



Master's degree thesis

LOG950 Logistics

**Smaller Municipalities Procurement Challenges: A
Multiple Case Study**

Magnus Øvrebust Nygård

Number of pages including this page: 78

Molde, 22.05.2023



Mandatory statement

Each student is responsible for complying with rules and regulations that relate to examinations and to academic work in general. The purpose of the mandatory statement is to make students aware of their responsibility and the consequences of cheating. Failure to complete the statement does not excuse students from their responsibility.

Please complete the mandatory statement by placing a mark <u>in each box</u> for statements 1-6 below.		
1.	I/we hereby declare that my/our paper/assignment is my/our own work, and that I/we have not used other sources or received other help than is mentioned in the paper/assignment.	<input checked="" type="checkbox"/>
2.	I/we hereby declare that this paper <ul style="list-style-type: none"> • Has not been used in any other exam at another department/university/university college • Is not referring to the work of others without acknowledgement • Is not referring to my/our previous work without acknowledgement • Has acknowledged all sources of literature in the text and in the list of references • Is not a copy, duplicate or transcript of other work 	<input checked="" type="checkbox"/>
3.	I am/we are aware that any breach of the above will be considered as cheating, and may result in annulment of the examinaion and exclusion from all universities and university colleges in Norway for up to one year, according to the Act relating to Norwegian Universities and University Colleges, section 4-7 and 4-8 and Examination regulations section 14 and 15.	<input checked="" type="checkbox"/>
4.	I am/we are aware that all papers/assignments may be checked for plagiarism by a software assisted plagiarism check	<input checked="" type="checkbox"/>
5.	I am/we are aware that Molde University college will handle all cases of suspected cheating according to prevailing guidelines.	<input checked="" type="checkbox"/>
6.	I/we are aware of the University College`s rules and regulation for using sources	<input checked="" type="checkbox"/>

Personal protection

Personal Data Act

Research projects that processes personal data according to Personal Data Act, should be notified to Sikt for consideration.

Have the research project been considered by Sikt?

yes no

- If yes:

Reference number: 412796

- If no:

I/we hereby declare that the thesis does not contain personal data according to Personal Data Act.:

Act on Medical and Health Research

If the research project is effected by the regulations decided in Act on Medical and Health Research (the Health Research Act), it must be approved in advance by the Regional Committee for Medical and Health Research Ethic (REK) in your region.

Has the research project been considered by REK?

yes no

- If yes:

Reference number:

Publication agreement

ECTS credits: 30

Supervisors: Lisa Hansson and Geir Arne Svenning

Agreement on electronic publication of master thesis

Author(s) have copyright to the thesis, including the exclusive right to publish the document (The Copyright Act §2).

All theses fulfilling the requirements will be registered and published in Brage HiM, with the approval of the author(s).

Theses with a confidentiality agreement will not be published.

I/we hereby give Molde University College the right to, free of charge, make the thesis available for electronic publication:

yes no

Is there an agreement of confidentiality?

yes no

(A supplementary confidentiality agreement must be filled in)

- If yes:

Can the thesis be online published when the period of confidentiality is expired?

yes no

Date: 22.05.2023

Preface

This thesis is the final work of a two-year master's program in logistics at Molde University College and was completed in the spring of 2023.

I would like to give my sincere gratitude to my supervisors Lisa Hansson and Geir Arne Svenning for valuable guidance and knowledge throughout this process. I would also like to give a special thanks to the procurement managers of Fjord, Sykkylven and Sula for participating in this study.

A big thank you to my friends and family for the support and motivation.

Molde, May, 2023

Magnus Øvrebust Nygård

Abstract

This master thesis investigates the public procurement challenges faced by three smaller Norwegian municipalities – Fjord, Sykkylven and Sula. By using a case study approach, this research investigates the structure of the procurement function, the inter-municipal collaboration and identifies the barriers to implementing green public procurement (GPP) practices.

This study uses in-depth interviews with procurement managers of the three municipalities, Fjord, Sykkylven and Sula to gain a deeper understanding of their experiences, in addition to secondary data. By using information provided through the interviews and collected data, I will answer the following research questions:

- What are the implications of the current procurement structure in Fjord, Sykkylven and Sula?
- What barriers do Fjord, Sykkylven and Sula face in collaborative procurement?
- What are the main obstacles in adopting green public procurement practices in Fjord, Sykkylven and Sula?

The municipalities' hybrid procurement structure combines elements from the centralized and decentralized structure, increases the flexibility but also leads to loss of control and fragmented purchases. The low specialization in the smaller municipalities makes them reliant on external solutions, such as collaborations. The current collaboration consolidates the purchases of the participating municipalities, making them prone to suboptimal purchasing solutions. Additionally, it removes the value creation from within their own community by using larger, external suppliers.

The participating municipalities have had an increased environmental focus these past years, but the financial limitations and cost-priority serves as obstacles in implementing greener solutions, in addition to lack of universal standards for environmental criteria.

Contents

1.0	Introduction	1
1.1	Problem statement	2
2.0	Background information	3
2.1	Procurement process.....	3
2.1.1	Clarify needs and prepare competition	4
2.1.2	Implementation of competition	5
2.1.3	Contract monitoring	6
2.2	Public procurement act	7
2.3	Konserninnkjøp	8
3.0	Literature review	8
3.1	Size and structure in public organizations.....	8
3.1.1	Centralized procurement structure	9
3.1.2	Decentralized procurement structure	9
3.1.3	Hybrid procurement structure	10
3.1.4	The interplay between municipality size and the procurement function	11
3.2	Collaborative public procurement	13
3.2.1	Relevant forms of collaboration.....	15
3.2.2	Factors which influence form.....	16
3.2.3	Barriers of collaborative procurement	16
3.3	Green public procurement	17
3.3.1	Sustainable procurement vs green public procurement	18
3.3.2	Barriers to green public procurement (GPP) adoption in local governments	18
3.3.3	Potential opportunities and benefits of Green Public Procurement (GPP) ...	20
3.3.4	Life-cycle costs (LCC).....	21
3.4	Relevant theories, models and frameworks.....	22
3.4.1	Stakeholder theory	22
3.4.2	Principal-agent theory	23
3.4.3	Transaction cost theory	24
4.0	Research methodology	25
4.1	Research design	25
4.1.1	Qualitative method	26
4.1.2	Exploratory research	26

4.1.3	Case study	27
4.1.4	My approach to research	28
4.2	Data collection.....	28
4.2.1	Interviews.....	29
4.2.2	Secondary data	30
4.3	Analyzing data.....	31
4.4	Validity and reliability.....	32
4.5	Sample	34
5.0	Presentation of findings	35
5.1	Overview	35
5.2	Fjord municipality	35
5.3	Sykkylven municipality.....	39
5.4	Sula municipality.....	43
5.5	Structure of the procurement function.....	47
5.6	Supplier base and transactions within Fjord.....	48
5.7	Administrative audit of public procurement in Sykkylven and Sula	51
6.0	Discussion.....	53
6.1	Implications of the current procurement structure	53
6.2	Collaborative procurement	56
6.3	Main obstacles in adopting GPP in Fjord, Sykkylven and Sula.....	59
7.0	Conclusion.....	61
7.1	Limitations, recommendations and reflections.....	62
8.0	References	64
9.0	Appendices	68
9.1	Interview guide.....	68

List of figures

Figure 1: Centralized procurement function (McCue & Pitzer, 2000)	9
Figure 2: Decentralized procurement function (McCue & Pitzer, 2000).....	10
Figure 3: Hybrid procurement function (McCue & Pitzer, 2000)	11
Figure 4: Main forms of collaborative procurement(Bakker et al., 2008)	14
Figure 5: Life-Cycle Cost (WallStreetMojo)	21
Figure 6: Operating results Fjord (Fjord, 2023).....	36
Figure 7: Investments made in Fjord municipality (Fjord, 2023).....	36
Figure 8: Operating results Sykkylven (Sykkylven, 2023).....	39
Figure 9: Investments made in Sykkylven (Sykkylven, 2023)	40
Figure 10: Operating results Sula (Sula, 2023).....	44
Figure 11: Investments made in Sula (Sula, 2023)	44
Figure 12: Illustration of the procuremnet function in Sula, Fjord and Sykkylven	47
Figure 13: Ten biggest expenses in Fjord	48
Figure 14: Eight most frequently used suppliers in Fjord.....	49
Figure 15: Value above and below threshold.....	49
Figure 16: Number of transactions in Fjord.....	50
Figure 17: Average transaction value above and below the threshold.....	50
Figure 18: Median transaction value above and below the threshold.....	51

1.0 Introduction

Public procurement represents a significant aspect of government activities, involving the purchase of goods, services and works by public entities. All government entities, regardless of the financial state of the country, are struggling with unwavering budget constraints, increased transparency and efficiency, while simultaneously keeping the competition fair and equal. Additionally, they are under constant pressure to do more with less in a world where technology emerges in a rapid speed, environmental concerns are changing the direction of laws and regulations at the same time as the complexity increases. As Heraclitus said: *The only constant in life is change* (Mutambara, 2022). Although this seems manageable by the larger municipalities, the smaller ones encounter a range of various challenges, such as lack of competence, resource constraints and limited supply pool.

Recognizing these challenges experienced by smaller municipalities in public procurement is important, as these local governments are responsible for delivering public services that directly influence their communities. Public procurement serves as a tool to which municipalities can achieve policy goals, such as encouraging economic growth, supporting local suppliers, and advancing environmental goals (Malacina et al., 2022). However, smaller municipalities struggle with insufficient resources, expertise and capacity to be self-sufficient and autonomous, and are reliant on collaborations and consultations to navigate through the complexity of public procurement.

European Union legislations regulates public procurement with the intent to standardize procurement procedures throughout Europe, improving transparency and fairness among the businesses. Norway implemented the directives from EU as part of the EEA agreement, resulting in the public procurement act (Magnuslegal). These regulations ensure equal treatment among bidders and prevent corruptions with procurement officials.

As concerns about climate change and environmental issues continue to rise on a global scale, the influence and significance of public procurement in addressing these challenges cannot be understated. The local governments and other public entities can leverage their purchasing power to influence market transformation (Testa et al., 2016). However, there are notable challenges that erupts for smaller municipalities concerning the proper

utilization of their procurement function. Bryngemark et al. (2023) addresses several challenges faced by local government in adopting green public procurement practices, such as financial limitations and budget constraints. The scarcity of a universal standard in evaluating criteria, and a lack of clear guidelines makes each procurement manager prone to suboptimal solutions regarding environmental requirements in their procurement process, as a result of different perceptions of the evaluation criteria.

The objective of this study is to investigate and identify the key challenges that Fjord, Sykkylven and Sula encounter in public procurement, and the challenges they are facing in implementing GPP practices. This research will explore the processes in public procurement, their current strategies, and how procurement managers perceive and resolve the obstacles they are facing. I will also examine the environmental focus in these municipalities, and how the challenges are perceived by the participants.

This thesis is organized in seven chapters. The first chapter gives an introduction to public procurement and this study's research question, while chapter two provides background information about the municipality's procurement process, the procurement act and the collaboration amongst the participants. Chapter three consists of a literature review of previous research with relevance to this thesis' subject and relevant theories. Furthermore, chapter four will present the methodology of this thesis. Chapter five presents the study's findings, while chapter seven discusses these findings in light of previous research. Lastly, in chapter eight a conclusion and limitation of this study will be presented.

1.1 Problem statement

In 2021, the total public procurement expenditure in Norway reached 651 billion NOK, which constitutes 16% of the national GDP (SSB, 2022). This highlights the fact that the financial decisions and economic policies within municipalities have far-reaching consequences for the society and the environment. Norway consists of 356 municipalities, and a majority of them have less than 10 000 inhabitants. There has been conducted very little research on this subject, even though the impact is significant.

In my thesis I seek to understand how procurement is done in small municipalities, their priorities, and how the environmental requirements affect their procurement process. I will

have an emphasis on the structure of the procurement function, the collaboration which stands for the majority of the procurement and the obstacles in implementing GPP practices.

The new laws and regulations that came into place in 2017 have impacted the process, but to what extent? There is currently a hearing on the Norwegian parliament, where the government wants to tighten the regulations so that environmental criteria account for at least 30 percent (Regjeringen, 2022)

What is the challenges Fjord, Sykkylven and Sula face in public procurement?

I broke down the main questions into three sub-questions:

- *What are the implications of the current procurement structure in Fjord, Sykkylven and Sula?*
- *What barriers do Fjord, Sykkylven and Sula face in collaborative procurement?*
- *What are the main obstacles in adopting green public procurement practices in Fjord, Sykkylven and Sula?*

2.0 Background information

This chapter will firstly provide insight into how the public procurement process generally works in the municipal system. Furthermore, a brief overview of the public procurement act of 2017 and lastly a description of the collaboration that all three participants are part of.

2.1 Procurement process

The procurement process includes all the activities needed for an acquisition of goods, services or construction. This process starts when a need is discovered and last until the need is fulfilled. The procurement process is under strict regulations from the legislators and have to follow the public procurement act and the public procurement regulations. The

process of public procurement consists of several steps, which can be divided into three stages:

- Clarify needs and prepare competition
- Implementation of competition
- Contract monitoring

The biggest influence of the acquisition in a public procurement process is in the early stage, and the influence will only decrease as the process develops (DFØ, 2022).

2.1.1 Clarify needs and prepare competition

The purpose of this activity in the procurement process is to determine if there is a need within the institution that needs to be taken care of through an acquisition. Further in this process, one must attend to the strategic guidelines within the institution and elaborate if the acquisition meets the necessary terms. The internal frameworks will decide which considerations that needs to be taken, the possibilities they have and which direction that needs to be considered. Examples on such frameworks are:

- Procurement strategy
- Environmental strategy
- IT and others
- Sourcing strategy
- Organizational strategy

Other frameworks might come from a political point of view, government or budget (DFØ, 2022).

The purpose of the acquisition needs to be elaborated thoroughly in order to point out what result or effects they want to achieve. Furthermore, market research should be taken into place to see if there is a need within the community that needs to be filled by the public institution, or if there are alternative market solution. This will grant an overview over the competition and a rough estimate on costs. After completing these steps, a mandate should be secured so the procurement executive can start the acquisition process (DFØ, 2022).

The next step after assessing and clarifying needs is make a contract strategy. Planning how the competition can be implemented so the need and purpose of the acquisition can be filled in the best possible way to a lowest possible cost. This phase requires a mapping of the competitive situation, contracting strategy, a preliminary budget for the acquisition, life-cycle costs, risk assessments and so forth (DFØ, 2022).

Preparing the competition has a purpose of creating an implementation plan and prepare the tender to the market. The work put in this step will depend on the strategic importance of the acquisition and the scope of it. The implementation plan must consist of certain elements, such as contracting terms, how the competition will be carried out, the terms and condition and whether there will be a framework agreement so the suppliers can prepare their offer. This will all vary depending on the acquisition (DFØ, 2022).

