public procurement

The supply management made in private sector differs from public procurement made by public organizations. For example, Larson (2009) emphasized fundamental disparities, noting that public sector practitioners operate under legislative frameworks, laws, and regulations, whereas private sector practitioners are guided by boards of directors and

business plans, driven by profit motives. In addition to this, public sector has a distinctive feature of tendering. Tenders can be made in private sector as well, but of course there are no certain thresholds for private organisations to tender their purchases, unless they decide it themselves. Public organisations are forced to tender their purchases when their value overcomes as certain threshold and there is a threshold value for tendering process nationally, set by the country itself, in this case Finland, and a threshold value for international tendering process, in this case EU-level tendering process. These values are currently in national level between 60 000 euros and 500 000 euros, depending on what type of purchase is in question. The smallest threshold value of 60 000 is for products and services. For EU-level tendering process, the threshold value for products and services is 143 000 euros. These threshold values have been last updated 1.1.2024. (JHNY 2023) What is important to note is that the difference between private and public tendering process is not big; Tolvanen (2016) argued that the only difference is that he procurement unit of a public organization is not allowed to negotiate the contents of the bids during the final stage of the competition.

Iloranta and Pajunen-Muhonen (2008, p. 272) characterize tendering as a method in which the procurement process is streamlined by regularly inviting bids from suppliers and selecting the most cost-effective option. If the supplier encounters issues in the previous year (or in the previous contract period), such as problems with product or service quality or a higher price, the organization may opt to switch to a different supplier. However, nowadays, most cost-effective might not always make the cut, as the party making a purchase defines the criteria for tendering. Among all the offers received, the purchasing party is expected to choose either the cheapest option or the one that provides the most economic advantages. When considering the most economically advantageous criteria, potential factors may include price, quality, ethical and environmental considerations, as well as post-purchase maintenance services. (Kuusniemi-Laine & Takala 2008, p. 275) As the sustainability expectations rise, the trend is shifting towards an increase in the use of economically advantageous criteria in purchasing decisions, reflecting a growing emphasis on sustainable procurement by public organizations, rather than solely focusing on price considerations (Vainio 2023).

3.2 Promoting sustainability in public procurement

As discussed earlier, there has been a shift in the public procurement, as the expectations for sustainability have become more and more relevant. For example, in 2011 EU released Commission Green Paper, which highlighted the public procurement's role in for example enhancing business conditions, promoting innovation, and fostering a resource-efficient and low-carbon economy. It acknowledged the need for public procurement policy to ensure efficient use of public funds and open procurement markets EU-wide. Before this, the tension between market integration and sustainability was acknowledged, but the Green Paper suggested they could be complementary. In addition to this, the Green Paper addressed climate change and outlined complementary objectives, encouraging procurers to use public procurement to support societal goals such as environmental protection, resource and energy efficiency and social inclusion. It emphasized the shift from focusing solely on the lowest initial price to considering the lowest life-cycle cost for more efficient long-term public spending. (European Commission 2011 & Romera & Caranta 2017)

In addition to EU, the United Nations has incorporated sustainable public procurement in their agenda as well. After UN acknowledged SPP as a significant tool for advancing sustainable development in the UN Sustainable Development Goals, many public organizations have committed to ambitious climate objectives, plans and strategies have been developed to encourage public procurers to contribute to the shift towards climate neutrality and resource efficiency. Additionally, public procurement can play a role in creating new markets to accomplish specific missions and exert market pressure on companies to adopt environmentally friendly practices. (Berg, Alhola, Peltomaa & Tietari 2022) It is important to note that many have highlighted the importance of procurement legislation and called it essential for promoting the sustainability aspect of public procurement (Sjåfjell & Wiesbrock 2016, p. 4)

Additionally, Manta, Panait, Hysa, Rusu and Cojocaru (2022) point out that the sustainability of public procurement extends beyond the acquisition of eco-friendly products; it encompasses making sustainable purchasing decisions and implementing a

system of sustainable supply chain management. To advocate and oversee policies that favor Small and Medium Enterprises (SMEs) in gaining access to public procurement contracts, they argued that there is a need to establish a set of indicators for comparison across various dimensions such as time, location, and industry sector.

3.3 Challenges in sustainable public procurement

Reaching the high demands for sustainability is never an easy task and sustainable public procurement is faced with challenges that make it harder to implement successfully into the public organizations. These challenges are strongly related to possible risks in public procurement as well. One of the important things to understand that overall, there is a resistance to change regarding sustainability issues, which affects all sustainability work (Harich 2010), including the one made in public organizations. Overall, whenever organizations attempt to modify their methods and procedures, they inevitably encounter resistance to change. This resistance can stem from various factors, for example opposition from top-level management and financial constraints. Whether these obstacles arise within the organization itself or from external suppliers, it remains crucial to pinpoint and address these challenges to ensure the effectiveness of sustainable supply management. (Ageron, Gunasekaran & Spalanzani 2012)

Mensaf and Ameyaw (2012) point out that the obstacles to achieving sustainable procurement in a country's procurement system are diverse and require overcoming for the system to truly embody sustainability. They highlighted five challenges in SPP, including the absence of internal management structures, a lack of support from top management, insufficient social responsibility, low technical and management capacity, and a need for a multi-stakeholder approach. The absence of clearly defined good procurement practices poses difficulties in meeting international standards. Additionally, their study emphasized the role of government in investing resources to enhance managerial capacity for sustainable development in public procurement. The importance of a multi-stakeholder approach is underscored, as involving various actors is seen as crucial for improving sustainability.

Challenges also arise in identifying stakeholders in the early stages of procurement. Furthermore, effective monitoring of construction contracts by governments is essential for ensuring compliance with labor and environmental standards. The higher initial cost of green products is identified as a significant challenge, requiring collaboration among end-users, contractors, and the government for the widespread adoption of sustainable practices. (Mensaf & Ameyaw 2012) In Finland, the financial situations of municipalities vary significantly, and discussions on their economic status are consistently relevant. The financial health of a town can be affected when working-age people move away, possibly making the town's economic situation worse. (Ylisalo, 2020) This financial variability can impact the municipality's ability to opt for more expensive sustainability initiatives, especially when more affordable but less sustainable alternatives are available (Mensaf & Ameyaw, 2012).

Furthermore, in the tendering process, companies offering more cost-effective solutions, often at the expense of sustainability, may have a higher likelihood of winning contracts. This tendency arises from the common perception that sustainable options are typically more expensive than their non-sustainable (or less sustainable) counterparts. The demand for sustainable products might also be limited currently, further contributing to their higher costs (Krosofsky, 2021). The increased expenses associated with sustainable products are often rooted in the complexity and higher production costs involved in their creation.

The shadow economy poses another potential risk to SPP. Hassan and Schneider (2016) define shadow economy as all economic activities intentionally concealed from official authorities. Examples include tax fraud, evasion of social security contributions, and avoidance of bureaucratic processes. While shadow economy is often associated with the economic dimension of sustainability, it does jeopardize all aspects of sustainability. Evading taxes relates to the economic dimension, while the social dimension involves neglecting social security payments and occupational safety, and the environmental dimension involves for example to evading environmental law requirements. Even if the public organization itself abstains from participating in the shadow economy, monitoring subcontractors can become challenging. Public organizations must proactively fight against

the shadow economy. Hirvonen and Määttä (2018, p. 54-58) highlight the construction industry, crucial for many municipalities, as they are lacking in-house construction workers, as particularly susceptible to the shadow economy due to the prevalent use of subcontractors.

To address shadow economy risks in the public sector, the Finnish Competition and Consumer Authority (FCCA) launched a report in 2019 as part of a shadow economy control program. The report proposed two main strategies to mitigate the shadow economy: first, enhancing and strengthening procurement expertise, and second, improving contract management (FCCA 2019). These measures aim to foster transparency, accountability, and compliance in public procurement, thereby reducing the potential impact of the shadow economy on SPP initiatives. This report highlights also one of the most important success factors considering sustainable public procurement, procurement expertise.

In the table below, possible sustainability related risks in public procurement are summarized. These risks are based on the found challenges in public procurement, presented earlier in the sub-chapter. Addressing these risks requires concerted efforts to build internal capacity, foster stakeholder engagement, prioritize sustainability in procurement decisions, and combat illegal practices such as tax evasion and labor exploitation.

Sustainability risk	Description of the risk
Resistance of change	Resistance to sustainable practices within public organizations can hinder procurement initiatives.
Absence of internal management structures	Lack of well-defined internal management structures for sustainable procurement can pose a challenge.
Lack of support from top management	Without strong support from top management, sustainable procurement efforts may not receive the necessary resources and attention to be successful.
Low technical and management capacity	Limited technical knowledge and management capacity hinder adopting sustainable procurement, complicating compliance with sustainability standards.