Specifications, requirements, criteria and contracting terms must be specified, and thereafter give an indication on what results that are expected from a supplier. Certain expectations of needs will be presented for the suppliers, such as capacity, availability, quality and environmental requirements. Specification of how the contract monitoring will elapse throughout the contract's lifetime should be stated. Lastly, a qualification demand is required to secure a suitable supplier who has the necessary competence, capacity and are financial capable to carry out the contract (DFØ, 2022).

2.1.2 Implementation of competition

The first step when carrying out a tender is the formal inquiry to the market, which ordinary takes place through an announcement on Doffin or TED. Doffin is the national database for public procurement, while TED is a European online portal for public procurement. Tenders which exceed the national threshold in value shall be announced on Doffin, while tenders above the EØS threshold must be announced on TED through Doffin on fixed announcement forms. The announcement of the tender is one of the most important supplements to secure predictability, fair competition, and equal treatment of the suppliers. The database for public procurement, Doffin, is open to all suppliers. (DFØ, 2022)

The process of competition implementation varies depending on numerous factors. Which procedures have been chosen, number of offers received and the number of documentations that must be reviewed and assessed. It is not uncommon to receive questions from suppliers where there is need for clarifications, or even cancel the competition (DFØ, 2022).

The second step in this stage is choosing an offer and enter an agreement. In this activity one must assess the offers received, and chose the best offer based on the competition rules which were set before the inquiry. If suppliers do not meet the requirements or criteria which were set, it is obligated to reject the offer. After assessing the suppliers, and if they meet the requirements, you look at the offers. Thereafter you see if the offers meet the requirements before evaluating them based on the criteria. After announcing a winner of the competition, testers must be notified (DFØ, 2022).

2.1.3 Contract monitoring

The last stage in the procurement process is contract follow-ups. To make sure the counterparty withholds their end of the deal. It is an important part of the procurement process, which may even contribute to a better collaboration and less conflict and misinterpretations (DFØ, 2022).

The contract shall provide a clear understanding of responsibilities and risks between the parties involved. Necessary measurements must be done to ensure that the contract is fulfilled purposely. A contract is made to secure proper routines, responsibilities, important deadlines, progress and quality requirements are accordingly to the agreement. (DFØ, 2022)

Coordination and interaction with the supplier are needed throughout the contract to ensure proper deliveries and potential error handling. All deliveries should be documented and evaluated throughout this process (DFØ, 2022)

2.2 Public procurement act

The public procurement act, which is a law regarding public procurement in Norway was taken into force 1. January 2017. Over the last decades, this law has become increasingly stricter. The procurement act was taken in place to ensure equal treatment among tender bidders and prevent corruption for public officials. The aim of this law is stated in § 1, whereas the public procurement act's aim is to enhance efficient use of the communities' resources and ensure integrity among public servants. The public shall also maintain trust towards the public procurers knowing they act in a socially beneficial way. (Norwegian Ministry of Trade, 2016)

According to paragraph 2, this law is applicable for several agencies within the government, including the state authorities, counties, municipalities, any collaboration with the previous mentioned agencies that is under the procurement act, or public enterprises which execute supply activity for the mentioned agencies as defined in international agreements which Norway is bound to. In addition, the law includes all product, service or construction contracts with a value equal to or above 100 000 NOK excluding VAT. This law does not apply to acquisitions within the EØS-agreement article 123. (Norwegian Ministry of Trade, 2016)

The basic principle in this law is to ensure equal treatment, competition, predictability, verifiability, and proportionality.

Furthermore, paragraph 5 describes the environmental, human rights and other societal considerations. *State authorities, counties, municipalities, and other public governed bodies procurement practices shall comply to reducing harmful environmental impact and enhance sustainable solutions where it is relevant by taking life-cycle cost into consideration.* The procurement practices must also develop procedures and routines to promote respect and fundamental human rights where it is risk for violation of human rights. (Norwegian Ministry of Trade, 2016)

2.3 Konserninnkjøp

Konserninnkjøp is the central purchasing function for Ålesund municipality. They conduct acquisitions on behalf of the municipality and inter-municipal companies. All members of this collaboration have the opportunity to make purchases through the municipality's framework agreements. The municipalities participating in the collaboration are geographically located in near surroundings of Ålesund, and include the following municipality: Ålesund, Vestnes, Sykkylven, Sula, Stranda, Fjord, Giske, Hareid, Herøy, Ulstein, Sande, Vanylven, Ørsta and Volda. Combined, they have an approximate population of 150 000 inhabitants. (Ålesund, 2023). This collaboration is meant to consolidate the purchasing demand from all these municipalities into one central purchasing function, and thereby exploit the gains of economy of scale.

3.0 Literature review

In this chapter I will present a literature review on prior research and theories with relevancy to this study. Firstly, we will look at the impact the procurement structure has, and thereafter collaborative public procurement and followed by green public procurement. Lastly, I will present some relevant theories to support my findings.

3.1 Size and structure in public organizations

In order for municipalities to deliver high quality services and to allocate public resources in an efficient and transparent manner, it is important to establish an appropriate procurement structure. The significance of procurement in the context of a municipality's functionality is crucial and must be equipped with the most optimal products and services. An efficient procurement function in a municipality may result in the availability of supplementary funds, which can later be used to augment the overall quality of services and goods. The use of a hybrid purchasing function was observed in German municipalities, with larger ones tending towards more decentralization, as per a study by Glock & Broens (2013). In their research they found that the size of the municipality, measured in inhabitants, influence the structure of the purchasing function in several ways.

3.1.1 Centralized procurement structure

In a fully developed centralized purchasing structure, the purchasing agency holds the responsibility of all critical procurement decisions and ensures the integrity of the purchasing process. As a system, it is characterized by a top-down communication and coordination, which results in enhanced control and consistency within the organization. This model emphasizes accountability, as actions of individuals are governed by law and regulation (McCue & Pitzer, 2000).

Centralized purchasing structure streamline operations by consolidating procurement responsibilities. An important aspect of a centralized structure is the principles of internal control, whereas separate duties prevent a single person from controlling all expenditures. Furthermore, a centralized system is suitable for the development of purchasing expertise, which may increase the efficiency and economy. (McCue & Pitzer, 2000)

Decision-Making Authority in a Centralized Public Purchasing

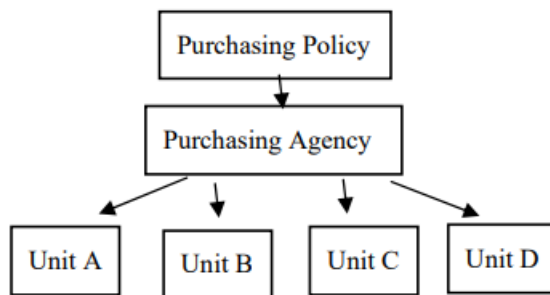


Figure 1: Centralized procurement function (McCue & Pitzer, 2000)

3.1.2 Decentralized procurement structure

A decentralized purchasing process takes place when administrative responsibility, authority and discretion are delegated to service or sub-service personnel who oversee at least one program or function. A system like this, the purchasing processes are uniformly defined and administered, and they must follow the established rules. However, they are granted administrative discretion to develop unique solutions to their challenges. The rules and procedures are primarily in place to control the behaviour, and to ensure a certain integrity of the system (McCue & Pitzer, 2000).

In local governments, the purchasing process is often commended for allowing a quick adaption to shifting conditions. It is widely known that decentralized organizational processes are more flexible and responsive to market factors (Muller, 1994), but it is not clear if this structure provides a better support to end-users, remove bureaucratic barriers, enhance inter-departmental coordination, and empower the employees to procure their needs without interference from the centralized organization. This issue is more significant in the public sector, due to governing bodies seem to be reluctant to grant excessive procurement authority to sub departments. This stems from the fear of corruption and inflated cost (McCue & Pitzer, 2000).

Decision-Making Authority in a Decentralized Public Purchasing

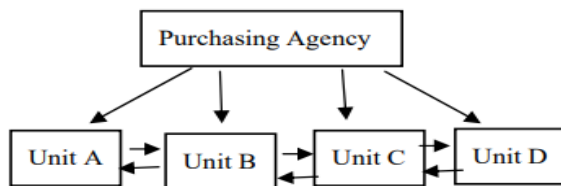


Figure 2: Decentralized procurement function (McCue & Pitzer, 2000)

3.1.3 Hybrid procurement structure

Another procurement structure is the hybrid procurement structure. This structure is combined with elements from both a centralized and decentralized structure (Glock & Broens, 2013). This model allows some degree of centralization in areas where it may be beneficial, such as leveraging economies of scale and establishing framework agreements. At the same time, it can maintain a decentralized purchasing, so different units are capable of customizing their orders for their needs and adapting to market conditions.

Decision-Making Authority in a Centralized/Decentralized Public Purchasing

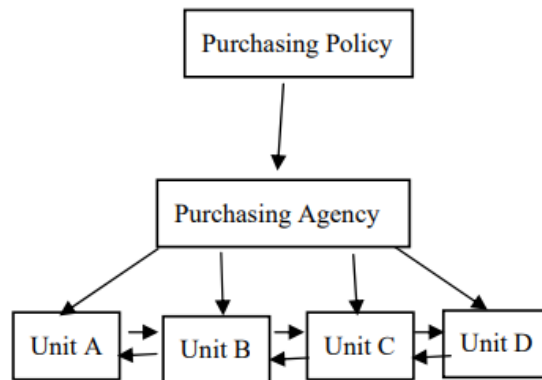


Figure 3: Hybrid procurement function (McCue & Pitzer, 2000)

3.1.4 The interplay between municipality size and the procurement function

Decentralization vs centralization

The degree of decentralization or centralization in a municipality's purchasing process has implications for the efficiency and effectiveness of procurement operations.

Decentralizations allow individual department to manage their procurement needs, which can lead to tailored purchasing solutions and increased flexibility. However, a highly decentralized purchasing process can result in fragmented requirements and potentially higher prices for products and services due to the lack of consolidation. A study done on German municipalities by Glock & Broens (2013) indicated that the municipalities in Germany used a hybrid purchasing function, and larger municipalities was more decentralized.

Centralization involves consolidating procurement activities within a single department or function, which can lead to economies of scale and reduced costs. However, this may decrease flexibility and increase the complexity in the purchasing process. Thus, it is essential for municipalities to strike a certain balance between decentralization and

centralization, by potentially utilizing IT-systems to reduce complexity and enhance the benefits of a consolidation. (Glock & Broens, 2013)

Specialization

Specialization in the municipality's purchasing function refers to the degree which procurement managers are focused on specific objects or processes. A higher degree of specialization can lead to efficiency gains in the procurement process. But due to complex portfolio of products and services purchased by the municipalities, the procurement managers can only specialize to a certain extent. As the size of an organization expands, the distribution of tasks become more pronounced, which results in a higher degree of specialization within the workforce (Glock & Broens, 2013).

Municipalities can attempt to increase the degree of specialization by outsourcing the purchase of unfrequently needed products, or by establishing purchasing consortia for sporadic requirements (Glock & Broens, 2013). This approach allows for pooling resources with other institutions and employing specialist for required products and services, potentially leading to lower prices and improved efficiency.

Formalization

Formalizations is the extent which an organizations purchasing activities are governed by rules, regulations, and standard procedures. High formalization can result from public procurement law requirements or efforts to ensure transparency within an organization. While a certain level of formalization is necessary, excessive formalization can slow down decision-making processes and reduce efficiency. Glock & Broen (2013) found that the magnitude of an organization exhibits a positive correlation with the extend of formalization. Reasoning for the higher formalization may result from the public procurement law or the municipalities efforts to use budgets transparently, which then may lead to more regulations and process descriptions. (Glock & Broens, 2013)

Municipalities should explore options to reduce the unnecessary formalization in their purchasing processes without compromising compliance with procurement law. A potential solution would be to implement systems for incentives that align with an employer's personal objectives with institutional goals, which may reduce the need for additional rules and regulations. (Glock & Broens, 2013)

Hierarchy levels

The hierarchy level at which the purchasing function is located within a municipality reflects the importance given to procurement activities. An increase in the size of the organization can lead to purchasing being situated at lower hierarchical levels, as an effort to control complexity. This was highlighted in Glock & Broens study, which shown an increase in the size of the organization lead to purchasing being situated at lower hierarchy levels. However, placing purchasing at a high hierarchical level demonstrates the value attributed to procurement and its impact on the financial situation and service quality of the municipality.(Glock & Broens, 2013)

3.2 Collaborative public procurement

Collaborative procurement is regarded as a horizontal alliance among organizations, characterized by the integration of procurement function from two or more entities (Essig, 2000). Two primary drivers have been identified for collaborating with other organizations: enhancing effectiveness and improving efficiency (Jost et al., 2005). The former arises when individual organization lack the required knowledge, resources or capabilities, while the latter applies to achieving economies of scale and reducing transaction costs (Bakker et al., 2006).

The procurement literature identifies two distinct structural forms of collaborative procurement: member-owned, informal and virtual organizations, and formal separate third-party organizations. Member-owned virtual networks function with limited formal guidelines. The collaborative does not directly hire personnel, but instead they participate in the procurement process through the roles they have in their associated organizations. The second type, separate third-party organizations are an established entity which focuses solely on overseeing and facilitating the cooperation. They operate within well-defined guidelines and employ personnel who only works on the collaborative procurements. Virtual organizations are usually small scale where there are direct interactions between stakeholders, while third party organizations have a tendency to be larger organizations, and more regional or national (Bakker et al., 2008).

These types are also found in various evolutionary models. A certain degree of cooperation is required in both types, even if a third-party is procuring on behalf of its members or as a collaborative form. (Bakker et al., 2006)

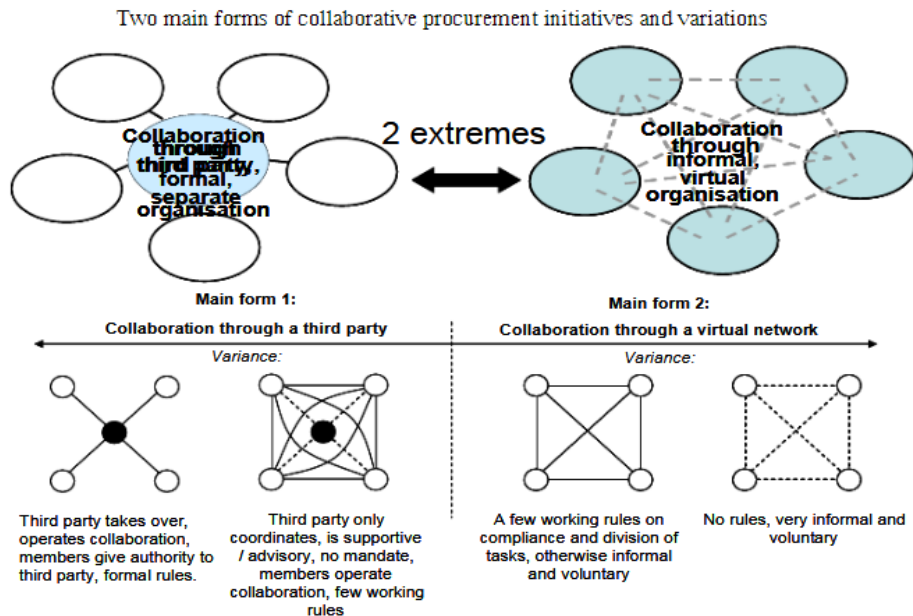


Figure 4: Main forms of collaborative procurement (Bakker et al., 2008)

Separate, third-party organizations may consist of a team of representative from member organizations, which may include board and procurement staff, to execute operations. They may also be an entirely independent, autonomous groups of procurement managers. In terms of control, a collaborative procurement form might involve a third party handling all specifications and supplier selections for its members and managing the use of centrally negotiated contracts through formal agreements that include penalties (Bakker et al., 2008). Member organizations may exercise some control over specifications and have flexibility in using the contracts, as in the case of framework contracts without mandatory participant clauses (Nollet & Beaulieu, 2003). As a result, it could leave the third party in a more supportive or facilitative role. These variations are described as the distinction between a regional purchasing agency with a centralized agency with member control, a member owned service bureau which serves as a separate entity with member representatives on the board and an independent for-profit enterprise which purchases for their members for a certain fee (Bakker et al., 2008).

3.2.1 Relevant forms of collaboration

The extreme forms described above are represented on either end of the scale. However, within the spectrum of these forms, numerous variations exist. These diverse forms are situated between the polar opposites, resulting in a range of possibilities that uses elements from each side.

Piggy-backing is described by Telgen & Schotanus (2007) as an informal alliance of organizations that concentrate on maintaining simple and efficient cooperative purchasing processes. In some instances, only procurement information and expertise may be exchanged within the network of organizations. However, more frequently, it involves a large organization creating a contract on his specifications, but they may be utilized by smaller organizations under equal terms. Hitchhiking is an analogy used to describe piggy-backing, in terms of a hitchhiker cannot influence the destination of the ride, a piggy-back organization cannot influence specifications in contracts. (Schotanus & Telgen, 2007)

The larger organization have low incentive to include smaller organizations to piggy-back on their contracts, although they may get a marginally reduced purchasing price due to volume increase. On the other hand, smaller organization participating in piggy-backing get both reduced transaction costs and lower purchasing prices. The hosting organization gets an additional cost in terms of negotiation expenses, and to ensure a long-term success for the piggy-back organization it is recommended to ensure a fair compensation. (Schotanus & Telgen, 2007)

According to Schotanus & Telgen (2007), *third-party groups* typically involve long-term piggy-backing which is facilitated by external public or private entities. A third-party group can be a for profit, or a non-profit organization, and can be potentially owned by one or more of the group members. In third party groups, a forum is hosted to discuss or create new contracts which can be utilized by the members, either through e-procurement or direct access.

Third party groups focus on large-scale operation and conducts most of the purchasing activity independently. The purchasing activities relies on the purchasing volume from the members, and the members involved in the group do not have to communicate to each other. Instead, they only need to maintain a formal relationship to the host organization or third-party. (Schotanus & Telgen, 2007)

3.2.2 Factors which influence form

In determining the suitable structure for collaboration, the size of the collaborative group must be considered, as informal management becomes less feasible with a growing number of participants (Nollet & Beaulieu, 2003). A smaller group may not be as cost-effective when forming a distinct entity, due to the expenses for coordination and establishment may surpass the potential benefits of scaling. With growing numbers within the collaboration, a separate centralized organization would be more fitting to oversee all procurement. The evolutionary model of collaborative procurement supports this correlation. Collaborative arrangements tend to start off as small voluntarily and informal virtual organizations before they are transformed into distinct, more organized entities as they expand. This suggest that the age of a collaborative initiative may be a significant factor that influence the structure. (Bakker et al., 2006)

Size disparity among the member organizations significantly influences collaborative forms, as noted by Schotanus & Telgen (2005). When an organization is larger in terms of resources and buying volume, it typically leads the entire procurement process due to its access to resources and expertise, while smaller organizations piggybacking on the contracts. Collaborations with a low size disparity can use a separate organization to do the lead buying. Using a third party to do the lead buying based on the demand from the members of the collaboration can be called external lead buying, or if it's managed by the members in an informal unit, it is called internal lead buying.(Bakker et al., 2006)

Managing collaborations is impacted by the geographical scope. with smaller scopes stimulate closer relationship due to the ease of face-to-face contact. Larger geographical scopes rely more on communication technologies, such as internet or telephone. As a result, geographic spread of members can be an indicator on size. (Bakker et al., 2006)

3.2.3 Barriers of collaborative procurement

Challenges within collaborative public procurement can have several points of views. From a national perspective, the findings in Meehan et al. (2016) states that large-scale-frameworks can limit innovation, by rewarding volume instead of quality with the suppliers. As a result of this, market innovation can stagnate.

Additionally, there are concerns that the potential negative impact it will have on small and medium-sized enterprises (SME). Using large central actors instead of local small and medium sized businesses may cause irreversible damage to markets. This may force some of the SMEs out of business. By hindering the use of local suppliers, it may negatively impact relationships and service delivery, especially in areas that require frequent on-site interactions. (Meehan et al., 2016)

A study by Shotanus (2005) indicated that collaborative procurement may have several benefits in terms of cost-savings, it also had disadvantages in terms of reduced flexibility and less control. By aligning their procurement strategies with other members of the group, it limits their ability to adapt to changing organizational needs. A lack of control by having a shared decision-making, makes it difficult for individual organizations to assert their preferences, leading to potential compromises on quality and service levels.

3.3 Green public procurement

Green public procurement (GPP) is the process of purchasing goods, services and work which has a reduced environmental impact throughout their life cycle. It includes environmental factors alongside traditional factors, such as quality and cost when making purchasing decisions.

According to European Commission, GPP initial aim is to use the purchasing power the public institutions have to encourage suppliers to produce and consume environmental and sustainable goods and services. This encouragement is done by prioritizing environmental and sustainable products in order to reduce the environmental impact of their activities, as well as promoting the development of such products and technologies (EuropeanCommission). Cheng et al (2018) describes it as a *demand-oriented policy tool to achieve desirable environmental outputs and to promote green services and products by using public procurement.*

3.3.1 Sustainable procurement vs green public procurement

We can define sustainable procurement as *the pursuit of sustainable development objectives through the purchasing and supply process* (Walker et al., 2012). The principle of sustainable procurement aligns with the same principles as sustainable development. These principles states that the development should meet the needs of the present without impairing future generations so they do not have the ability to meet their own needs (Wealth, 2018). In a sustainable procurement, the public institutions' goal is to achieve a balance between the economics, social and the environmental when procuring goods, services or other. This differs slightly from GPP, green public procurement, which has the environmental aspect in the focus. Green public procurement seeks to procure goods with consideration to the environmental impacts the product has through their life-cycle (EuropeanCommission).

3.3.2 Barriers to green public procurement (GPP) adoption in local governments

Integrating green public procurement within local governments is critical to unlock the full potential of its environmental benefits. Nonetheless, there appears to be a lack of research towards local governments and green public procurement practices. Most research focuses mostly on purchasing done above the national and international threshold values, while a study from Netherlands indicated that 34% of the volume was procured below the threshold (Michelsen & de Boer, 2009).

One of the main challenges mentioned by Bryngemark et al (2023) is the lack of clear guidelines and definitions for GPP. The absence of universally accepted standards and criteria for evaluating and determining the environmental performance of products and services poses a significant obstacle. Besides that, the authors emphasize the importance of establishing robust GPP policies and regulatory frameworks to support a widespread adoption across different sectors. This is also highlighted in Testa et al (2016) study on drawbacks and opportunities of GPP.

Another important issue is the complexity of the procurement process itself. GPP involves several actors, including suppliers, procurers and policymakers. This makes it a challenging landscape to navigate through. Bryngemark et al.(2023) addresses the fact that such complexity can lead to potential conflict of interest, as different actors might prioritize various aspects of GPP, such as cost efficiency, environmental concerns or social considerations.

Municipalities often face financial limitation and restricted resources, making it difficult for them to prioritize green public procurement over other more pressing concerns. For smaller municipalities, this issue is even bigger, where the financial and human resources are even more scarce. As a result of this, procurement managers often struggle to devote sufficient time and effort into implementing GPP practices effectively, especially when the priority is cost savings (Bryngemark et al., 2023). Michelson and de Boer (2009) study on GPP in Norway revealed that more than half of the municipalities had never rejected the lowest bidding offer in consideration of environmental concerns.

The upfront cost of GPP products is usually higher, which can be a hinder for municipalities with budget constraints, although a life-cycle cost analysis provides a more accurate representation of the long-term costs and benefits, resulting in a more compelling case for GPP adoption (Bryngemark et al., 2023). A solution to this is financial incentives, such as the case in South Korea, where local governments with a high level of performance with GPP implementation are rewarded with a larger budget and performance bonuses for the public institutions (Hasanbeigi & Shi, 2021).

Bryngemark et al (2023) also discusses the role of capacity building and supplier engagement in overcoming GPP challenges. Successful implementation of GPP requires active participation and cooperation from suppliers, who must have the necessary knowledge and skills to meet GPP criteria. The need for continuous training and capacity-building programs is essential in order to enable the suppliers to meet the evolving demands of GPP.

There is demand for effective monitoring systems and evaluation mechanism. The success of GPP depends on the ability to track and assess the impact on various environmental, social and economic indicators. Developing reliable indicators and reporting system

ensures transparency, accountability and continuous improvement in GPP practices (Testa et al., 2016).

3.3.3 Potential opportunities and benefits of Green Public Procurement (GPP)

One of the main opportunities within GPP is in market transformation. Testa et al. (2016) argues that by leveraging public procurement purchasing power, governments can promote the demand for environmentally friendly products and services. As a result of this, it stimulates innovation and fosters a greener market. GPP can act as a catalyst for sustainable production by encouraging suppliers to adopt environmentally friendly practices to meet the procurement requirements.

The potential for GPP to contribute to the sustainable development goals is another important opportunity. These goals can be positively impacted by GPP, such as responsible consumption and production, climate action, decent work and economic growth. By incorporating environmental and social criteria into the procurement process, GPP can help public entities make more responsible choices, which in turn can promote sustainable development on a larger scale (Testa et al., 2016).

GPP can help reduce the environmental impact done by public procurement activities. Selecting products and services with a lower environmental footprint, the municipalities can reduce their greenhouse gas emissions, resource consumption and waste generation. Therefore, the municipalities who implement GPP in their procurement practices contributes to a mitigation of climate change and preserving natural resource, while simultaneously being an example for the private sector (Testa et al., 2016).

Testa et al (2016) also discusses the potential economic benefits of GPP. As mentioned in the previous section on challenges, the upfront cost of green products and services are in most cases higher, they often result in long-term savings due to the reduced environmental impact and lower life-cycle costs. The cost savings can be achieved through reduced energy and water consumption, decreased waste disposal fees, and lower maintenance expenses. (Testa et al., 2016)

3.3.4 Life-cycle costs (LCC)

Life-Cycle Cost is an approach that estimates the total costs of an asset during the asset's life cycle (Sesana & Salvalai, 2013). There are several different approaches to determine price of a product, but LCC includes several different aspects. Cost of a product does not contain only the initial purchasing price but exists of several different elements. Life-cycle costs includes all the costs that incurs during the life span of the asset, such as:

- Purchasing price, delivery, installation, insurance etc.
 - Operating cost such as energy, fuel, water, maintenance and spare parts.
 - End-of-life products which include decommissioning, disposal or residual value.
- (EuropeanCommission)

Life-cycle cost does not always include the cost of externalities, but specific conditions are laid out in certain directives. These directives may include greenhouse gas emissions to be included in the LCC (EuropeanCommission).

There are several perspectives LCC can be implemented from, such as manufacturers involving cost estimations, pricing, design aims, monitor cost or make decisions. However, a user's perspective includes the total cost of buying, using, maintaining and disposal of products. (De Giacomo et al., 2019)

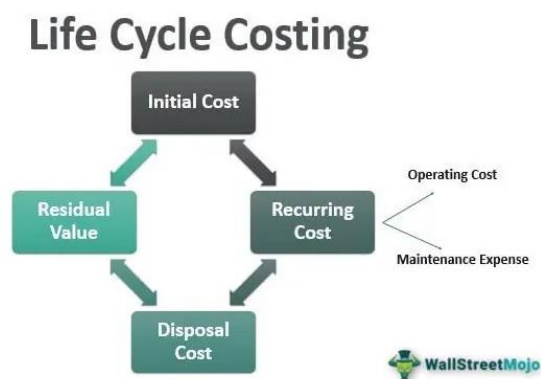


Figure 5: Life-Cycle Cost (WallStreetMojo)

3.4 Relevant theories, models and frameworks

3.4.1 Stakeholder theory

Stakeholder theory is a framework developed for management which suggest that organizations should consider the interest of all their stakeholders when making decisions. Stakeholders include not only the stakeholders, but also employees, customers, suppliers, the community and other groups which are affected by the organization's decisions.

The concept of a stakeholder theory was introduced by R. Edward Freeman in his book, *Strategic Management: A stakeholder Approach (1984)*. Freeman argued that business should not only focus solely on maximizing profits for shareholders but should also take into considerations the needs and interest of other stakeholders. Freeman defines stakeholder theory as *any group or individual who can affect or is affected by the achievement of the organization's objectives* (Freeman, 2010).

According to Donaldson and Preston (1995), a key aspect of the stakeholder theory is the recognition of the ethical and moral dimensions of business decision-making. By considering the interests and perspectives of all the stakeholders, businesses can work towards more ethical and responsible outcomes, and improve the trade-offs between the competing interests. (Donaldson & Preston, 1995)

The stakeholder theory also emphasizes the importance of stakeholder engagement within a decision-making process. By engaging stakeholders, businesses can help identify and address their concerns and priorities, and thereafter work towards more collaborative and mutually beneficial outcomes (Donaldson & Preston, 1995).

The stakeholders in public procurement are individuals or entities that may gain advantages from the procurement outcomes, as well as those with interest in the process and potentially impacted by procurement activities, both directly and indirectly (Lynch, 2019). The internal stakeholders of public procurement are overseers of procurement activities, which includes procurement staff, senior administrative and internal specialists. The external stakeholders however do not typically control resources within the organization, but rather influence through their ability to shape public opinions through social and democratic channels. This group of stakeholders includes local residents in the municipality, non-governmental organizations and suppliers (Johnson & Klassen, 2022).