Need for multi-stakeholder approach	Achieving sustainability goals in procurement often requires collaboration with various stakeholders. Failure to engage relevant parties can result in limited success for sustainability.
Financial constraints	Financial limitations within public organizations may hinder their ability to invest in more expensive but sustainable procurement options. In addition, when tendering, companies offering cheaper but less sustainable solutions may have a competitive advantage.
Limited demand for sustainable products	The current limited demand for sustainable products can contribute to their higher costs.
Shadow economy	The presence of the shadow economy poses risks to sustainable procurement.

Table 1. Possible sustainability risks in public procurement

4 Methodology

This chapter is dedicated to outlining the research methodology used in this study. Its main objectives are to present the methods used, explain the data used, and provide insights into the data collection process. Additionally, the chapter encompasses an analysis of the collected data, accompanied by a few remarks on its reliability.

4.1 Methods

This study is a qualitative, multiple case study. Qualitative research stands out for its holistic approach compared to quantitative research and the focus of data collection is often directed towards unravelling the who, what, and where aspects of events or experiences, seeking to comprehend their fundamental nature and structure (Nassaji 2015). According to Heikkilä (2014, p. 15), a qualitative study serves as a method to gain a deeper understanding of the subject under investigation and to elucidate the underlying reasons behind actions and decisions. He notes that qualitative research often involves a relatively small sample size, but the analysis is conducted in great depth, similarly to Nassaji's ideas. Using qualitative methods in this particular research is justified, as sustainability related topics tend to be complex and even more so, when one adapts them to public procurement environment. Qualitative research allows to delve more deeply into for example the contextual factors. In addition to this, as discussed in the background of the study, as the concept of sustainability risk management in public procurement is yet quite unresearched topic and still an evolving field, qualitative methods are well-suited for research. The flexibility of qualitative methods also adapts well to the nature of sustainability issues, ensuring that the study remains relevant and responsive to real-world developments. The research materials were mostly collected via interviews, which is a common way to collect information in qualitative research. Tuomi and Sarajärvi (2018, p. 84-85) highlight the following advantages of interviews: interviews are rather flexible, as the interviewer is able ask about possible misunderstandings and pose additional questions if needed to dive even deeper into the interviewee's ideas and thoughts.

It's important to note that this flexibility is applicable primarily in interviews featuring real-time interaction between the interviewer and interviewee.

The analysis of these interviews employs qualitative content analysis, a method that categorizes content into different levels. The primary focus of the analysis centres on identifying themes and main ideas within the research material, while the secondary content involves contextual information. In this study, the research specifically concentrates on analyzing themes and main ideas, aligning with the approach outlined by Mayring (2000).

On the other hand, a case study is characterized as an exploration of a contemporary event or an individual operating within a specific environment. Metsämuuronen (2001, p. 16) simplifies the definition by describing it as an examination of an ongoing event or situation. In this study's context, use of case study as a method is well-justified as well. Case studies allow one to deeply explore real-life situations, providing understanding of this rather complex management of sustainability related risks. Another positive side of using a case study is the fact that it allows one to navigate sustainability risk field with flexibility. Furthermore, the use of case studies provides practical insights that can inform policy and practice. By examining specific instances of sustainability risk management in public procurement, one might be able to draw recommendations that have direct relevance to real-world applications.

There were two sets of interview questions: one for municipalities and one for organizations, as these two had different type of approach and basis for public procurement. Interview questions for municipalities are presented in Appendix 1 in English and in Appendix 2 in Finnish. The second set of questions, for public organizations, are presented in Appendix 3 in English and in Appendix 4 in Finnish. The interview questions were planned beforehand. As there were five interviews altogether, the answers to the interview questions are not presented word to word. The lengths of the interviews differed between 25 minutes and 45 minutes. As the native tongue of each interviewee and the interviewer is Finnish, the interviews were in Finnish as well, hence the Finnish interview questions in Appendixes 2 and 4. There is a possibility that some bits and word choices are lost in the translation process

of the material, but one must take into consideration that if the interviews were done in English, there is a lot greater chance for information being lost, as the working language for everyone is Finnish.

Data was analysed by thematic analysis. Thematic analysis is an approach used to uncover and understand recurring patterns of meaning, known as "themes," within qualitative data (Clarke & Braun 2017). In simpler terms, it's a way of sorting through information, picking out important themes, and then explaining and summarizing those themes. Thematic analysis is a flexible method suitable for various studies, offering a detailed yet adaptable way to analyse data. This approach allows researchers to explore different perspectives, uncover insights, and summarize large datasets effectively. (Nowell, Norris, White & Moules 2017)

4.2 Case organizations

This case study is based on five organizations. The organizations include mostly Finnish municipalities, but two other public organizations with experience on public procurement were interviewed as well. There was one interviewee from each organization, as especially on the case on municipalities, it is unlikely that several interviewees would bring much more input on the topic, as the risk management operations tend to be similar all over the organisation and each of these municipalities had centralized their procurement. It is important to note that the municipalities are all on the larger scale, as the municipalities were chosen based on whether they had a centralized procurement unit and only larger municipalities in Finland tend to have this.

Three of the interviews were conducted with a municipality/city. In Finland, municipalities are able to choose whether they are municipality or a city, if the municipality believes that it meets the requirements set for an urban environment (Minilex 2023). In the interest of

clarity, these cities/municipalities will be referred as Municipalities A, B and C, whether or not they choose to call themselves a city or a municipality.

From Municipalities A, B and C, two have a population over 100 000 citizens (A and B) and one (C) has a population below 100 000 citizens. All of the municipalities have a centralized procurement unit, in which the interviewees were involved in some sort of leading position. As all of these municipalities are on a little larger scale, their yearly volume of public procurement is quite large as well. For Municipality A, the interviewee estimated the yearly volume to be over tens of millions but under half a billion Euros. Municipality B on the other hand estimated the volume to be around 800 million Euros. Municipality C's estimation of their procurement volume was around 150 million Euros, of which 60 million Euros worth of procurement was tendered.

Two of the interviewees represented a public organization, somehow involved in public procurement. These are referred to as Organizations D and E. These organizations differ from one another. Organization E does not necessarily do that much public procurement themselves, but offer advice related to it and provides for example reports, guides, and tools for public procurement. All of the interviewees are presented in the table below. Many of them have relatively long working history related to public procurement and many of them pointed out that there has been significant changes in the atmosphere over the years relating to sustainable public procurement.

Name	Procurement experience of the interviewee	Title of the interviewee	Interviewee's main job description
Municipality A	around 20 years	Procurement manager	Head of the tendering team, tendering of services and products in the municipality
Municipality B	around 11 years	Development manager	Development manager of the procurement unit, the

			procurement unit oversees for example sustainability themes etc.
Municipality C	around 30 years	Procurement director	In charge of the procurement
Organization D	around 17 years	CFO	In addition to the CFO tasks, the interviewee is head of the sustainability group
Organization E	around 10 years	Senior legal council	Head of the public procurement counseling unit

Table 2. The interviewees

4.3 Reliability and validity

Not all research is reliable. Assessing the study's reliability is a crucial aspect of research, determining its alignment with reality. One typical method to analyzing reliability of a study involves comparing the reached results with previous studies. Attention should be given especially to whether earlier research has consistently produced similar results. Scientific facts aren't built on a single experiment; the research must be replicated under various conditions and methods. Generally, a study is deemed reliable if a researcher reproduces an earlier design and obtains the same findings. (Saunders 2016, 202)

In this particular study, challenges related to reliability arise for example of the fact, that there is limited number of organizations interviewed, preventing generalization of the results. Critics argue that this common limitation is a stumbling block, particularly in case studies with a small number of cases (Soy 1997), such as this one. For example, overall, only Finland has 309 municipalities (Tilastokeskus 2024), meaning that interviewing three of them (and all of the interviewed ones are on the larger side) might cause issues to the reliability of the results. In addition to this, municipalities are only a small part of the

organizations doing public procurement. However, this issue is aimed to be even partly tackled by interviewing two organizations as well, which have insights on other municipalities and public procurement organizations as well. It is important to remember as well that in qualitative studies, the generalization is not solely reliant on the number of cases but rather on establishing theoretical connections between concepts and providing logical explanations for their relevance. Therefore, the discussion on reliability should focus on how the findings contribute to understanding phenomena within municipalities, rather than on the quantity of cases interviewed.

Validity, on the other hand, refers to whether the study effectively addresses the problem it pledged to investigate. Several key elements must be evaluated when analyzing validity, including well-articulated research questions and systematic data collection and analysis. If these elements are incorporated into the study design, it enhances overall quality and trustworthiness (Baxter & Jack 2008). Readers can gauge validity by assessing how well the writing addresses the research questions.