3.4.2 Principal-agent theory

The principal-agent theory, also referred to as the Agency Theory, is a well-established framework in the fields of economics and organizational studies that look into the relationship dynamics between principals, such as governments or public organizations and agents like procurement managers or suppliers. This theory addresses the issues that appear due to the different interests, goals and informational imbalance between two parties involved. In the context of public procurement, the theory can offer valuable insight into understanding the interactions, challenges, and potential solutions for aligning the interests of various stakeholders. (Chrisidu-Budnik & Przedańska, 2017)

Within public procurement, governments (principals) delegate the responsibility of acquiring goods and services to the procurement managers (agents) who act on their behalf. The primary objective of the government includes ensuring efficiency, transparency and the realization of social and environmental goals. However, procurement managers might have different priorities or face other constraints that may lead them to make decisions that are not aligned with the government's objective.

Asymmetric information is a significant challenge in the principal-agent relationship. The government may lack complete information about the actions, capabilities or motivations of agents. As a result of this, problems may occur such as adverse selection and moral hazard. Adverse selection is when the government cannot accurately assess the agent's qualifications or commitment to the contracts, which may result in a selection of an agent who may not act in the best interest of the principal. Moral hazards arise when agents take actions that may not align with the principals' goals due to the absence of effective monitoring and control mechanisms. (Chrisidu-Budnik & Przedańska, 2017)

Hill & Jones (1992) addresses these concerns by suggesting an implementation of various mechanisms, such as performance-based contracts, monitoring and control systems and incentive structures. Performance based contracts can help align the interests of the principal and the agent by connecting the agents reward to the achievement of specific outcomes or limit a potential opportunistic behaviour. Monitoring and control system can reduce information asymmetries by providing more accurate and timely information about the actions and performance of the agents. Incentive structures can motivate agents to act

in the principal's best interests by rewarding their commitment to for instance sustainable procurement practices (Hill & Jones, 1992).

3.4.3 Transaction cost theory

Transaction cost theory was first introduced by Ronald Coase (1937) and is a concept that is applicable to the cost involved in making an economic exchange. This theory does not only include direct financial costs, but also have indirect costs such as the time and resources spent in information search, bargaining, decision-making, policing and executing an agreement. (Coase, 1937)

Oliver Williams (1981) later developed transaction cost theory by suggesting that size and the nature of a firm is determined by the attempt to minimize these transaction costs. According to this theory, organizations have a tendency to grow larger and internalize the transactions that once were in the market. This can be referred to as make-or-buy decisions. (Williamson, 1981)

Transaction cost theory is a central concept in understanding why organizations are structured the way they are, the role of the institution in dealing with the cost of transaction and the choice between different relationships in the process of economic exchange, such as vertical integration (develop in-house) versus outsourcing (Williamson, 1981). In the context of smaller municipalities, which has limited resources and capacity constraints, may find it more cost effective to outsource certain services, such as procurement, rather than employing specialists due to the frequency of procured goods and services.

Another aspect in transaction cost economics is the focus on characteristics of the transactions, involving asset-specificity, uncertainty and frequency. For products or services with a high asset-specificity, meaning that the investment has limited value other than the specific area, high uncertainty, or has a high frequency, it may be more efficient to handle it in-house rather than outsourcing (Williamson, 1981). In public procurement these characteristics can relate to either software purchases (asset specificity), shift in regulations and policies during a contractual agreement (uncertainty) and how often one procure certain goods and services (frequency).

4.0 Research methodology

This chapter presents a detailed overview of the research design, data collection and data analysis procedures used in this study. It aims to provide a comprehensive understanding of the methods and techniques utilized in order to ensure the reliability and validity of the research. The choice of method is rooted in the research question, objectives and nature of the topic, which consequently determines the most appropriate approach to address the research question.

By outlining the methodology in a clear and systematic manner, this section provides transparency in the research, allowing for a thoroughly evaluation of the research findings.

4.1 Research design

There are three types of designs as research methods. These three designs include qualitative method, quantitative method, and mixed methods. Qualitative and quantitative method is not dichotomies, but instead they represent different parts of an entirety (Newman & Benz, 1998). Studies tend to gravitate more toward qualitative than quantitative or the other way around. A mixed method is placed in the middle of the continuum, and will mix between using elements from each approach. (Creswell, 2009)

The distinction between qualitative and quantitative research is often simplified as using either words or numbers, closed-ended or open-ended questions. However, a more comprehensive perspective considers the underlying philosophical assumptions of the researcher, the overall research strategy, and the specific methods used. This includes the choice between quantitative experiments and qualitative case studies, as well as the methods employed for data collection, such as quantitative instrument-based approaches versus observation of a setting. (Creswell, 2009)

4.1.1 Qualitative method

Qualitative research is a methodology which is used to explore and comprehend the significance that individuals or groups assign to social or human issues. This research process involves developing questions and procedures, collecting data typically in the participant's setting, analysing the data inductively by identifying patterns and themes that emerge, and interpretate the meaning of the data. This type of research is based on an inductive style that emphasizes the individual meaning and the need to capture the complexity of a situation. Researchers who engage in qualitative research believe in an approach that respects the uniqueness of each study and values the importance of understanding human experiences in depth (Creswell, 2009). These conditions are well suited for my study on challenges within the procurement function in Fjord, Sykkylven and Sula.

4.1.2 Exploratory research

Exploratory research aim is to explore and find out what is happening in a situation or a problem with zero or little prior research. This type of research is meant to question or assess a phenomenon in a new light, and to understand the nature of the problem. In exploratory research you may encounter information that show that the research is not worth investigating further (Saunders et al., 2009).

This type of research can be conducted in multiple ways, and Saunders (2009) have created three principal ways of conducting exploratory research:

- Literature search
- Expert interviews
- Focus groups interviews.

Exploratory research is adventurous, meaning it has no clear path. The advantage is that in exploratory research you can alter the direction during the study. This flexibility and adaptability are beneficial when new data or information appears. Although it does not mean you do not have a direction, but it gets narrower thus further into the research. Case studies and in-depth interviews are helpful when conducting exploratory research to seek

information and insight from the participants of the study (Saunders et al., 2009). There are certain limitations in exploratory studies. These limitations consist of smaller sample sizes and not randomized sample selection which makes it harder to generalize the findings.

4.1.3 Case study

The case study method has emerged as a vital tool for researchers seeking to understand complex phenomena within real-life contexts. Yin (2009) defines case study research as *an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident*. This section explains the concept of case study research, with elaboration on its design and methods.

Case study research can both be single and multiple case study, whereas single-case study revolves around a unique case while multiple-case study consists of multiple cases to enable comparison and identify patterns. While case studies can be either exploratory, descriptive, or explanatory in nature, they all share an emphasis on examining the phenomenon in-depth and within its real-world context. (Yin, 2009)

A multiple case study approach is used in this study to investigate the challenges in Fjord, Sula and Sykkylvens procurement function. The challenges involved in public procurement requires an in-depth exploration of the procurement function in three different municipalities. Examining the three municipalities enables me to compare data between each of the municipality. As a result, it is easier to identify the challenges within procurement which are unique to each municipality, or if they are represented in a broader trend.

There are various way case study research differs from other research methods, such as surveys and experiments. According to Yin (2009), one of the critical differences lies in the fact that case studies focus on investigating the phenomenon in its natural setting, without any manipulation or controlling variables. This enables the researchers to acquire an in-depth grasp of the phenomenon while taking the complex interactions among contextual elements.

Yin (2009) further highlights the importance of employing multiple sources of evidence in case study research. Such triangulation refers to the process of using multiple sources of

evidence or data collection method to support finding and enhance the validity and reliability of the research. (Yin, 2009)

4.1.4 My approach to research

As for research design, I have chosen to go for a qualitative method when conducting my research. Qualitative method is used when examining a few observations based on in-depth analysis. A qualitative study will give data that tells something about the attributes or characteristics of the studied phenomenon. This method is less structured than quantitative method and is also based on a much smaller sample size as well.

A precondition for my research questions requires me to do an analysis of the procurement function in multiple municipalities through number of interviews and conversations. As a result, I will gain a closer view on the acquisition process and what challenges small municipalities are facing. Initially I intend to do semi-structured interviews, informal conversations and observations to have the ability to ask follow-up questions. This will help me understand the process more thoroughly than I would have if I had structured formal interviews with pre-determined questions.

Selection of informants in a qualitative research have a different approach than in quantitative research. I will determine who I think will contribute with a deeper understanding of the process. Initially, I will invite three executives of Fjord, Sula and Sykkylven to a conversation and interview. Based on the information from the interview, I am able to navigate further.

4.2 Data collection

This section will discuss the data collection methods used in this research. There has been little research on the subject of public procurement in small municipalities, thus having a pragmatic approach to the data collection is needed. I have used complementary sources to substantiate the findings, as the topic of small municipality has received limited research attention. The data collected in this research consists primary of three in-depth interviews with procurement managers in three different municipalities, one department head and two

suppliers, in addition to secondary data from multiple sources. These sources include research from the library, internet and conversations with relevant subjects. This research has been approved by the NSD (Norwegian Center for Research Data), and all data have been handled in accordance with the provided guidelines.

4.2.1 Interviews

Qualitative interviews are adaptable and evolving. This approach is often described as open, unstructured and non-standardized, with a focus on in-depth conversations. This qualitative research technique involves researchers engaging in direct, face-to-face discussions with participants to gain insight into their point of view in regard to experiences or circumstances through their own language (DiCicco-Bloom & Crabtree, 2006). Seidman (2006) observed that the core purpose of in-depth interviews is to comprehend the experiences of others and the significance they attribute to those experiences.

Several conditions mentioned by Taylor et al. (2015) was met when taking a decision on using interview as a method. These conditions include the nature of the research question, which aims to explore the participants opinions and experiences within public procurement. In-depth interviews allowed me to get rich data from the participants, while encouraging elaborative responses and to clarify any ambiguities. The accessibility to relevant participants was also a factor for choosing interview as a method. In interviews, especially semi-structured interviews, the data collection process has more flexibility.

Semi structured interviews

Taylor et al. (2015) describes semi-structured interviews as a widely known qualitative data collection technique that strikes a balance between the rigidity of structured interviews and the flexibility of unstructured interviews. An interview guide consisting of open-ended questions and topics are used in semi-structured interviews while still allowing room for adjustment in the order of the interview and the depth of the questions, all depending on the participants responses. The adaptability fosters a more comprehensive exploration of the topic, as it enables the researcher to dig deeper into emerging themes, clarify ambiguities and customize the interview process to suit each participant unique

experience and perspective (Taylor et al., 2015). This led to believe that semi-structured interviews are the preferred approach in my study.

In this study, the general guidelines for conducting interviews by McNamara (2009) was used in the preparation for the interviews. (1) The setting where the interview takes place is important. Find a suitable place with little distraction, and a place where they are comfortable. (2) Explain the purpose of the interview. (3) Address terms of confidentiality. (4) Explain the format of the interview. (5) Indicate how long the interview will last. (6) Tell them how to get in touch with you after the interview if they would like to. (7) Ask if they have any questions. (8) Don't count on your memory to recall everything they said.

Creating a natural and comfortable environment, the participants in the study were all given the choice of when to have the interview and where to have it. All three procurement managers had online meetings through teams as the preferred option. Ensuring proper data collection, permissions were asked before the interview to record the meeting through Teams. As a result, word-by-word transcription were available after the interview. Taking notes during the interview was not a necessity and gave me the freedom to focus only on the interview. Before the interview, a document regarding the subject was sent to the participant. This document included information about the subject, their rights as participants and a consent declaration. The document was developed with help from a template from NSD. Norwegian was the preferred language, considering all procurement managers were Norwegian as was the interviewer. These considerations all led to a more natural and comfortable setting for the participants.

4.2.2 Secondary data

The use of secondary data played an essential role in building a solid foundation for this research project. Secondary data refers to the information that has already been collected and analyzed by other researchers. By utilizing such sources, this study saved time and resources that would have been used in the primary data collection. Subsequently, secondary data facilitates a more comprehensive understanding of the subject, which is vital for formulating the research questions and analysis of the data collected.

However, there are disadvantages with the use of secondary data. Alternative sources of information may not provide the necessary data to answer your research questions, or you may not have access to current data which makes you rely on secondary data from previous years to compare it against primary data (Saunders et al., 2009).

To extract information in an effective way, both library and online resources were used. This combination allowed for the inclusion of various research materials, which complement one another and provided a more thoroughly point of view on the research topic.

The library offered a wide range of scholarly articles, books and journals which were instrumental in conducting this research. An extensive search was conducted by the use of library resources, such as Oria. This search strategy, with the use of relevant keywords, subject headings and terms helped to identify relevant materials. While the library offers access to many valuable sources, the internet provided another source of materials. Online databases such as Google Scholar, ScienceDirect and ResearchGate were used to access additional materials. The internet also gave the opportunity to access government databases, such as the different municipalities financial and budgets.

Both the library and internet were subject to an evaluation process to ensure reliable and valid information.

4.3 Analyzing data

Data analysis is an important aspect of any research study, in particular with qualitative research, where the aim is to identify patterns, themes and insight from the collected data. The process of analysing data in qualitative research involves several steps, according to Taylor et al. (2015):

1. Initially, you start with data preparation. This stage includes transcribing audio or video recordings of interviews, organizing notes or get control over relevant documents. A proper handling of the data is essential for the research, and accurate transcripts are required for the analysis.

2. Researchers should get to know their data by re-reading the notes or transcripts. This process increases the understanding of the data and makes it easier to identify patterns or areas of interest.
3. Assigning codes or labels to different segments of the data that represent specific ideas or concepts. This can be done either manually or with the assistance of different software.
4. Researchers can identify emerging themes by grouping related codes together. As a process, this may involve refining or reorganizing codes, as well as identifying the relationship between them.
5. Lastly, interpretation of the themes and patterns identified in the data is needed. In this final stage of the data analysis, it is necessary to connecting the data to the research questions and relevant literature. As a process, this may involve developing theories or models to explain the findings and inform future research. (Taylor et al., 2015)

There are different types of approaches to analysis. In this study, a thematic analysis approach is used to analyse the data. Thematic analysis involves identifying, analysing and reporting patterns or themes within the data, and it is particularly suitable for interview data because it enables the researcher to explore the participants experiences, perceptions and opinions. (Braun & Clarke, 2012)

4.4 Validity and reliability

Although the term reliability is primarily used to evaluate the quality of quantitative research, it is also commonly applied in all types of research. When considering testing as a method of gathering information, the quality of a qualitative study is its most important test. A well-conducted qualitative study can help make sense of a complex or confusing situation (Eisner, 2017). In qualitative research, the purpose of evaluating quality is to generate understanding, whereas in quantitative research, the purpose is to explain. (Golafshani, 2003)

Ensuring reliability in qualitative research is crucial and requires an examination of trustworthiness. To emphasizes the importance of trustworthiness in qualitative research

and notes that issues related to validity and reliability are at the core of ensuring trustworthy research reports. The primary purpose of reliability is to minimize errors in a study, so if future research conducts the same study, the conclusion remains the same. (Golafshani, 2003)

To ensure reliability of the data collected in my study, I used similar standardized questions for each municipality I interviewed. This helped me maintain a consistency in the interview process and made sure every participant was asked in the same way. Therefore, the likelihood of any errors or variations in the data collected is reduced and the reliability increased. A standardization of the questions also made it easier to compare and analyse the responses from the informants. These measures increased the reliability of the data collected, hence increasing the validity of the study.