5 Sustainability Risk Management in Public Procurement

This chapter is dedicated to analysing the results found in the interviews. Based on these findings, the following chapter six then discusses the results and provides answers to the research questions. The interviews offered a lot of insights on state of sustainability and risk management in the public procurement of the case organizations.

5.1 Sustainability risks in Public Procurement

Sustainability is a broad concept, as discussed in the earlier chapters. Many tend to first think of environmental or social sustainability when hearing the word, but economic sustainability is important part of sustainability thinking as well. In order to understand the point of view that the interviewees had on this subject, all of the interviewees were asked about their ideas about sustainability risks faced by municipalities in their procurement (question set 1, question 11: *"What sustainability risks do you identify in relation to municipal procurement?"* and question set 2, question 7: *"What sustainability risks do you identify in public organization procurement?"*) In the text, the answers are presented interview by interview.

The first interview with Municipality A included discussions of risks related to each aspect of sustainability. In the interview, the interviewee pointed out that the first thought they have to sustainability issues are the environmental ones. They said that it is essential that the used materials and means stand looking into. Related to this, the interviewee mentioned reputational damage as well, which can be caused if sustainability risks cause some sort of damage. Interviewee also discussed the fact that even if everything would be done following the legislation, there is a possibility that something still might look bad and cause reputational damage.

Economic risk can be often linked with traditional risk management as well, as it is a risk every business must take into account for. No organization, corporation or company can survive without money, and losing enough money will drive down any organization. In the interview with Municipality A, the interviewee discussed economic risk, pointing out especially this risk of losing money.

"Of course, we always have the risk of losing money … If we are talking about sustainability risks, then this would be part of the economic risk."

As of social risks in public procurement, the interviewee of the Municipality A, highlighted the risks related to shadow economy and other types of illegal workforce, which can be common on some lines of business, such as cleaning services and construction sites.

Interviewee of Municipality B listed out a myriad of sustainability risks relating to public procurement. Their list included risks such as information security, privacy protection, climate risks, personnel arrangements, risks related to the safety of products and services, occupational health and safety risks, human rights, corruption, bribery, communication, and employment. The interviewee did not discuss these risks in more detail, but they did explain, what do risks mean for them:

"In the Municipality B, "risk" refers to the impact of uncertainty on goals. The impact is a deviation from what is expected and can be both positive and negative. However, in the municipality's risk management, risks are primarily viewed as negative, as threats. Positive impacts, opportunities, are also discussed in the risk management process; lost opportunities are also considered risks."

These risks that the interviewee mentioned, are divided into different categories of sustainability, and some, for example information security can be seen part of economic or

social sustainability. In this study, it is in economic sustainability, as risk relating to information security would most likely cause economic losses.

Interviewee of the Municipality C did not provide very detailed information on sustainability risks. The interviewee pointed out that the question is not a very easy to answer, however one example they offered was bankruptcy, but they followed it with mentioning that in case that were to happen to a supplier company, the municipality can find a new supplier without having the tender it, all according to the procurement legislation, which is why the interviewee did not see this as such a big issue. One other thing the interviewee highlighted was the possible loss of qualified and skilled task and they did point out that this has happened to them in the past. Qualified personnel is essential for making successful sustainability decisions and finding that personnel might not be easy. The interviewee also discussed the possibility of issues in suppliers:

"Well, then there are these responsibility issues, so if the service provider causes some issues for a third party, but then of course, that company is responsible, not the client."

With the interview with the Organization D pointed out that public procurement is faced with significant number of different types of sustainability risks. First thing they brought up was the social risks and similarly to the interviewee with Municipality A, they mentioned that there can be a severe possibility of a reputational damage, as the supply chains often are hard to monitor, and possible mistakes often lead to headlines. They discussed the risks of fraud and risk of environmental crimes as well made by used suppliers, which are examples of things that they have run into in their career regarding public procurement. One more risk that the interview from Organization D mentioned to be very current issue, is the risks related to current international sanctions, for example relating to Russia's invasion to Ukraine and Ukrainian war.

"Currently, a significant matter is also these sanction issues, which are being monitored. We see it as a part of our responsibility or duty to oversee and ensure that companies that

are not allowed according to these sanction regulations, do not become suppliers or enter into agreements."

The interview with Organization E resulted in discussion about especially economic risks. The interviewee felt that the risks of not being able to get the needed services and products is an important risk. They pointed out that as for example, some public organizations have the mission of hiring employees that are currently unemployed, there is no significant risk related to if it does not happen. Economic risk is significant in many public organizations, from two different directions; there is the risk of supplier not being able to provide the promised products or services, which can cause economic damage. There is also another economic risk relating to public organizations, as public organizations often have certain rules for which services they must provide, for example, municipalities and basic education or wellbeing services counties and health care. In some municipalities, there can be issues with being able to provide these services, which can threaten their position in the society.

5.2 Integrating sustainability risk management in public procurement

As the sustainability risks are numerous and can unfold on many stages of the procurement, it is essential to integrate sustainability risk management into public procurement successfully. This subchapter aims to define the current state of risk management practices in public procurement and investigate how well these practices are integrated into the supply chains and procurement practices.

All the municipalities pointed out that sustainability and sustainable public procurement are important missions for them and the ideas of sustainability in procurement are promoted, and the importance of sustainable practices is highlighted all of the time. Similarly, both Organization D and Organization E mentioned that they felt that sustainability has become

one of top priorities in public procurement and there has been significant, positive shift in the sustainability mentality over the past years.

To determine the overall risk management practices in municipalities, the question set 1 presented the question 10 (*Does the municipality engage in risk management work? What risks does this focus on?*). In the Municipality A, they concluded a risk analysis twice a year, where they not only looked for risks but also calculated the possibilities of these found risks occurring. Municipality B answered this question in great detail, pointing out that municipality board is in charge of determining which guidelines are followed in procurement considering risk management. When asked about their risk management practices in Municipality C, the interviewee determined that they do not have that much risk management activities, that would actively be used in procurement. The interviewee did follow up by discussing some actions that can be seen to be part of the risk management process, such as checking whether or not the supplier is actually able to provide the promised services. As the interviewee did mention these activities, it became clear that even if they did not feel that the municipality would engage in risk management work, but the municipality still has activities related to this. This can be a sign that the municipality has integrated the activities so well that the interviewee did not even consider them as part of the risk management work.

In order to determine then more specifically, how sustainability fits overall in risk management practices that are part of the procurement process in the municipalities, they were asked questions 5 to 8 (*5. What is the procurement process like in the municipality?, 6. How important is sustainability in the procurement process?, 7. Are sustainability themes integrated into the procurement process?, 8. Are there specific standard criteria for sustainability, and how are they taken into account?*).

Interviewee of the Municipality A determined their procurement process to be following: as the interviewee is in charge of the procurement of products and services outside of constructions, the procurement team works on “money of others”, as the procurement services themselves do not really have a budget, the initial need for the procurement comes

from the field. The field can either inform the procurement services themselves, or the procurement team notices that contract period is about to come to an end and there is need for a new contract. This is the initiation for the procurement process, the need for something. After this, the interviewee would name people to the project, who would determine the description of the purchase and based on that, the call for bids. When the bids from different companies come in, they are checked, and the municipality makes sure that the bidders are suitable for the purchase. When the right bidder or bidders are found, there are some legalities, after which the contract will come into effect. The interviewee mentioned that the monitoring responsibilities then falls on someone in the organization, who then should monitor that the contract requirements are followed. The interviewee from Municipality A did not mention any risk management practices regarding question 5.

However, when the interview moved on to question 6, the interviewee determined that sustainability is extremely important. They added that in the procurement process, before the call for bids is published, the Municipality A has group working on analysing the purchase:

"We have this evaluation working group where we go through procurement from various perspectives, one essential aspect being sustainability. So, essentially, all tendering processes undergo assessment by this evaluation team ... they thoroughly examine environmental aspects, as well as social responsibility considerations … This includes assessing the possibility of utilizing procurement for employment opportunities, among other things."

This evaluation working group is a great example of sustainability integrated in procurement process. It can also be linked to risk management and could be seen as part of the risk identification and assessment part of the risk management process. Regarding the question number 10 (Does the municipality engage in risk management work? What risks does this focus on?), the interviewee did however continue on the topic and said the in principle, every tendering process includes risk management aspects as well.

"In principle, in every procurement process, we essentially perform risk assessment and risk management when considering how to define the minimum criteria for the goods or services to be acquired ... What all do we need to consider? If we do not set specific criteria clearly enough, then we run the risk of selecting an unsuitable provider."