Validity has been described by a broad range of terms in qualitative studies. Winters (2000) describes validity as *a contingent construct, inescapably grounded in the processes and intentions of particular research methodologies and projects* instead of a single, fixed or universal concept. While some qualitative researchers argue that validity is not relevant to qualitative research, they acknowledge the need for some form of quality check or measure. The main objective of validity is to ensure accurate and trustworthy data and findings through the research process. (Golafshani, 2003)

To provide the participant the necessary privacy and comfort during interviews, the informants were given the option to choose the location and time of the interviews. This allowed them to select a comfortable and private space where they felt more secure sharing their experiences. The interview was voluntarily, and they were given the option to not participate or withdraw their participation on a later notice. The informants were also given the choice to regret or change their answers at any given time. Additionally, open-ended questions were used during the interviews to prevent leading the informants' responses, giving them the freedom to express their thoughts and feelings in their own words. These measures were taken to maintain the comfort of the informants and to obtain data that accurately represented their perspectives and to reduce any prejudice from myself.

4.5 Sample

The goal of a qualitative research is not to generalize findings to a broader population, but to deeply explore a phenomenon, process or issue in a specific context. Accordingly, sampling in qualitative research involves selecting participants which can provide a rich, detailed and informative data (Creswell, 2009). Creswell (2009) also suggest that sample size should be based on the research question, the aim of the study and the resources available. However, there are no fixed rule for determining sample size, although qualitative research has a typically smaller sample size than quantitative research, as the focus is considerably more in-depth in qualitative.

For this study a criterion sampling strategy has been used. Criterion sampling involves selecting participants who meet specific criteria which is relevant to the research question or phenomenon of interest. Patton (2002) describes it as *to review and study all cases that meet some predetermined criterion of importance*. As for my selection of participants, they were all procurement managers of each of their respective municipality. All municipalities who participated in this study are also part of a collaborative procurement organization run by Ålesund municipality.

The participating municipalities had a maximum requirement of having ten thousand inhabitants within their borders. The criteria above led me to contact all municipalities in the collaboration with a population of ten thousand or less. However, three municipalities agreed to participate in this case study, therefore I ended up with Fjord, Sykkylven and Sula.

Information regarding some of the suppliers under contract with the municipality were obtained under the interviews, and on a later notice contacted for a conversation. A supervisor in Busengdal AS and a project manager in Åsen & Øvreid agreed to answer some questions over the phone.

5.0 Presentation of findings

5.1 Overview

	Fjord	Sykkylven	Sula
Population	2494	7630	9636
Operating expense in NOK	241 895 553	651 928 000	860 010 000
Investment in NOK	54 390 904	213 718 000	226 323 000
Loan debt in % of income	132,5	130	134

5.2 Fjord municipality

About Fjord

Fjord is a small municipality located in Møre og Romsdal county. Fjord has a population of 2494 and is a result of the municipal reform in 2020 (SSB, 2023a). This reform was determined by the parliament in 2014 and have an intention to build a larger and stronger local government. Previous to the merger, this municipality was divided in two, Stordal and Norddal.

Fjord suffers from what most of the districts around the country suffers from, urbanization. There is a growing number of elderly people, and the number of new settlers' declines. Fjord also lacks private businesses, which reduces the chance students relocated back after their studies.

Current financial situation

Fjord has a high degree of debt, and as a result they must be cautious in their investments. Higher debt causes higher interest rates payment and an increase in deduction load which results in a higher minimum deduction (Fjord, 2023). The current situation is not good, and if they do not get their finances in order, they will end up on ROBEK, a register of

municipalities in economic imbalance, where all loans and leases must be approved by the county governor.

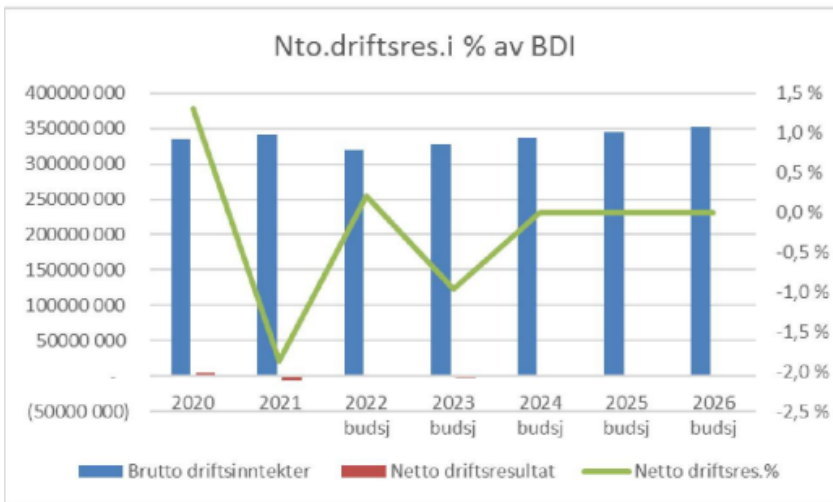


Figure 6: Operating results Fjord (Fjord, 2023)

Investments Fjord municipality

BEVILGNINGSSKJEMA investering Del 2	Rest 2022
SUM ADMINISTRASJON	881 838
SUM KYRKJE	274 343
SUM HELSE	6 849 409
OPPVEKST OG KULTUR	
VEGAR OG BRUER	
REGULERINGSPLANAR - AREALUTVIKLING	
BRANN	
VAR-investeringar	
TEKNISK	46 385 314
TOTAL	54 390 904

Figure 7: Investments made in Fjord municipality (Fjord, 2023)

As you can see on the table above, their total investment from 2022 was 54 390 904 kr. The technical department, such as buildings and construction, stood for the majority of this amount. The amount the technical department used was 46,4 mil NOK, approximately 85% of the total investments.

Interview findings

In Fjord municipality, the procurement process is primarily revolved around collaboration with close-by municipalities, which stands for approximately 70-75% of all acquisitions. Fjord finds the collaboration to remove the value creation within their own municipality by using central participants instead of local businesses, example such as electricians and plumbers which is currently employed outside the municipality. Because of the size of the municipality, they do not have the resources to maintain all procurement activities internally.

In the recent years they have increased their focus on sustainability in their acquisitions. The collaboration, which has specialized procurement managers, has assisted Fjord in developing a template to include more sustainability in their purchases. As a result, they *have more focus on this earlier in the process, for example when we mapped the start-up on project Eidsdal Skule (F. Procurement manager, 2023).*

The primary factor behind purchasing decisions in Fjord municipality is price. But it varies depending on the acquisition. Quality and competence are also important criteria, but it is all dependant on what type of acquisition.

The most important criteria are mainly price. It is what we usually weigh on. But it is also dependent on what we procure, whereas competence and quality is important. An example on this is that we currently are seeking a new director in the municipality. We hire an agency to find a suitable price, with focus on competence and quality, and of course price. We ask then four companies in the recruitment business, and they give an offer on this. A lot is based on price (F. Procurement manager, 2023).

To ensure compliance with national regulations and standards, Fjord uses a template that outlines the necessary requirements and threshold values for each type of acquisition. This is done in order to assure that all purchases are done in a consistent and transparent

manner. Any uncertainty within the purchasing process is directed to the legal team in Ålesund.

Contract monitoring in fjord municipality is mostly buildings and projects through the technical department. This has processes which is running continuously. Construction supervisors have usually the responsible of following up on suppliers delivering according to the contractual agreement. Suppliers which fail to deliver according to the agreement will be phased out, and a new tender process will begin. However, being a small municipality makes it difficult to follow up on every agreement made, so buildings and constructions are prioritized. The purchases done through the collaboration is not monitored by Fjord, but by the procurement team in Ålesund.

Follow-up on agreements is mostly in connection with building projects, and we have processes in place which is continuously running (F. Procurement manager, 2023).

Fjord municipality have framework agreements in place for each department within the municipality, which outlines the required procedures for making purchases. However, compliance with these agreements is not always consistent, and it is hard for the municipality to follow up on instances where rules are not adhered to. They simply do not have the required resources to ensure that all departments follow set procedures.

Fjord actively seeks local suppliers in the highest degree possible. They prioritize as much as they can in regard to the regulations and standards in place. They are currently in a process to explore how they can in a greater extend seek local suppliers in their acquisitions. This is to increase the value creation within the municipality, which is a result of the current situation in the municipality with lower settlement and employment.

In the degree we can use local suppliers, we use local suppliers. We are currently in a process to find out how we can use local businesses in a greater extend. (F. Procurement manager, 2023)

They do not find it challenging using local suppliers, it is mainly positive. This is based on a personal experience, although other department heads may find it more difficult. Their focus is on being professional and treat local suppliers like any other supplier.

5.3 Sykkylven municipality

About Sykkylven

Sykkylven municipality is located in Møre og Romsdal county, and border to Fjord municipality. There are currently 7630 inhabitants in Sykkylven, which makes the municipality per definition a “medium sized” municipality (SSB, 2023c).

Sykkylven is not immune to the effects of urbanization. They have a decline in population, and in order to grow they must attract new settlers. Although urbanization is a problem, they have more privatized businesses to rely on in comparison with Fjord, such as Ekornes. The geographic location is relatively close to a city, Ålesund, but they are still dependent on a ferry to get there, which may hinder commuters.

Current financial situation

Sykkylven is in a similar position as Fjord, with a high degree of debt in a low-income municipality. To become sustainable, they must lower their degree of dept. They aim to reduce the debt to under 100% of the gross operating income by the year of 2035. (Sykkylven, 2023)

Utviklinga i måltal- grafar:

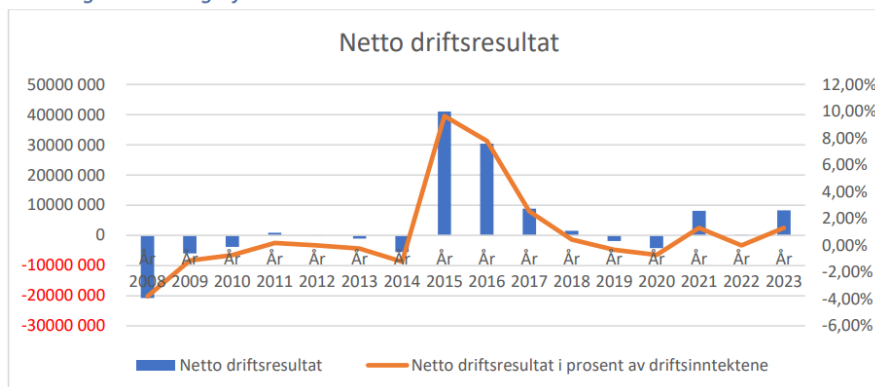


Figure 8: Operating results Sykkylven (Sykkylven, 2023)

Investments in Sykkylven

Bygninger og anlegg	År 2022
	182 888 000
Utstyr og maskiner	År 2022
	9 280 000
Vegar	År 2022
	8 250 000
Anna	År 2022
	13 300 000
Investering	År 2022
	213 718 000

Figure 9: Investments made in Sykkylven (Sykkylven, 2023)

Sykkylvens budget for investments for 2022 was approximately 4x the amount of Fjord municipality. They spent 213 million NOK on acquisitions, even though they are only three times as large in population size. But the investments vary from each year, all dependent on which areas or what investments they are making. As with Fjord, or any other municipality, the technical department stands for the majority of the purchases. (Sykkylven, 2023)

Interview findings

Sykkylven municipality experience only a few minor changes in the procurement practice after the new acquisition law in 2017. Most of the acquisitions is done through a collaboration with nearby municipalities, which is directed by Ålesund.

Approximately 80% of all acquisitions go through the collaboration. There are no particular criteria to purchase through the collaboration, but certain activities, such as road maintenance, which is reliant on geographical placement, are not very suited to go through the collaboration. The arrangement works very well, and they have the ability to specify requirements to a certain extent. However, they are paying for a service from the collaboration with Ålesund municipality, and they are focused on getting their money's worth.

One of the key issues they encounter is the lack of an integrated tool to manage the procurement agreements made internally within the municipality and those that are established through the collaboration. Currently, Sykkylven relies on excel spreadsheets and other “home-made” tools to manage their own procurement contracts, while utilizing a well-functioning website to monitor the agreements made within the collaboration.

They should have considered a shared tool for contract management. It's not just about following up on agreements that are in place for joint purchases, when they expire etc, but also a shared solution for contract management. We have requested a solution system to better manage these agreements (S. Procurement manager, 2023).

The focus on sustainable procurement has increased in the recent years, and while doing procurement within a small municipality, they do not have the capability to have environmental requirements in all acquisitions.

As an example, they are currently renewing their wheel roader, so instead of buying one, they lease for five years instead of buying one due to the current sustainable alternatives are too bad. They assume that within a five-year period, they have better alternatives to more environmentally friendly wheel roaders.

Currently, there are no good alternatives for wheel roaders. So in a five year period, we expect there to be better sustainable alternatives on the market, so we rather lease for five years instead of buying (S. Procurement manager, 2023).

The financial aspect is the primary aspect in the procurement process and stands for approximately 40% of the criteria. Focus on sustainability and environment comes later in the tender process. An example from a current framework agreement which includes office chairs points to a more sustainable solution. The previous selection was based on price, but now the focus has shifted towards spare parts and if it can be pulled up again. This is because the chairs are not worn out after they have been used for a while.

Sykkylven municipality have own procedures in place in terms of procurement and how to relate to already existing purchasing agreements, where purchasing is done on e-commerce catalogues. A key challenge they are facing is the follow-up on routines and procedures in terms of purchasing in other departments, and whether or not they do comply with the routines that are in place. They do not have a system in place to monitor such activities properly.

For instance, educational and health departments make their own purchases, and there are routines in place that they should adhere to agreements, but it may happen that they deviate from them and buy from places they are not supposed to (S. Procurement manager, 2023).

Sykkylven do prioritize using local suppliers for practical, economic and sensible reasons. The procurement managers in Sykkylven do not have any challenges by using local suppliers, but the one executing the agreements may find it harder in terms of quality assurance, additional work or unexpected costs.

Supplier of Sykkylven municipality

The construction of the new school in Sykkylven, Sentrumskolen, has a big impact on the budget of the municipality. The project is being managed by the total entrepreneur Åsen & Øvrelid. The project supervisor of this project stated that the increased emphasis on environmental requirements have led to changes within their own operations, particularly in terms of more eco-friendly practices.