Interviewee of Municipality B provided a detailed description of the procurement process. Their procurement process is divided into two parts, tendering phase and action phase. The municipality has a separate procurement unit, which handles most of the procurement, expect the following: the procurement and contracts that value below threshold values, new construction contracts and design competitions, procurements meeting the direct procurement criteria and ordering. The municipality has a detailed procurement process, which is based and follows procurement law and regulations, and Municipality B's own procurement guidelines and instructions. The two-phased process is presented in the quote below.

"The procurement process is divided into the tendering phase, from demand analysis to need identification, need to work order, work order to tendering, and tendering to contract, and the in-contract operation phase, from contract initiation to initiating the purchase, use of the contract, and end the purchase."

Sustainability aspects are integrated into Municipality B's procurement very tightly. Sustainability is one of the main themes ever since beginning of the procurement process and the interviewee highlighted that especially in procurement with significant impacts on carbon emissions and/or the potential for the development of new innovative business, the criteria for low-carbon emissions or circular economy can be included.

As for examples of risk management Municipality B does, the interviewee mentioned for example work safety and health work, which they discussed to be part of employee related

risk management, as well as for example offering thorough familiarization to the work for new employees. However, the risks discussed by the interviewee of Municipality B, focused on overall risks, not as much on procurement related risks. The risk management seemed to be present in many other aspects, but as the questions focused on risk management of public procurement itself, the interviewee did not provide detailed information. In many cases, the interviewee mentioned that work relating to sustainability risks is gone through case-by-case, did not really discuss any operations or methods that would be adapted in each procurement process.

Municipality C pointed out that sustainability is important theme in their procurement as well. The procurement process of the Municipality C is often based on a procurement calendar, which provides a guideline for the needs and timing of the procurement. At times, the buying unit of the municipality contacts the procurement unit and sometimes the procurement unit contacts the buying unit and asks, whether the procurement is still needed. The sustainability aspects are highlighted in the invitations to tender if possible, for example it is possible to inquire about the equipment of the bidders and the sustainability of those. The interviewee said that they do not really ask for more but can offer additional points in the tender process if the supplier is more sustainable.

"I always am highlighting the fact that it [sustainability] is involved in one way or another. In every acquisition, consideration is given to whether it is possible and how it can be achieved."

When asked about possible sustainability criteria, the interviewee mentioned that they have an employee, who is tasked with issues related to sustainability, who the other units can turn to, whenever they have trouble or in need to additional help. The interviewee did not however mention any criteria, which would be considered in all procurement.

However, in many interviews, discussion led to the conclusion that the risk management is focused on the early stages of the procurement and for example the interviewee of

Municipality A admitted that most of this sustainability risk management work is done in these early stages and Municipality B mentioned that their following of sustainability risks during the procurement's life cycle varies case-by-case. When asked about sustainability risk management, the Municipality C did not have tools for assessing and managing sustainability risks and they did not have practices to follow the sustainability risks during the lifecycle.

Focus on contracts that consider sustainability aspects is important and contracts are the basis of sustainable public procurement, but writing out requirements for sustainability in these contracts is not sufficient for ensuring sustainable public procurement in reality. For example, in the interview of Organization E, the interviewee said the following:

"But in my opinion, part of that success involves monitoring, ensuring that set requirements are followed through during the contract period. There is a significant lack of expertise and insufficient resources in that area as well … I highlighted not only the importance of the contract, but also that someone must also take care of these agreements. They cannot simply be made and left in a drawer; instead, they should be periodically reviewed and monitored to ensure compliance."

5.3 Stakeholder collaboration on Sustainability Risk Management

As discussed in the earlier chapters, stakeholders are strongly related to sustainability risk management, as often the challenges caused by sustainability risks prompt responses from the stakeholders. To understand how public organizations collaborate with stakeholders, the both types of interviewees were asked the following questions: set 1, question 16 (*What kind of collaboration do you have with stakeholders regarding sustainability risks?*) and set 2, question 9 (*Have you collaborated with organizations specifically related to sustainability risk management? What kind of collaboration?*).

Based on the interviews, it became clear that sustainability risk management is not something that public organizations do just by themselves, but collaborations with other organizations and stakeholders are common. For example, interview of Municipality A revealed that their sustainability expert has broad networks to other municipalities. The interviewee pointed out as well that they have noticed over the past year, how much collaboration the municipalities really do together relating to sustainability and risks management aspects. They mentioned also that as they have a bigger tendering process coming up in 2024, in which they utilize recycled materials as well, they have inquired about how two other municipalities have proceeded when they had the same tendering process going on in the past. They concluded in saying that the atmosphere for development in this area is great.

"In the municipal field here, it seems that we do not have too parochial attitudes; rather, there is a lot of collaboration, and we share the best experiences."

Municipality B on the other hand did not mention any overall collaborations but did mention that collaboration with stakeholders is always considered case-by-case. Municipality C discussed the opportunities to collaborate and had similar thoughts than the interviewee of Municipality A; they felt that the knowledge was well shared with other in Finnish public procurement field.

Public organizations interviewed endorsed similar thoughts and ideas. The interview of Organization D told the interviewer that whenever they work on for example tendering projects, they always put together a group, where possible customers are able to comment and tell their opinions relating to the tendering process. This way the potential customers have a low threshold to give feedback on the possible contracts. In addition to this, Organization D does other types of national collaborations with other public procurement relating organisations.

Organization D did point out that they have international collaborations as well in addition to the national ones. The interviewee told that they are part of different Nordic countries and European networks, which focus on promoting and analysing sustainability aspects.

"And then we are involved in various European or Nordic networks where these sustainability issues are discussed. They may be category-specific; for instance, there is a dedicated network for food products or a separate one for vehicle acquisitions. Alternatively, there could be something more general; for example, the Nordic network for social responsibility has been quite active recently."

In Organization E's interview, the topic moved a little from this aspect to others, as the interviewee mentioned that their experience in this particular job is not that long. However, it is important to mention that other interviews, both with municipalities and Organization D did point out that they have collaborated with Organization E previously, so based on that it is safe to say that Organization E does not work only individually, but also with others regarding sustainability and risk management. Considering that Organization E does produce for example research and information regarding public procurement, they can be seen as an important player in the field, as well as an important stakeholder for others, who can benefit from the information Organization E shares.

5.4 Future insights to Sustainability Risk Management in Public Procurement

Both the risk management and especially sustainability risk management require constant development in order to be successful. As it occurred in the interviews, the risk management work is not nearly finished in public organizations and even sustainability can still be a newer concept in many ways, even though public procurement has the duty to be a vanguard for others as well. To understand better, how well the interviewed organizations are equipped for the future, both interviewee types were asked the following questions: set 1, questions

19 (*Is there support within the organization for continuous learning, such as training, to improve sustainability efforts and risk management in procurement in the future?*) and 20 (*Do you feel you receive the necessary support from upper management for conducting sustainable public procurements? Is there a prevailing atmosphere in the municipality that encourages further development of sustainability?*) and set 2, questions 10 (*Are there any incentives in place to increase sustainability/risk management efforts?*) and 11 (*Are there specific goals related to sustainability or risk management? If yes, what are they?*)

Overall, in response to questions 19 and 20, the interviewees from the municipalities provided a quite unanimous perspective on organizational support and the prevailing atmosphere. Across the municipalities, interviewed individuals affirmed that they receive the needed support for continuous learning and training within their organizations to enhance sustainability efforts and risk management in procurement. The interviewee of the Municipality A described their situation in the following words:

"Yes, we aim to stay constantly informed about the available training. We haven't adopted an individualized training approach for everyone, but we encourage participation, for instance, in webinars and similar events. If there's a topic deemed crucial for everyone to know, we often organize training sessions by bringing in a trainer to our premises, ensuring the entire organization receives training at once. This has been the case, for example, concerning issues related to the shadow economy and the challenges of work-related immigration."

Similarly, the interviewee of Municipality B discussed opportunities to participate in different kinds of internal and external trainings, and the employees can also find possible workshops for them to attend on their own as well. The interviewee mentioned that as sustainability is deeply rooted in their strategy, the whole municipality does need to stand behind it. However, the interviewee did mention that the other side of this is the money, or more of the lack of it. This requires the ones making the public procurement to consider, what is the most economically advantageous solution, while also taking sustainability into account.

Municipality C's thoughts were similar to the others and they for example mentioned webinars, which one can participate in, as well as training et cetera and they felt like they were supported in this way to develop further. However, when asked about the support from the upper management, the interviewee said the following:

"Well, I'll say now that it hasn't been opposed, but it hasn't really been pushed there either. Perhaps this is quite dependent on the views of the responsible manager. We of course do have the municipality strategy that makes it easier for our procurement experts, and this [sustainability] is indeed in the strategy."

In the interview with Organization D, the interviewee told the interviewer that for several years, sustainability has been part of the bonuses of the executive team. They pointed out that it differs how sustainability is part of each employee's job, but overall sustainability is usually part of the job always somehow. When asked question 11, the interviewee highlighted that their overall objective is to be able to provide the needed products and services for their customers, with reasonable price and good quality, without any sorts of "catastrophes" occurring. The interview called attention to the need of procurement happening as planned and on the right timetable. They said, as sustainability is a complex topic, they prefer that customers are relieved of the responsibility as much as possible.

"And our idea here is that since this sustainability responsibility is quite demanding, we do the work and dig into the sustainability criteria, and the measures are set so that our customer can just focus on making the purchase. We've essentially taken care of the sustainability aspect and ensured that everything is in order."

Organization E's interviewee pointed out that a very strong incentive for adding sustainability in public procurement is the pressure from the government, which requires

more and more sustainability actions. The power of the government is a strong driving power for sustainable development.

6 Discussion & conclusions

The preceding chapter has delved into the landscape of sustainability risk management in public procurement, exploring its dimensions through insightful interviews with key stakeholders. As we transition into the discussions chapter, the aim is to discuss the findings further and discover key themes that emerged. The perspectives shared by interviewees from municipalities and organizations have shed light on the various sustainability risks faced in public procurement, spanning environmental, economic, and social aspects, as well as exploration of current practices that has been undertaken, unravelling how sustainability is integrated into risk management processes and procurement practices. The discussion seeks to synthesize these findings, drawing connections, identifying patterns, and offering a deeper understanding of the challenges and opportunities in effectively managing sustainability risks within the complex realm of public procurement.

The final chapter is organized as follows: it commences with a discussion of the study's outcomes. The initial part of the discussion chapter provides a brief overview of the research background and process. Following this, the responses to the research questions are presented. Subsequently, conclusions are drawn from the results. Towards the end of the chapter, recommendations are put forth for public organizations related to sustainability risk management, accompanied by suggestions for future research.

6.1 Discussions of the results

The aim of this study was to analyse sustainability risk and their management practices in public procurement. The research was conducted by using qualitative methods and the data was collected via interviews with procurement professionals. The whole process lasted around six months, during which the theoretical framework was created and researched, interviews planned, scheduled, and made and finally the results were analysed and concluded.

From the outset of the research, it became evident that public organizations were aware of the sustainability challenges and thrived to fight back these challenged. However, the collected interview data showed, that sustainability risk management in public procurement is still in children's shoes. The first sign of this is the differences in the ability to identify sustainability risks; as some interviewees were able to point out several sustainability risks, others struggled with the task and focused rather on other topics. Another example of misunderstanding that an interviewee had relating to sustainability risk management was when the interviewee of Municipality C stated that possible issues in the suppliers' activities are more of a concern for the supplier instead of the buyer. This statement clashes with the ideas of Harmaala and Jallinoja (2012, p. 22), who stated that outsourcing and networking operations have significant effect on the buyer's sustainability and that it is essential for organizations to consider their indirect sustainability as well.

Based on the interviews, the research questions were answered. In the following text, the research questions will be answered. The sub-questions are answered first, after which the main research question is answered.

Q_2: What kind of sustainability risks does public procurement face and how do they affect public organisations?

Even if the interviewees had differences in recognition of sustainability risks, all of them were able to point out at least some sustainability risks in public procurement and some were able to even list out risks relating to all sustainability aspects. The different dimensions of sustainability were familiar to all interviewees and for example all the municipalities had activities relating to each sustainability dimension, leading to the conclusion that as Elkington (1997) argued, they do have to possibility to be truly sustainable organizations, as all of the aspects are considered in some way.

In delving deeper into the details of sustainability within the realm of public procurement, it becomes evident that various risks shape the landscape, each bearing their own implications for public organizations. One of the first thoughts many interviewees had relating to sustainability risks and challenges lie in environmental risks, which encompass a spectrum of concerns ranging from environmental degradation to the creation of high carbon footprints. These environmental hazards may not only disrupt the ecological balance but also cast shadows over the reputation of organizations involved in procurement processes, which many interviewees pointed out. As the expectations for environmentally friendly procurement rise, it is essential that these expectations can be met.

Parallel to environmental risks, economic risks are very present in public procurement as well, presenting formidable obstacles to the financial well-being of public organizations as well as presenting formidable challenges to the financial stability and operational efficiency of organizations. One pressing concern is the potential for cost overruns, wherein projects exceed budgeted expenses, placing strains on financial resources and impeding effective resource allocation. Such overruns can stem from a myriad of factors, including inaccurate initial cost estimations, unexpected fluctuations in market prices, or unforeseen project complexities. Regardless of the cause, the ramifications of cost overruns extend far beyond mere monetary losses, encompassing delays in project timelines, strained relationships with stakeholders, and diminished public trust in organizational competence. Similarly, the stability of suppliers represents a critical economic consideration in public procurement. Disruptions in the financial health or operational capacity of suppliers can reverberate through procurement channels, jeopardizing the timely delivery of goods and services and disrupting organizational workflows. Whether due to supplier bankruptcy, supply chain disruptions, or contractual disputes, such disruptions pose tangible threats to organizational resilience and operational continuity.

Moreover, economic risks extend beyond the realm of financial solvency to encompass broader concerns such as information security and personnel arrangements. In an era marked by increasing digitalization and interconnectedness, the protection of sensitive procurement

data against cyber threats and data breaches emerges as a paramount concern. Likewise, the retention of skilled personnel within procurement teams is essential for maintaining institutional knowledge and ensuring continuity in procurement processes. In the end, procurement requires people behind it and without skilled enough personnel, it is impossible to reach sustainability and efficiency in public procurement.

Furthermore, the possibility of corruption and bribery is evident in public procurement, posing ethical and reputational risks to public organizations engaged in procurement activities. Instances of fraud, kickbacks, or favouritism not only undermine the integrity of procurement processes but also damage public trust and confidence in governmental institutions. Vigilant oversight and robust anti-corruption measures are thus imperative to safeguard the integrity and transparency of procurement practices.

Final type of sustainability risks are the social risks. Interviews revealed several risks related to this dimension of sustainability. One pressing concern is the impact of procurement activities on shadow economy. From fair wages and safe working environments to nondiscrimination and freedom of association, adherence to labor standards is essential for upholding the dignity and rights of workers involved in procurement processes. Failure to safeguard these rights not only engages in social injustices but also undermines organizational reputation, as well as do the risks on other aspects of sustainability.

Another concern revolves around the safety and quality of products and services procured by public entities. Ensuring that goods and services meet established safety standards and quality benchmarks is paramount for safeguarding the health, safety, and welfare of end-users. Failure to uphold these standards can result in dire consequences, ranging from physical harm and injury to financial losses and reputational damage. Therefore, rigorous oversight and adherence to safety protocols are essential to mitigate the risks associated with substandard or unsafe products and services. The interviewee of Municipality A pointed out for example the need to be extremely careful in school lunches, to make sure no allergens accidently cross-contact.

Moreover, occupational health and safety risks pose significant challenges within public procurement endeavors, particularly concerning the well-being of workers involved in procurement activities. Ensuring safe working conditions, hazard mitigation, and compliance with occupational health and safety regulations are essential for protecting the health and welfare of workers across the supply chain. Failure to address these risks can result in workplace injuries, illnesses, and fatalities, undermining the dignity and rights of workers while incurring financial and reputational costs for organizations.

Table X below shows a summary of the sustainability risks in public procurement that came up in the interview. The risks are divided into categories based on which sustainability aspect they are most related to.

Risk type	Economic	Environmental	Social
Risks	• loss of money • economic risks, if the supplier is unable to provide the promised services/products • information security • personnel arrangements, loss of skilled personnel • corruption • bribery • employment	• environmental crimes • climate risks	• shadow economy, other types of illegal workforce • human rights violations • safety of products and services • privacy protection • occupational health and safety risks

	• sanctions • bankruptcy of supplier		

Table 3. Risks divided by risk types

Overall, it can be observed that the expectations of stakeholders play a pivotal role in shaping the risk landscape of public procurement. As highlighted by Kocabasoglu, Prahinski, and Klassen (2007), sustainability risks often emanate from stakeholder expectations, rather than solely from disruptions in supply chains. While supply chain disruptions can certainly contribute to risk exposure, the broader risk atmosphere is deeply intertwined with stakeholder expectations and demands. Stakeholder expectations serve as guiding principles that inform organizational priorities, strategies, and actions in procurement processes in sustainability. Whether it pertains to sanctions, corruption, climate risks, privacy protection, or occupational health and safety, stakeholders wield considerable influence in setting standards and requirements that public organizations must adhere to. Failure to meet these expectations can lead to reputational damage, loss of public trust, and legal repercussions, underscoring the imperative for organizations to proactively address stakeholder concerns.