As a result of this, Åsen & Øvrelid have made changes in their company structure, such as hiring professionals with specialization in environment. This allows them to better understand and cater needs from clients like Sykkylven, and other municipalities. Public tenders accounts for above 50% of their total work.

One of the key environmental requirements for the school construction was the use of cross-laminated timber. As a result, it become more expensive than traditional choices. However, the benefits of using cross-laminated timber include a lower carbon footprint

and improved air circulation within the building. Åsen & Øvrelid have adapted their processes to work with this element, as not all suppliers possess the ability to do so, thereby securing the contract with Sykkylven municipality.

The project manager addressed the situation with the sedum roof as well. In the contract there were option to have sedum roof, but during the clarification phase this was down-prioritized due to budget constraints.

5.4 Sula municipality

About

Sula is an island municipality located on the coast of Møre og Romsdal. It borders to Ålesund municipality and has a population of 9636. Despite being one of the smallest municipalities in the region, with only 58 square kilometres, it has a high population density of 166 inhabitants per square kilometre, which makes it one of the most densely populated municipality in the county. Sula is composed by five smaller villages, whereas half the population is located in Langevåg (SSB, 2023b).

While Fjord and Sykkylven are struggling with the effects of urbanization, Sula appears to be experiencing a different trend. Due to the proximity to a major city, Sula has seen an increase in population in recent years, and it is expected that this growth will continue in the future.

Finances

In the recent years the loan debt has increased significantly and will continue to increase in the future. They expect a debt ratio on 133 % in 2023 and will in the coming years increase, which has a severe impact on their room for action. (Sula, 2023)

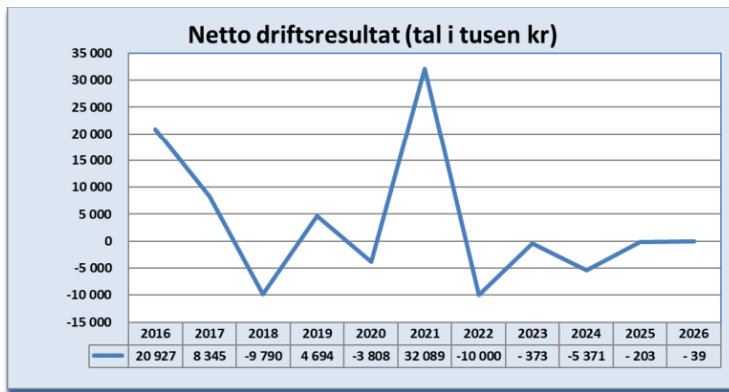


Figure 10: Operating results Sula (Sula, 2023)

Investments in Sula municipality

SUM	2022	2023	2024	2025	2026
Investeringar i varige driftsmidler	226 323 695	70 145 527	180 447 437	115 427 437	113 427 437
Bruk av lån	-178 443 756	-66 505 527	-154 507 437	-113 427 437	-111 827 437
Kompensasjon for merverdiavgift	-36 172 739	-3 640 000	-14 240 000	-2 000 000	-1 600 000
Tilskudd frå andre	-11 707 200	0	-11 700 000	0	0
Sum renter og avdrag					

Figure 11: Investments made in Sula (Sula, 2023)

The investments done in Sula municipality is very similar to Sykkylven in terms of size. Sula has 2000 more inhabitants, but the amount invested in 2022 was only 13 mil NOK higher than Sykkylven.

Interview findings

Sula municipality find it more demanding after the new procurement act came in 2017. The procurement profession has become more extensive, and you must know what you are doing in the procurement process, otherwise you will receive complaints.

Approximately 70-80% of their acquisitions goes through the collaboration with Ålesund, which is similar to Fjord and Sykkylven. The collaboration is working fine, but they have some problems when it comes to specifications. They find it hard to impact the different specifications of the agreements. They are very dependent on the collaboration, because

they are not capable of creating a competition by themselves, so they must tag along with it. On smaller subject such as office supplies etc, they are perfectly fine with anything. But on other more important products, they may have different opinions.

For instance, with computers, why purchase a cheap one instead of one with quality so it will last longer. We cannot impact such things (S. Procurement manager, 2023).

The biggest challenges they are facing as a small municipality is the small professional environment regarding procurement. Within the municipality you have a hard time collaborating with colleagues in terms of questions or how to do things. As the sole participant in the procurement team, he must rely on the collaboration with Ålesund or through private legals.

We are a small municipality, and the professional procurement community is small internally. Considering I am the only one in the procurement team in Sula, I must rely on other municipalities or through the collaboration with Ålesund. Otherwise, I must consult with private businesses, especially legal (S. Procurement manager, 2023).

To make it easier for small municipalities, Sula suggest increasing the competence of the procurement professionals and in addition use more resources on purchasing. The procurement manager of Sula had a degree in accounting and have advanced his expertise through self-teaching and courses.

Due to the financial situation the municipality is currently in, the environmental aspect has a low priority. Their assessment tools are excel, and they use mathematic methods to weigh the different criteria, such as cost, quality, environment. Personally, the procurement manager in Sula finds it hard to assess the environmental criteria in a purchasing process. Mostly it is based on whether or not they have electric cars, environmental system etc. so they can meet the criteria that is necessary.

It is hard to assess sustainability in a purchasing process. Then it usually involves having electric cars, environmental systems etc so we can meet the needed criteria (S. Procurement manager, 2023).

Sula has a high priority on cost in the procurement process. The price of the acquisition and doing it within the legal boundaries is their main objective.

In the past years, they have been more aware of life-cycle costs in products. They tend to spend more time on long-term cost savings on project which may be more costly than other alternatives. But due to budget constraints, it cannot always be prioritized.

Thing may be more expensive if we invest eco-friendly, in things such as solar panels or isolation etc. The savings often emerge in the future (S. Procurement manager, 2023).

In terms of contract monitoring, they assure that the suppliers deliver the products and the price accordingly. The resource constraints are a challenge when it comes to following up on every agreement made, although each procurer have a responsibility to make sure they get the products according to the contract. Sula have a reactive approach to suppliers, and if they get feedback that something is off, they act accordingly.

We could use another pair of hands in the procurement team to overlook the contracts and the wages and working conditions. It is all based on capacity (S. Procurement manager, 2023).

Sula tends to actively seek local suppliers when they have the opportunity. Especially when they are running mini competitions, where the value is below the threshold. They find it easier to steer it in the direction of their choosing, which may be towards a local supplier.

We had a competition for pharmaceutical products, where we placed a short time delivery on the products. In that way we managed to get a local pharma instead of one in Ålesund (S. Procurement manager, 2023).

5.5 Structure of the procurement function

The procurement structure of the three municipalities participating in the case study has a similar structure. It has both a centralized and decentralized structure in the purchasing function, which indicates a hybrid model. The central procurement unit is headed by the financial executive in Fjord and Sykkylven municipality, while Sula have a designated procurement manager. These are the one who is developing the procurement guidelines and procedures for the rest of the departments to follow. In addition, they also generate the framework agreements that the rest of the departments within the municipality use. All departments, such as technical, educational, health care services, administration etc, are all recommended to use these framework agreements.

The framework agreements contribute to pooling the purchases done by the municipality, as well as standardization of the purchasing process. A department head in one of the municipalities stated that they did not always use these framework agreements, due to easier alternatives. The threshold for buying through a tender process is 100 000 NOK therefore not all acquisitions go through the central procurement unit.

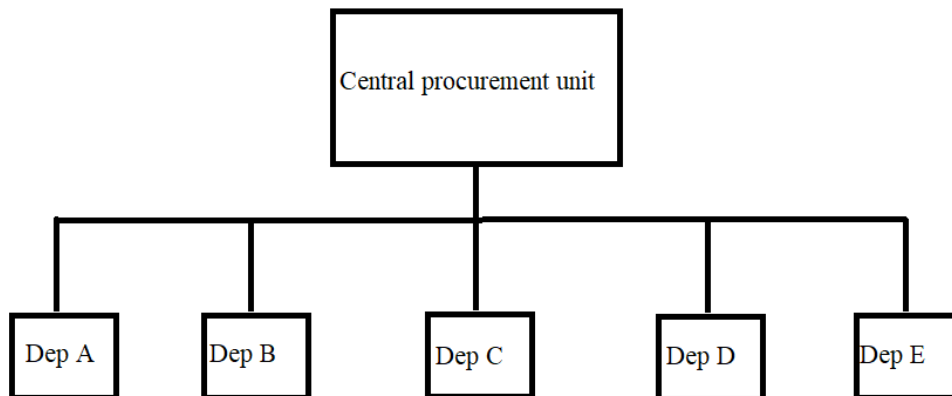


Figure 12: Illustration of the procuremnet function in Sula, Fjord and Sykkylven

5.6 Supplier base and transactions within Fjord

The numbers I will present in this section is based on all transactions from the different departments in Fjord municipality. One supplier can have several different transactions for different purposes, for instance may the health department procure one item from a certain supplier and the technical department can procure a similar item from the same supplier. A supplier can also have several transactions with one department regarding the same product, service or work.

The supplier base in 2022 consisted of 493 different suppliers in Fjord municipality, and the total amount of transactions is estimated to 3355. Among these 3355 transactions, 770 were singular transactions. These purchases vary from legal work to computer components.

Figure 13 illustrates the ten biggest expenses in Fjord municipality during 2022. This does not include the larger acquisitions, such as Stordal firestation (29 mil NOK). The largest expense Fjord has is power supply through Wattn, estimated to almost 15 mil NOK.

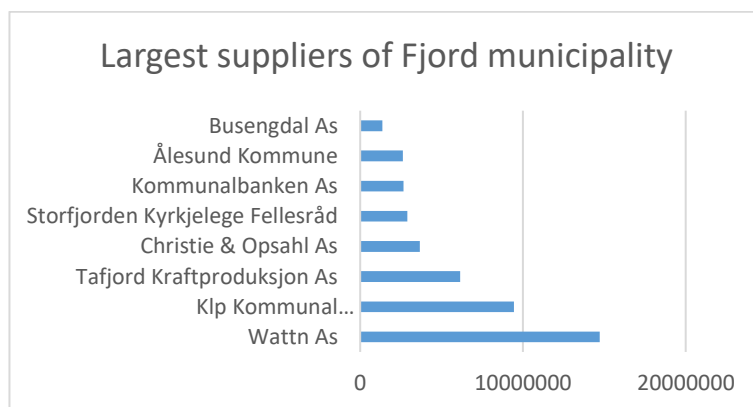


Figure 13: Ten biggest expenses in Fjord

Busengdal AS with 1 365 595 NOK is one of the larger local suppliers in Fjord. The work provided to Fjord consists of mainly road maintenance. Busengdal AS resides in Stordal and is in the construction and transportation business.

One of the supervisors at Busengdal AS explained how the municipalities in the area have increased their environmental requirements in the past years, and how they have adapted in order to compete for new tenders. One of the requirements is step 5 engines on all

construction machinery. Lately, more tenders have requirements for step 6, which includes electrical machinery. There are also requirements for euro 6 engines for trucks, environmental accounting, and energy consumption, such as diesel and electricity.

Below is a figure illustrating the eight most used suppliers in Fjord municipality. Norengros AS is the most frequently used supplier, a total of 331 transactions throughout 2022.

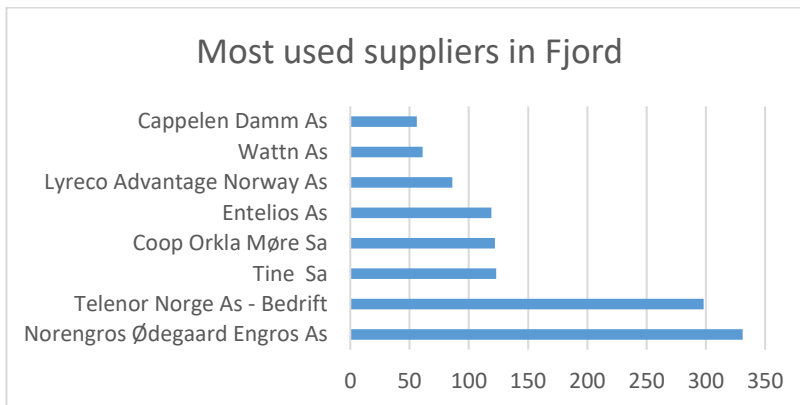


Figure 14: Eight most frequently used suppliers in Fjord

Figure 15 illustrates the total purchases done in Fjord municipality based on the value of the transactions. The total value for purchases above the threshold limit of 100 000 NOK is 64,1 mil NOK, while the value of purchases in total below the threshold value is 12,65 mil NOK.

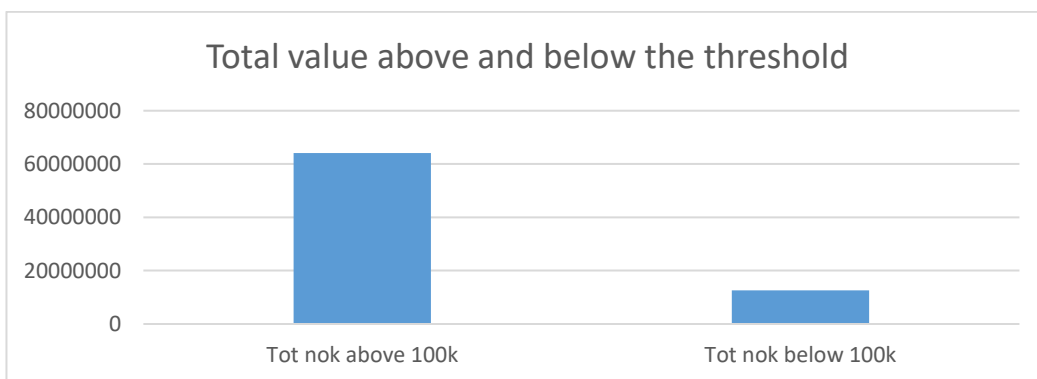


Figure 15: Value above and below threshold

Figure 16 shows the number of transactions done above and below the threshold value. 536 transactions have been done above the threshold, although it does not mean that there has been 536 tenders from Fjord, it can consist of smaller transactions to the same supplier. However, it gives an indication on transactions within the municipality. A total of 2819 transactions have been made below the threshold limit, resulting in an average of 7,7 transactions in total per day.