Q_3: How can sustainability risk management be effectively integrated to public procurement?

As discussed earlier, sustainability risk management is still in early stages in many public organizations. Even risk management practices seemed to be a bit lacking on some interviewed organizations and especially the sustainability risk management, even if sustainability was considered a top priority. In the data there could be found however ways which help in integration of the sustainability risk management practices in public procurement. These integration methods can be divided into three different types, which are integrating sustainability overall in the procurement, collaborative approach and working groups, and training employees. In addition to considering these things, it is essential to have some sort of monitoring and reviewing of practices, as someone has to keep an eye on the objectives and that they are actually met.

The first type, the starting point of successful sustainability risk management integration is naturally that sustainability is integrated in the procurement process. If sustainability is not embedded in the procurement process by a default, it is impossible to expect succession in sustainability risk management either. Integrating sustainability into procurement policies involves two crucial steps: defining sustainability objectives and criteria and making sustainability mandatory in the procurement process.

Defining sustainability objectives and criteria within procurement policies establishes clear goals and guidelines for sustainable procurement decisions. This includes setting targets related to all dimensions of sustainability, economic, environmental, and social. Clear and explicit definitions of sustainability objectives and criteria help the organization in guiding the essentials of sustainable public procurement. These objectives may include reducing carbon emissions, promoting fair labour practices, and supporting local communities, as for some examples that surfaced in the interviews. It is important to consider also concrete criteria for evaluating the suppliers. Such criteria might include for example environmental certifications, ethical sourcing practices, energy efficiency ratings, and devotion to human rights standards. By incorporating such criteria into procurement policies, organizations can effectively prioritize sustainable suppliers and products, driving positive environmental and social impacts across their supply chains. For example, Moradi, Hafezalkotob and Ghezavati (2019) argued on the side of sustainability evaluations, pointing out that they help with ensuring optimal contributions to sustainability improvement.

While defining sustainability objectives and criteria provides a framework for sustainable procurement, it is equally important to secure sustainability by making it a mandatory aspect of the procurement process. By mandating sustainability requirements in procurement policies, organizations signal their commitment to sustainability and set clear expectations for suppliers and stakeholders. As discussed by interview of Organization E, there is pressure coming from the government to add sustainability in public procurement.

By integrating sustainability into procurement procedures, for example by supplier selection, contract awarding, and performance evaluation, it would be possible for public organizations to ensure that sustainability considerations are systematically considered at every stage of the procurement lifecycle, as for many interviewees admitted that it is usual for sustainability considerations to be mostly followed in the beginning stage of the lifecycle. This integration could involve incorporating sustainability clauses into procurement contracts, conducting sustainability assessments during supplier evaluations, and monitoring supplier performance against sustainability targets.

Collaborative approach and working groups are another way to secure integrated sustainability risk management in public procurement. Public organizations should actively improve partnerships, facilitating the exchange of best practices and insights among stakeholders. By organizing diverse stakeholder engagement throughout procurement planning phases, a collective understanding of sustainability goals and strategies could be achieved. This collaborative could help ensure that procurement decisions are informed by a broader scale of perspectives and expertise, enhancing the effectiveness of sustainability integration efforts. Many interviewees highlighted collaboration with other public organizations, and it is important to remember that public organizations do not compete against each other in the same manner as private organizations might and sharing knowledge and practices could be for the best of all.

Additionally, the establishment of specialized evaluation working groups, such as the working group that the Municipality A has, further enhances sustainability integration. These teams or committees could be tasked with thoroughly analysing the nuances of sustainability within each procurement endeavour. Through their expertise, they advocate for a detailed assessment process that goes often beyond just economic considerations. By combining the collaborative approach with the utilization of evaluation working groups, public entities can effectively navigate the complexities of sustainability risk management in procurement. This integrated approach not only enhances the sustainability performance of individual procurement projects but also fosters a culture of sustainability across the organizations.

Third tool to help with integration of sustainability risk management in public procurement is training of staff. Continuous investment in training programs can play a pivotal role in equipping procurement staff with the ability to navigate sustainability challenges with accuracy, precision, and success. By providing staff with ongoing opportunities for learning and skill development, organizations ensure that their procurement teams are well-equipped to identify, assess, and mitigate sustainability risks effectively. Fostering a culture of knowledge distribution is essential for ensuring continuous adaptation to evolving sustainability concepts. As the interviewees discussed, the sustainability field has changed significantly over the past years, and it can be expected to continue that change. After all, sustainability is still quite a new topic in the history of mankind (Caradonna 2014). By integrating training and knowledge sharing into their procurement practices, public organizations can cultivate a workforce that is not only proficient in sustainability risk management but also proactive in driving positive environmental, social, and economic outcomes. The skilled staff and expertise were also one of the most importance factors in succession of sustainability in public procurement according to FCCA (2019). For example, the Municipality B pointed out, that they see lost opportunities as risks as well. Training could help with identifying these lost opportunities better as well. This commitment to continuous learning and knowledge exchange ensures that procurement activities remain aligned with evolving sustainability standards and best practices, ultimately contributing to the achievement of broader sustainability goals.

Q_1: How to manage sustainability risks in public procurement?

As discussed many times in the previous chapters, sustainability risk management is a complex topic, as is sustainability itself. The sustainability risk management links together with the risk management process presented by Ho, Zheng, Yildiz and Talluri (2015). The crucial steps in sustainability risk management in public procurement are risk identification, risk assessment, risk mitigation and risk monitoring. Managing sustainability risks in public procurement can be divided into these same steps. Figure 3 below presents the process, after which the text will explain it in more detail.

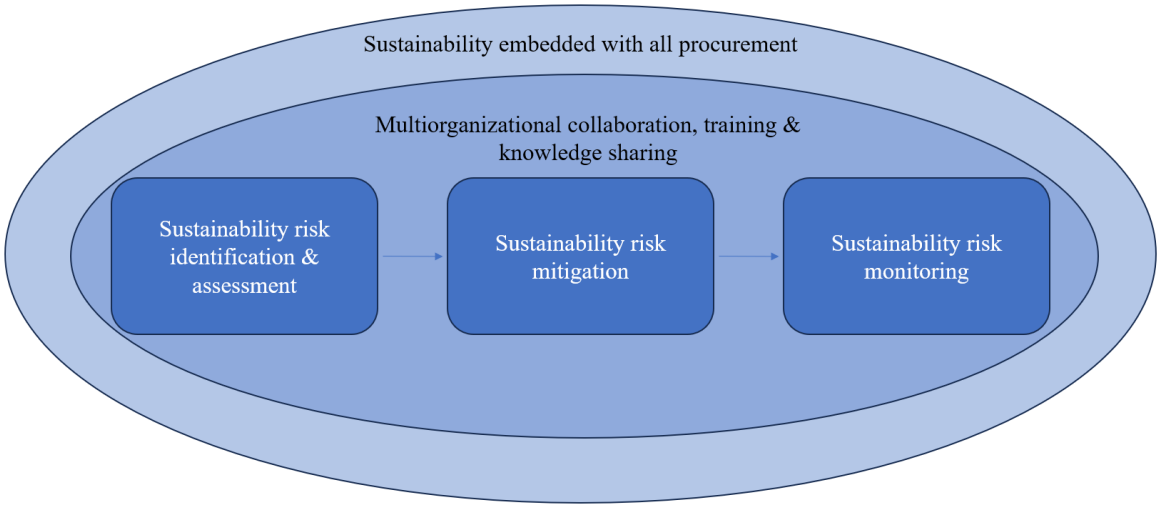

Figure 3. Sustainability risk management process in public procurement

The crucial starting point for managing sustainability risks is risk identification and assessment. Identifying sustainability risks in public procurement is a fundamental step towards ensuring responsible and sustainable practices and its importance cannot be underestimated. Basically, the process involves systematically recognizing and understanding the potential threats and challenges that may arise in the procurement process, particularly those related to environmental, social, and economic factors, which are the three sustainability aspects presented by Elkington (1997). In the interviews, some of the examples of sustainability risks identified in public procurement included reputational damage, for example due to unsustainable practices, economic risks stemming from supplier failures, and social risks associated with shadow economy. These examples illustrate the diverse range of risks that organizations must consider when conducting procurement activities. As the interviews showed, sustainability risks can be a little unfamiliar topic for some procurement experts in public procurement, which also proves the need for more understanding of these risks. This is not necessarily a surprise; Neiger, Rotaru and Churilov (2009) argued that research in risk identification is lacking.

To be effective, risk identification requires a comprehensive assessment of various aspects of procurement operations. Procurement process is complex as well and the risks relating to

it can occur in many different stages. This assessment could include steps such as evaluating supplier capabilities, assessing the environmental impact of procurement decisions, and considering the social implications of sourcing practices. By conducting thorough risk assessments, organizations can identify potential threats and vulnerabilities that may affect the sustainability of their procurement activities. Again, the integration of sustainability practices in this step as well is important. By incorporating sustainability criteria into procurement guidelines and evaluation processes, organizations can proactively identify risks associated with unsustainable practices and prioritize the selection of suppliers that align with sustainability goals.

Collaboration with stakeholders could also play a critical role in risk identification. Engaging with other organizations, such as municipalities, organizations, and networks focused on sustainability issues, allows organizations to access additional expertise and insights into emerging sustainability challenges, which can be extremely helpful in risk identification and assessment processes. Through collaboration, organizations can leverage collective knowledge to identify risks and develop strategies to mitigate them effectively, which is the next step, following risk identification and assessment.

Just as identification and assessment, mitigating sustainability risks in public procurement is essential for promoting responsible and sustainable practices throughout the procurement process. Again, one key strategy for mitigating sustainability risks is to integrate sustainability considerations into procurement guidelines and evaluation processes. By incorporating sustainability criteria into procurement criteria and requirements, organizations can prioritize the selection of suppliers that demonstrate a commitment to sustainability, helping with mitigation of sustainability risks as well.

Furthermore, it is essential for organizations to mitigate sustainability risks by implementing clear risk management practices. This is strongly linked with risk assessment, as it involves conducting thorough sustainability risk assessments to identify potential threats and vulnerabilities in the procurement process. By identifying risks early on, organizations can develop strategies and measures to mitigate them effectively. As the core emphasis of risk

mitigation is to actively be working to either prevent the occurrence of undesired events or diminish the consequences, in case the events do occur, as ChePa, Jnr, Nor and Murad (2015) put it, successfully adapting risk mitigation in the public procurement process can be highly beneficial.

Similarly to risk identification and assessment, collaboration with other organisations and continuous training and development of workforce is highly beneficial for risk mitigation. Once again, engaging with others grants access to new perspectives and ideas. Best practices should be shared, as sustainable development is essential to be reached, not matter what. Likewise, training and capacity-building initiatives are also important for mitigating sustainability risks in public procurement. By providing employees with training and resources on sustainability best practices and risk management techniques, organizations can enhance their ability to identify and address sustainability risks effectively. This empowers employees to make informed decisions and take proactive measures to mitigate risks in their procurement activities.

The final step in sustainability risk management in public procurement is risk monitoring. Based on this study's research data, this is one of the biggest challenges currently facing public procurement and its risk management. As came up in several interviews, the risk management practices are often limited to the beginning of procurement life cycle and the following of the set contracts if often forgotten. Without monitoring, it is impossible to ensure that sustainability goals are upheld throughout the procurement process. Blancher (2013, p. 5-7) pointed out as well, that risk monitoring is a continuous process, which allows organizations to react to changes and new risks earlier as well.

Monitoring sustainability risks involves regularly assessing and evaluating the performance of procurement activities to identify any potential threats or deviations from sustainability objectives. This process allows organizations to track progress, identify emerging risks, and take corrective action to mitigate any negative impacts on sustainability. One other key aspect of monitoring sustainability risks would establishing clear metrics and indicators to measure performance against sustainability goals. These metrics could include

environmental impact indicators, such as carbon emissions or resource consumption, social impact indicators, such as labor standards or community engagement, and economic indicators, such as cost-effectiveness and financial stability. It is essential that sustainability risk monitoring considerations include all the dimensions of sustainability.

Furthermore, public organizations ought to utilize more technology and data analytics tools to streamline the monitoring process and enhance data collection and analysis. By leveraging digital platforms and software solutions, organizations can gather real-time data on procurement activities, identify trends and patterns, and generate actionable insights to inform decision-making. Etemadi, Borbon-Galvez, Strozzi and Etemadi (2021) highlighted the emerging trend where new technologies play a pivotal role in sustainability risk management. Based on the interview materials, use of technology in sustainability risk management is still lacking and some interviewees even pointed out that at the moment, they do not have for example any frameworks et cetera relating to sustainability risk management.

Regular reporting and communication are critical components of sustainability risk monitoring. Public organizations should regularly communicate with stakeholders about their sustainability performance, share updates on progress towards sustainability goals, and solicit feedback on areas for improvement. Transparent and open communication helps to build trust and accountability with stakeholders and ensures that sustainability objectives are effectively communicated and understood. As sustainability risks often root in stakeholder expectations, they have to be considered in every step of the way.

In conclusion, sustainability risk management in public procurement is a multifaceted process that involves several interconnected stages, each of which plays a crucial role in promoting responsible and sustainable practices. The process begins with risk identification, where organizations systematically recognize and understand potential threats and challenges related to environmental, social, and economic factors. Through comprehensive risk assessments, organizations can identify emerging risks and vulnerabilities that may affect the sustainability of their procurement activities. Following risk identification and assessment, the next step is risk mitigation, where organizations develop strategies and

measures to address identified risks effectively. By integrating sustainability considerations into procurement guidelines and evaluation processes, organizations can prioritize the selection of suppliers that align with sustainability goals. Finally, risk monitoring is crucial for ensuring that sustainability goals are upheld throughout the procurement process. This involves regularly assessing and evaluating the performance of procurement activities, establishing clear metrics and indicators to measure performance against sustainability goals, and leveraging technology and data analytics tools to enhance data collection and analysis.

Overall, managing sustainability risks in public procurement requires a systematic and integrated approach that involves collaboration, continuous learning, and proactive risk management practices. By implementing effective sustainability risk management strategies, organizations can promote responsible and sustainable procurement practices and contribute to the achievement of broader sustainability goals.

6.2 Conclusions

The global sustainability movement has made significant strides over the past decades, but there is still much work to be done. Public organizations play a crucial role in driving sustainability forward, as their choices have a significant impact on environmental preservation and the well-being of future generations. Procurement is inherently interconnected with sustainability goals. However, making sustainable choices in procurement can be challenging due to the complexity of supply chains and the considerable time and effort required to ensure sustainability standards are met. Sustainability risks are strongly present in every step of the procurement process. Nonetheless, it is urgently important for public organizations to lead by example and take proactive steps towards sustainability, setting an example for others to follow and contributing to the preservation of the planet for future generations. Sustainability risk management plays thus a vital role and the need for sustainable risk management practices is high.

This research recognized a research gap in the sustainability risk management relating to public procurement. Based on this gap, three research questions were created, which were then answered with the help of five interviewees and theoretical background. Based on the research, it became evident that sustainability risk management is a bit lacking in public procurement, even if sustainability targets are high in public organizations. Particular problem areas seemed to be the sustainability risk management during the entire lifecycle of the procurement and the lack of risk management tool use. Positive thing is that sustainability is overall extremely important topic in all case organizations, which gives hope for the future, as the motivation to promote sustainability is present. The answers for the research questions are summarized in the table below.

Q_1: How to manage sustainability risks in public procurement? Sustainability risk management in public procurement follows a structured process, encompassing risk identification, assessment, mitigation, and monitoring. A systematic and integrated approach is essential for promoting responsible procurement practices and achieving broader sustainability objectives.
Q_2: What kind of sustainability risks does public procurement face and how do they affect public organizations? Public procurement faces diverse sustainability risks which threaten organizational reputation, financial stability, and operational efficiency for example. Addressing these risks requires proactive mitigation efforts and a commitment to sustainability to ensure organizational resilience and long-term success.
Q_3: How can sustainability risk management be effectively integrated to public procurement? Integration methods include embedding sustainability in procurement processes, fostering collaboration, and training staff. Key steps involve defining sustainability objectives, making sustainability mandatory, collaborating with stakeholders, and investing in staff training. Stakeholder engagement and expertise are crucial for successful sustainability integration.

Table 4. Summary of research answers

To use sustainability risk management more efficiently in public procurement, the organizations can be recommended to train their staff and work over organizational limits together, share best practices and support each other. As discussed earlier, these public organizations do not compete against each other in the same manner as private organizations might and as public procurement can have great positive effect on sustainability, it is highly beneficial to reach high sustainability standards in public organizations. Money, or more the lack of it, might barrier the sustainability change, which is why the public organizations need to be innovative and determined in their sustainability endeavours. If sustainability is deeply embedded in the public procurement in both public organizations and the legislation guiding them, the organization have more push to drive towards them.