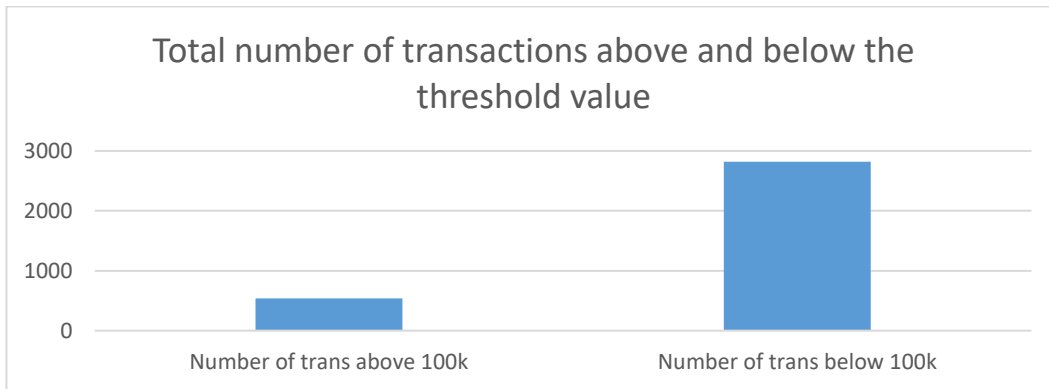


Figure 16: Number of transactions in Fjord

Figure 17 and 18 illustrates the average and median transactions done above and below the threshold value. While the average shows a value of 119 000 NOK per transaction above 100 000 NOK, the median is 225 352 NOK. Considering the values range from just above 100 000 till 14 mil NOK, median provides a better view. The average value of transactions below the threshold is 4488, while the median is 3744.

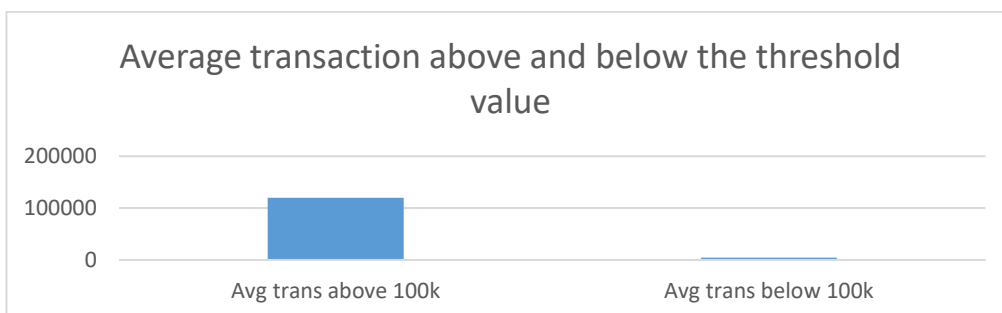


Figure 17: Average transaction value above and below the threshold

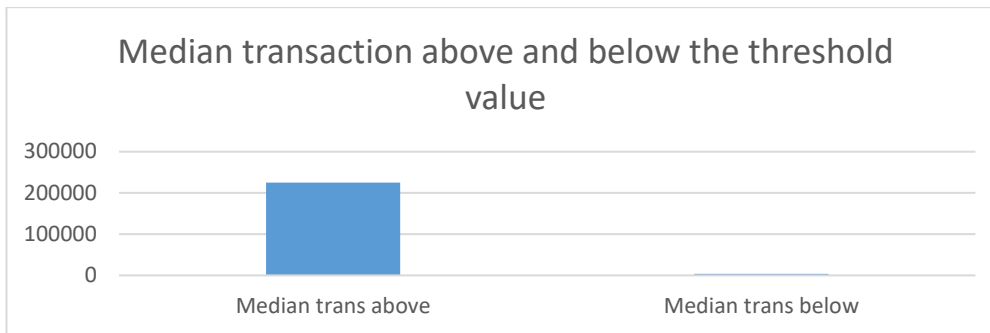


Figure 18: Median transaction value above and below the threshold

5.7 Administrative audit of public procurement in Sykkylven and Sula

Møre og Romsdal Revisjon SA is a cooperative enterprise owned by several municipalities in Møre og Romsdal and the county municipality. The control committee in participating municipalities can order an audit of the municipality if they seem fit. An audit of public procurement and acquisitions were made in 2021 of Sykkylven and Sula, where they examined three areas within procurement: measurements to ensure that rules and regulations are followed, are goods and services procured according to rules and regulations, are the framework agreements utilized in a correct manner.

Sykkylven

They reviewed the municipality's documents, employee training and control measures, and concluded that the municipality lacked measures to ensure compliance with regulations, such as written procedures, archiving guidance and various controls to monitor procurement. The findings also emphasize the employees' wishes to have more training and information, as well as defined roles and responsibilities within the organization. Although Sykkylven has taken some measures, it is not enough and must be intensified. (SA, 2021b)

The findings found significant differences in how Sykkylven conducts its purchases and acquisitions. Laws and regulations are largely followed for larger acquisitions and framework agreements, however, in many cases it was hard to see if the purchases were direct or made through framework agreements. The municipality must ensure that all employees are up to date with the current laws and regulations, and especially for

procedures for procurement in the area around lower threshold value and up against the national threshold value. (SA, 2021b)

In a high degree are the framework agreements utilized by the different departments. However, a lack of information throughout the organization have led to the use of other suppliers. One of five do not have an overview of the framework agreements within the municipality, and a proper system and employee training are recommended to ensure optimal utilization.

Sula

Their findings shows that Sula have taken steps to ensure compliance with regulations, however, there are room for improvement. Allocating clear task and responsibilities to address any confusion among the employees, in addition to create a spending limit for those with purchasing authority. The employees are suggesting more training and education on procurement, but they have control measures and routines in place to prevent, detect and correct any deviations related to purchasing. (SA, 2021a)

Furthermore, the report investigates whether procurement is in compliance with the law and regulations. They found no evidence to the contrary, although protocols must be listed, and tax certificates should be looked up on all procurement activities. (SA, 2021a)

Lastly, the framework agreements are being largely utilized, but there are also instances of purchases from other suppliers. There are expectations that e-commerce system is to be used, even though only half of the employees have had training on the system. (SA, 2021a)

6.0 Discussion

In this chapter I will examine the findings and contextualize them within the scope of prior studies, aiming to respond to the research question. This analysis centres on the smaller municipalities Fjord, Sykkylven and Sula, and challenges connected with the procurement structure, collaboration and implementation of GPP.

6.1 Implications of the current procurement structure

The procurement structure plays a crucial role in efficient and effective resource allocation. Glock & Broens (2013) study from Germany indicated that most of the German local governments use a hybrid structure in their purchasing function. This aligns with the procurement function of Fjord, Sula and Sykkylven municipality, indicating a similar structure in the local government within Norway.

The three municipalities in this case exhibit a hybrid structure, which is characterized by both centralized and decentralized purchasing function. The central procurement unit are headed by the financial executive in Fjord and Sykkylven, while Sula has a designated procurement manager. The responsibility of this centralized unit is to create guidelines and procedures to standardize the procurement process for the other departments. In addition, they negotiate framework agreements for the rest of the departments to follow.

A hybrid structure can combine the advantages of a centralized purchasing structure and a decentralized purchasing structure. Consequently, the cost-savings from a centralized structure and the flexibility from a decentralized structure can be combined and utilized by municipalities. The hybrid structure can ensure that all departments follow the organizational goals while still providing the flexibility needed to address the unique needs of the different departments. However, Sykkylven mentioned in the interview that they do not have the necessary tools to monitor and ensure that all departments follow the routines and guidelines distributed by the central purchasing unit. They do not have a system in place for the coordination of all the purchases, and the amount of resources needed to make sure all departments followed routines and procedures did not exist in a smaller municipality. One of the department heads elaborated on how the routines were not always

followed, and purchases were done outside of the framework agreements due to accessibility and efficiency, even though the price was slightly higher. This issue was addressed in McCue and Pitzer (2000) study, where decentralized structure can result in fragmented purchases and higher prices.

The analysis from the supply base in Fjord municipality provides an insight into how procurement is done in the municipality. A total of 64.1 million NOK was spent on 536 transactions above the threshold, indicating that these transactions likely involved more complex and specialized goods and services. In contrast, the 2819 transactions below the threshold, amounting to 12.65 million NOK, likely represent smaller-scale purchases and more routine goods and services. However, a number of 3355 transactions and the use of 494 suppliers in a municipality with a population of 2494 shows the disadvantage with decentralized purchasing. Although many of them comes from already existing framework agreements, one cannot but argue that fragmented purchases such as this contributes to an increased cost in terms of economies of scale and transaction costs. Transaction cost include not only the direct cost, but include all resources spent in the process, such as information gathering, decision-making, policing and executing the purchase (Coase, 1937).

As mentioned above, one individual, which the centralized procurement unit generally consists of, do not have the capacity to monitor 3355 transactions, 494 suppliers and have the responsibility for larger acquisitions. This was also highlighted by the procurement manager in Sula who indicated that another person in the procurement team would help in terms of monitoring purchases and suppliers. Developing a set of procedures and routines for the departments to follow in their procurement habit, while simultaneously build upon their competence towards laws and regulations can mitigate negative outcomes, such as procurement outside of framework agreements and fragmented purchases. This is supported by the administrative audit in Møre og Romsdal report on public procurement and acquisition in Sykkylven municipality in 2021, which addressed the fact that there is no system in place to monitor purchases, lack of instruction and proper training among procurement officials. In context of agency theory, the principal (centralized procurement unit) can insert various mechanisms such as monitoring and control system to ensure the department heads (agents) follow procedures and routines (Hill & Jones, 1992). As a result, the centralized procurement unit have a higher set of control of the departments. Subsequently, it will be easier to correct any deviations more quickly.

One of the limitations of the procurement function in these municipalities are the low specialization within the organization. The procurement managers in Fjord and Sykkylven served as the head of economic in their respective municipality. They had no formal procurement degree and were mainly taught through courses. The procurement manager of Sula was a former accountant who is self-taught through courses over the years. The lack of specialization may lead to the development of less effective procurement guidelines and procedures. Additionally, it could result in a limited understanding of the unique requirements of the different department within the municipality, resulting in inefficient allocation of resources and suboptimal purchasing decisions.

Glock & Broen (2013) study on size and structure looked at the specialization in correlation with size of the organization. When an organization expands, the tasks become more distinct, resulting in the need of higher specialization in the workforce. Fjord, Sykkylven and Sula are smaller municipalities, and the findings correlate with Glock and Broens, indicating a low specialization within the municipalities as a result of the size. The municipalities in this case study have increased their specialization by establishing purchasing consortia, as mentioned by Steinhauer. In that way they are able to get necessary specialization to procure on behalf of the municipality.

The procurement manager of Sula also stated that procurement have been increasingly harder in the recent years, due to more complex laws and regulations. The procurement act of 2017 has made it harder for smaller municipalities regarding public procurement. The lack of competence is a big challenge, especially when the procurement team consist of only one person, which is usually the case in smaller municipalities. Hence, leaning on other municipalities, the collaboration or the legal team is a necessity to follow the rules and regulation in place. Sulas procurement manager stated that *there is an increasing amount of legal aspects in procurement*, indicating that their current competence is not sufficient without outside help. The legal aspects are a result of a high formalization within public procurement.

High formalization in municipalities is a result of laws and regulations issued by the government of Norway. As Glock & Broens (2013) addressed in their study, thus larger organization leads to higher formalization. They also recommended to explore ways of reducing the formalization within the municipality, but still be in compliance with laws and regulations to ease the purchasing process. In addition, aligning the interests between

the purchaser and the municipality could positively affect the outcome. The high formalization in public procurement is a necessity to ensure transparency and equal competition.

The role of procurement hierarchy within the three municipalities are very similar. The hybrid structure allows them to place it on the top, and at lower levels. Despite their smaller size, the procurement function holds a position of high importance due to the significant correlation between procurement activities and their overall budget. Glock & Broen (2013) study indicated that larger organizations place purchasing at lower levels to control complexity, which is also what Fjord, Sykkylven and Sula has done, while simultaneously keeping the central procurement unit at the very top due to the importance. The hybrid structure is not just a matter of organizational design, but a strategic approach to maximize procurement efficiency and effectiveness within the constraints of a small municipality.

6.2 Collaborative procurement

In this section of the discussion, I will look at the collaborative procurement practices in Fjord, Sula and Sykkylven whom all are part of the same collaboration directed by Ålesund municipality. All three municipalities have 70-80 % of the purchases done through the collaboration. However, they have different views in terms of how well it is working. Although there is a consensus that this arrangement is cost-effective, it is not optimal in every way.

According to Jost et al. (2005), the two primary drivers for collaborating with other organization is enhancing effectiveness and improving efficiency. This aligns with the current situation at Sula, Fjord and Sykkylven. They all lack the required knowledge, resources or capabilities to solely execute all the procurement activities in-house. As a result, they are dependent on a collaboration to do it for them. In this collaboration, they pay a fee for the services provided. This collaboration is called Konserninnkjøp and is directed by Ålesund municipality. Through this they achieve economies of scale, reduced transaction costs and gets access to specialized procurement managers.

The collaboration has resemblance to the forms described by Schotanus and Telgen (2007) as *Piggy-backing*. Piggy-backing is an informal alliance of organizations that concentrate on maintaining simple and efficient cooperative purchasing (Schotanus & Telgen, 2007). It allows smaller organizations to part take on acquisitions and framework agreements made by the larger organization. This allows Sula, Fjord and Sykkylven to spend less time and resources on procurement, and rather pay a fee for the services provided. Paying a fee for the service provided to the piggy-back organization was recommended by Schotanus & Telgen in their study in order to make sure of long-term success.

Sula had an issue with the low impact they had on specification of certain acquisitions or through the framework agreements made by Ålesund. This is one of the ramifications of being a small municipality that must, as a consequence of capacity constraints, participate in such arrangements, although the procured items or service is not customized for them, but rather for Ålesund. Schotanus (2005) addressed this problem in his study, where collaboration reduced the flexibility and control of the purchases done. Aligning their procurement strategies with others reduced the ability to adapt to organizational needs, and the loss of control by having shared decision-making made it difficult for individual organization to declare their preferences, which resulted in compromise on quality and service levels.

Fjord however, had another challenge in terms of the collaboration. By using the collaboration, you removed the value creation from within the own municipality and instead sourced it to large central actors. Fjord used a current example where they employed electricians and plumbers through agreements made by the collaboration. These contracts were given to central actors outside of the municipality, resulting in a loss of business for local businesses. Meehan et al.(2016) pointed out this exact problem in his study. Using large central actors instead of local small and medium sized businesses could cause irreparable damage to the markets and may force them out of business.

Consequently, it may negatively impact the ones who requires frequent on-site interactions from local businesses. Fjord who also struggles with urbanizations and decline in population are dependent on local businesses to survive in the long haul, making this issue even bigger.

The hearing in the Norwegian parliament about including 30% minimum environmental criteria for all acquisitions in public procurement may have negative implications for

smaller communities and districts within Norway. The decision not only affects the internal stakeholders but also has consequences for external stakeholders, in line with stakeholder theory. As discussed above, the requirements may exclude a portion of the external stakeholders, such as the smaller and medium sized local business, from the competition due to their limited capacity to meet these criteria. Consequently, this could reduce competition and potentially result in higher prices over the long term.