6.3 Recommendations for future research

There is still a lot of ground to cover relating to sustainability risk management in public procurement. Sustainable practices and methodologies are continuously evolving, with a growing amount of academic research dedicated to sustainability. As a result, it's a requirement to periodically review and update sustainability practices, including the sustainability risk management process outlined in this study.

As this was a case study based solely on Finnish organizations, research comparing sustainability risk management across different countries or regions could provide valuable insights into diverse approaches and facilitate the identification of best practices adaptable to various contexts. Due to master’s thesis limitations, this study was also only considering current methods in public procurement, whereas studies assessing the long-term impacts of sustainability integration in public procurement would offer insights into the effectiveness and sustainability of these practices over time.

Exploring how technological innovations like blockchain, AI, and big data analytics can enhance sustainability in procurement could lead to efficiency improvements, transparency enhancements, and better risk management overall. The use of these technologies seemed to be lacking at the moment in public procurement, and it could be highly beneficial.

Identifying barriers and enablers for implementing sustainable procurement practices in public organizations would inform strategies to overcome challenges and leverage facilitators. Especially the lack of money is a barrier for sustainable development. Also research on effective stakeholder engagement and collaboration models in sustainable public procurement could deepen the insights of this study, where the importance of collaboration was highlighted. In addition, investigating the effectiveness of training and capacity-building programs for procurement officials in sustainability practices would help identify key components of successful training initiatives. The importance of skilled staff cannot be undermined in sustainability risk management.

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Appendix 1. Interview questions (set 1) for municipalities in English

1. Could you share your work experience and current job responsibilities? Are there any previous roles that are relevant to the interview?

2. How long have you been working in procurement/sustainability roles?

3. Have you worked on risk management related tasks?

4. How would you assess the annual procurement volume of the municipality?

5. What is the procurement process like in the municipality?

6. How important is sustainability in the procurement process?

7. Are sustainability themes integrated into the procurement process?

8. Are there specific standard criteria for sustainability, and how are they taken into account?

9. How do you understand risk management? What, in your opinion, does it entail?

10. Does the municipality engage in risk management work? What risks does this focus on?

11. What sustainability risks do you identify in relation to municipal procurement?

12. Does the municipality use any tools or methods specifically for assessing and identifying sustainability risks? What are they?

13. Are sustainability risks measured in procurements, and if yes, how?

14. Are sustainability risks prioritized compared to other procurement-related risks?

15. Are there strategies in place to mitigate the impact of sustainability risks? What are they?

16. What kind of collaboration do you have with stakeholders regarding sustainability risks?

17. Are sustainability risks monitored throughout the procurement lifecycle? If yes, how?

18. Can you provide an example of a particular success in managing sustainability risks from a previous procurement?

19. Is there support within the organization for continuous learning, such as training, to improve sustainability efforts and risk management in procurement in the future?

20. Do you feel you receive the necessary support from upper management for conducting sustainable public procurements? Is there a prevailing atmosphere in the municipality that encourages further development of sustainability?

21. Is there anything else you would like to add?

Appendix 2. Interview questions (set 1) for municipalities in Finnish

1. Kertoisitko omasta työkokemuksestasi ja nykyisistä työtehtävistäsi? Onko jotain aiempia työtehtäviä, jotka olisivat haastattelun kannalta oleellisia?

2. Kuinka kauan olet tehnyt töitä hankintojen/vastuullisuuden parissa?

3. Oletko tehnyt työtä riskien hallintaan liittyen?

4. Miten arvioisit kunnan hankintavolyymin vuositasolla?

5. Millainen on hankintaprosessi kunnassa?

6. Kuinka tärkeää kestävyys on hankintaprosessissa?

7. Onko hankintaprosessiin integroitu kestävyysteemoihin liittyviä asioita?

8. Onko kestävyydelle tiettyjä vakiokriteerejä, miten ne otetaan huomioon?

9. Miten ymmärrät riskien hallinnan? Mitä siihen kuuluu mielestäsi?

10. Tehdäänkö kunnalla riskienhallintatyötä? Millaisiin riskeihin tämä painottuu?

11. Millaisia vastuullisuusriskejä tunnistat liittyen kunnan hankintoihin?

12. Käytetäänkö kunnalla jonkinlaisia työkaluja tai menetelmiä nimenomaan kestävyysriskien arvioimiseen ja tunnistamiseen? Millaisia?

13. Mitataanko kestävyysriskejä hankinnoissa, jos kyllä, miten?

14. Priorisoidaanko kestävyysriskejä verrattuna muihin hankintaan liittyviin riskeihin?

15. Onko käytössä esimerkiksi strategioita, joiden tarkoitus on lieventää kestävyysriskien vaikutusta? Millaisia?

16. Teettekö millaista yhteistyötä sidosryhmien kanssa kestävyysriskeihin liittyen?

17. Seurataanko kestävyysriskejä hankinnan elinkaaren aikana? Jos kyllä, miten?

18. Onko sinulla antaa esimerkkiä erityisestä onnistumisesta kestävyysriskien hallintaan liittyen jostain aiemmasta hankinnasta?

19. Tuetaanko organisaatiosta jatkuvaa oppimista, onko saatavilla koulutusta, jotta vastuullisuustyötä hankinnassa/vastuullisuusriskienhallintaa voidaan tulevaisuudessa parantaa?

20. Koetko saavasi ylemmältä johdolta tarvitsemasi tuen kestävien julkisten hankintojen tekemiseen? Vallitseeko kunnassa yleinen ilmapiiri siitä, että kestävyyttä halutaan kehittää entisestään?

21. Tuleeko mieleen vielä jotain muuta, jonka haluaisi lisätä vielä?

Appendix 3. Interview questions (set 2) for public organizations in English

1. Could you share your work experience and current job responsibilities? Are there any previous roles that are relevant to the interview?

2. How long have you been working in procurement/sustainability roles?

3. Have you worked on risk management related tasks?

4. In your opinion, how has sustainability in procurement evolved over the past five years or a longer period? Have there been significant changes in the overall atmosphere?

5. How successful do you think organizations are in making sustainable procurements or achieving sustainability goals? Are there any obstacles to this, and if so, what?

6. Have you noticed differences in the success of sustainability initiatives among organizations of different sizes/geographical locations?

7. What sustainability risks do you identify in public organization procurement?

8. Do you think there is sufficient management of sustainability risks in public organizations? Is there enough overall risk management?

9. Have you collaborated with organizations specifically related to sustainability risk management? What kind of collaboration?

10. Are there any incentives in place to increase sustainability/risk management efforts?

11. Are there specific goals related to sustainability or risk management? If yes, what are they?

12. Are there models in place for modeling/tracking sustainability risks?

13. Is there anything else you would like to add?

Appendix 4. Interview questions (set 2) for public organizations in Finnish

1. Kertoisitko omasta työkokemuksestasi ja nykyisistä työtehtävistäsi? Onko jotain aiempia työtehtäviä, jotka olisivat haastattelun kannalta oleellisia?

2. Kuinka kauan olet tehnyt töitä hankintojen/vastuullisuuden parissa?

3. Oletko tehnyt työtä riskien hallintaan liittyen?

4. Miten vastuullisuus hankinnoissa on kehittynyt mielestäsi viimeisen viiden vuoden aikana tai pidemmällä aikavälillä? Onko ilmapiirissä ollut merkittäviä muutoksia?

5. Miten organisaatiot onnistuvat mielestäsi kestävien hankintojen tekemisessä tai kestävyystavoitteiden saavuttamisessa? Asettaako jonkin esteitä tälle, jos kyllä, niin mikä?

6. Oletko huomannut eroa esimerkiksi eri kokoisten kuntien välillä/maantieteellisten sijaintien välillä vastuullisuudessa onnistumisessa?

7. Millaisia vastuullisuusriskejä tunnistat julkisten organisaatioiden hankinnassa?

8. Tehdäänkö julkisissa organisaatioissa mielestäsi riittävästi vastuullisuusriskienhallintaa? Onko riskienhallintaa ylipäänsä riittävästi?

9. Oletteko tehneet yhteistyötä organisaatioiden kanssa nimenomaan liittyen vastuullisuusriskienhallintaan? Minkälaista?

10. Onko teillä jonkinlaisia kannustimia siihen, että vastuullisuus lisääntyisi/riskienhallinta lisääntyisi?

11. Onko vastuullisuuteen tai riskienhallintaan liittyen jonkinlaisia tavoitteita? Jos on, millaisia?

12. Onko käytössä jotain malleja vastuullisuusriskien mallintamiseen/seurantaan?

13. Tuleeko mieleen vielä jotain muuta lisättävää?