Stakeholder theory emphasizes the need to consider the interests of all parties affected by a decision (Freeman, 2010). In this case, prioritizing consolidated procurement activities and achieving economies of scale in larger collaborative efforts could have harmful effects on local economies, restrain innovation and ultimately slow down growth of small and medium-sized enterprises. This may lead to a less diverse market and diminished opportunities for engagement and support. To address these concerns, it is important to consider the interests of various stakeholders, including local businesses, communities and the environment.

Collaborating with the larger municipality of Ålesund may possess other hidden challenges for the smaller municipalities that may negatively affect them unknowingly. In the context of the principal-agent theory, Ålesund acts as an agent for the smaller municipalities, Sula, Sykkylven and Fjord in terms of procurement and the service they provide. However, considering the smaller municipalities lack of knowledge, competence and specialization towards procurement, they may not always have the required competence to make choices that are favourable towards their own municipality, but rather take choices that are more aligned with the interests of Ålesund.

Asymmetric information is a significant challenge in the principal-agent relationship (Chrisidu-Budnik & Przedańska, 2017). Ålesund is the lead buyer, hence is the party within the transaction that possesses the most information. This can manifest in several ways for the collaboration. As Sulas and Fjords procurement manager stated, they have a low impact on decision-making in terms of suppliers and product specification. The imbalance in size and competence gives Ålesund a disproportionate amount of control, leading to several different challenges. There is a possibility for moral hazard, where Ålesund prioritizes its own interests over the smaller municipalities due to their superior market knowledge and bargaining power, and the smaller municipalities have no choice or no knowledge other than to receive a lower quality of products or service.

6.3 Main obstacles in adopting GPP in Fjord, Sykkylven and Sula

In this section I will discuss the challenges within the three smaller municipalities of Fjord, Sula and Sykkylven in regard to their environmental focus. Despite the growing global recognition of the importance of sustainable procurement practices, smaller municipalities often face bigger challenges in adopting and implementing GPP policies.

This study has explored the focus towards the environmental aspect within the implementation of green public procurement practices in Sula, Sykkylven and Fjord. Despite emphasising the importance of environmental considerations in the procurement process, price still remains a dominant factor influencing the decisions in these three municipalities. Both Fjord and Sula indicated that they adhered strictly to the legally mandated minimum requirements concerning environmental criteria, but rarely exceeding the established threshold values. This focus on price could be seen as primarily serving the interests of the municipality (as the buyer) and taxpayers. However, stakeholder theory suggests that a broader set of interests should also be considered. Other stakeholders, such as local community members, future generations, and the environment itself, might place a higher value on environmental sustainability over short term cost savings.

This may be a result of the financial challenges faced by these smaller municipalities. Bryngemark et al. (2023) addressed this problem in their study, indicating that municipalities often faced challenges in adopting green public procurement practices due to financial limitation and restricted resources. More pressing concerns are prioritized, and procurement managers do not have the resources to devote sufficient time and effort to implement effective GPP practices as a consequence of cost-saving priorities. Consequently, budget allows only for the municipalities to meet the bare minimum requirements which leaves little room for exceeding them.

Another important aspect of the financial constraints is the upfront cost of GPP products and services. Although the long-term effects may be cost-effective in comparison with traditional purchases, the upfront costs take a significant larger size of the budget. The limitations of the budget may direct the procurement managers in a path toward more short-term gains rather than long-term, making the solution less effective in total. However, during the interviews some procurement managers were familiar with certain

elements of life-cycle costs, although they did not specify the exact term. Sykkylven addressed the situation with the wheel loader, where they rather lease for five years instead of buying one while awaiting better sustainable alternative that would be more cost-effective and eco-friendlier.

Although the environmental focus seems to be heightened, smaller municipalities are not capable of having environmental requirements in all acquisitions. Local sourcing of products and services are essential, such as road maintenance and snow plowing. It is both *sensible, practical and economic favorable*, as stated by Sykkylven. But local sourcing often leads to smaller businesses which may not have the resources or capabilities to adjust to the environmental requirements, hence removing the requirements from the tender process. This trade-off between local sourcing and sustainability creates a certain dilemma for smaller municipalities. The question is how to balance the need for economic development within the municipality, and to what extent one should compromise environmental requirements to accommodate local suppliers.

These implementations of environmental requirements in public procurement provides an opportunity for market transformation. As pointed out by Testa et al. (2016), leveraging purchasing power in public procurement can encourage suppliers to invest in green innovation for their product and services. A large local actor specified how they have adapted in the recent years to meet the requirements of the municipalities. In this construction business, they have swapped out their engines to more eco-friendly alternatives, and lately there has been an increase in tenders which includes electric engines. This stems from the requirements of the public organizations in the area.

The lack of a universally accepted standards and criteria for evaluating and determining the environmental performance and services poses a significant challenge (Bryngemark et al., 2023). Sula pointed out this exact issue in their procurement process, where they stated that *it is hard to assess sustainability in a purchasing process. Then it usually involves having electric cars, environmental systems etc so we can meet the needed criteria*. The municipalities must navigate through multiple of certifications and standards in their procurement process, which consequently may lead to inconsistencies as the municipalities have unique individual assessment criteria for environment. Moreover, the suppliers competing for tenders may allocate resources on different areas which may vary on the

impact is has on the environment, or potentially below standard requirements for other municipality's tenders, resulting in loss of tender bids.

7.0 Conclusion

This thesis aims to answer the following research questions:

- What are the implications of the current procurement structure in Fjord, Sykkylven and Fjord?
- What barriers do Fjord, Sykkylven and Sula face in collaborative procurement?
- What are the main obstacles in adopting green public procurement practices in Fjord, Sykkylven and Sula?

The hybrid structure of the procurement functions was intended to combine the benefits of both centralized and decentralized structures. However, the decentralized nature has resulted in fragmented purchases, high frequency of transactions and lack of resources for monitoring of purchasing practices. Smaller municipalities possess a lower specialization compared to larger ones, hence becoming more reliant on collaborations and outside consulting. This is a result of the procurement profession becoming increasingly formalized and complex, which again requires more resources and specialization in order to be more self-sufficient and less dependable on others. The formalization of the three municipalities is lower than larger municipalities, thus making them prone to malpractice and suboptimal solutions.

The collaboration between the municipalities involved in this study presents several challenges and limitations. The high dependency and low impact on specification due to piggy-backing have reduced the flexibility and control for smaller municipalities. A reduced flexibility and control lead to suboptimal purchasing solution that are not tailored for the municipality.

One of the objects of collaborative procurement is to consolidate volume and benefit from economies of scale. Consequently, implications surrounding a consolidation of volume

may lead to the utilization of larger central actors, which excludes small and medium-sized enterprises, such as local business and reduce the value creation within the municipalities. Although Ålesund provides a service for the member organizations, moral hazard may incur where Ålesund prioritize their self-interests before the member organizations. Fjord, Sykkylven and Sula may not have the required competence to question the decisions within the collaborations and can only assume that they have their best interests at heart.

The primary obstacle identified in the implementation of greener procurement practices is the financial constraints within these municipalities. Limited budgets and the focus on cost-saving measures often override the pursuit of sustainable procurement practices, thus hindering the implementation of GPP. This results in a focus on the bare minimum requirements as governed by laws and regulations. The higher upfront costs of GPP products and services compared to traditional ones contributes to a short-term perspective, where immediate cost savings take precedence over long-term environmental benefits.

The necessity of local sourcing often conflicts with the environmental standards, and the lack of capabilities among local businesses to adhere to these standards results in trade-offs between supporting local economy and more eco-friendly solutions. Furthermore, the absence of a universally accepted standard to assess and evaluate criteria within the environment complicates the evaluation process, which subsequently may lead to inconsistencies in suppliers' sustainability measures and outcomes.

7.1 Limitations, recommendations and reflections

The present study encountered several limitations that may have influenced the overall results and scope of the conclusions drawn. The initial research question was too broad, and the data collected directed the study into three focus areas. As a result, some important factors or aspects relevant to the broader issue may have been left out. Future research could consider a more comprehensive investigation that includes other aspects of the initial question.

The study was conducted within a limited timeframe, which might have affected the depth and range of the research. A more detailed examination, including a deeper analysis of the

research questions and additional samples from other municipalities in similar situations, could be conducted with more time.

This study had a small sample size which may affect the overall study. Generalization of these findings towards all smaller municipalities is a long stretch, and therefore further research should include a larger sample size. In addition, the municipalities participating are geographically close and thus the findings may not be compared to other municipalities in other regions.

The study experienced some limitations in the accessibility of data, particularly from government sites and investment plans. In addition, one of the municipalities had incomplete data in their financial budget and Kostra database. These limitations may have impacted the validity and reliability of the findings. The additional data provided by the municipalities were inconsistent, and some were hesitant to share certain information. This led to unequal comparison and required making assumptions based on the data from previous years.

To address these limitations, future research should consider the following suggestions:

- Allocate more time for data collection and analysis, allowing for a deeper understanding of the subject and the inclusion of additional sample.
- Conduct more interviews to gather further insight into the experiences and perspectives of the procurement managers.
- A more comprehensive analysis of each of the challenges presented can be conducted to expand the study, for instance analysing the structure and the decentralized nature of it.
- Increase the sample size by including more municipalities, allowing for a more comprehensive comparison and generalization of findings.

By addressing the limitations, future research can build upon the findings of this study and contribute to a better understanding of the challenges faced by smaller municipalities.

8.0 References

- Bakker, E., Walker, H., & Harland, C. (2006). Organizing for collaborative procurement: An initial conceptual framework. *Advancing public procurement: Practices, innovation and knowledge-sharing*, 14-44.
- Bakker, E., Walker, H., Schotanus, F., & Harland, C. (2008). Choosing an organisational form: The case of collaborative procurement initiatives. *International journal of procurement management*, 1, 297-317. <https://doi.org/10.1504/IJPM.2008.017527>
- Braun, V., & Clarke, V. (2012). *Thematic analysis*. American Psychological Association. https://www.researchgate.net/publication/269930410_Thematic_analysis
- Bryngemark, E., Söderholm, P., & Thörn, M. (2023). The adoption of green public procurement practices: Analytical challenges and empirical illustration on Swedish municipalities. *Ecological Economics*, 204, 107655. <https://doi.org/https://doi.org/10.1016/j.ecolecon.2022.107655>
- Cheng, W., Appolloni, A., D'Amato, A., & Zhu, Q. (2018). Green Public Procurement, missing concepts and future trends – A critical review. *Journal of Cleaner Production*, 176, 770-784. <https://doi.org/https://doi.org/10.1016/j.jclepro.2017.12.027>
- Chrisidu-Budnik, A., & Przedańska, J. (2017). The agency theory approach to the public procurement system. *Wroclaw Review of Law, Administration & Economics*, 7(1), 154-165.
- Coase, R. H. (1937). The Nature of the Firm. *Economica*, 4(16), 386-405. <https://doi.org/10.2307/2626876>
- Creswell, J. W. (2009). *Research Design - Qualitative, quantitative and mixed method approach* (V. Knight, Ed. Third ed.). Sage.
- De Giacomo, M. R., Testa, F., Iraldo, F., & Formentini, M. (2019). Does Green Public Procurement lead to Life Cycle Costing (LCC) adoption? *Journal of Purchasing and Supply Management*, 25(3), 100500. <https://doi.org/https://doi.org/10.1016/j.pursup.2018.05.001>
- DFØ. (2022). *Anskaffelsesprosessen steg for steg*. <https://anskaffelser.no/anskaffelsesprosessen/anskaffelsesprosessen-steg-steg/avklare-behov-og-forberede-konkurransen>
- DiCiccio-Bloom, B., & Crabtree, B. (2006). The qualitative research interview. *Medical education*, 40, 314-321. <https://doi.org/10.1111/j.1365-2929.2006.02418.x>
- Donaldson, T., & Preston, L. E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Review*, 20(1), 65-91. <https://doi.org/10.2307/258887>
- Eisner, E. W. (2017). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Teachers College Press. <https://www.daneshnamehicsa.ir/userfiles/files/1/9-%20The%20Enlightened%20Eye%20Qualitative%20Inquiry.pdf>
- Essig, M. (2000). Purchasing consortia as symbiotic relationships: developing the concept of “consortium sourcing”. *European Journal of Purchasing & Supply Management*, 6(1), 13-22. [https://doi.org/https://doi.org/10.1016/S0969-7012\(99\)00031-3](https://doi.org/https://doi.org/10.1016/S0969-7012(99)00031-3)
- EuropeanCommission. *Green and Sustainable Public Procurement*. https://ec.europa.eu/environment/gpp/versus_en.htm
- EuropeanCommission. *Life-cycle costing*. <https://ec.europa.eu/environment/gpp/lcc.htm>

- Fjord. (2023). *Årsbudsjett 2023*. www.fjord.kommune.no Retrieved from <https://innsyn.acosky.no/fjord/wfdocument.ashx?journalpostid=2022012657&dokid=1400894&versjon=1&variant=A&>
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge university press.
- Glock, C., & Broens, M. (2013). Size and Structure in the Purchasing Function: Evidence from German Municipalities. *Journal of Public Procurement*, 13, 1-38. <https://doi.org/10.1108/JOPP-13-01-2013-B001>
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *Qual. Rep.*, 8, 597-606. <https://nsuworks.nova.edu/tqr/vol8/iss4/6/>
- Hasanbeigi, A., & Shi, D. (2021). Standards and evaluation guidelines for green public procurement. *Leedit, Industrial Deep Decarbonization, UNIDO, Clean Energy Ministerial*.
- Hill, C. W., & Jones, T. M. (1992). Stakeholder-agency theory. *Journal of management studies*, 29(2), 131-154.
- Johnson, P. F., & Klassen, R. D. (2022). New directions for research in green public procurement: The challenge of inter-stakeholder tensions. *Cleaner Logistics and Supply Chain*, 3, 100017. <https://doi.org/https://doi.org/10.1016/j.clscn.2021.100017>
- Jost, G., Dawson, M., & Shaw, D. (2005). Private Sector Consortia Working for a Public Sector Client – Factors that Build Successful Relationships:: Lessons from the UK. *European Management Journal*, 23(3), 336-350. <https://doi.org/https://doi.org/10.1016/j.emj.2005.04.012>
- Lynch, J. A. (2019). *What is public procurement?* <https://www.procurementclassroom.com/wp-content/uploads/offer/eBook1/01%20What%20is%20Public%20Procurement%20-%20JALT.pdf>
- Magnuslegal. *Public procurement in Norway*. <https://www.magnuslegal.no/en/expertise/public-procurement-in-norway/>
- Malacina, I., Karttunen, E., Jääskeläinen, A., Lintukangas, K., Heikkilä, J., & Kähkönen, A.-K. (2022). Capturing the value creation in public procurement: A practice-based view. *Journal of Purchasing and Supply Management*, 28(2), 100745. <https://doi.org/https://doi.org/10.1016/j.pursup.2021.100745>
- McCue, C., & Pitzer, J. (2000). Centralized vs. decentralized purchasing: Current trends in governmental procurement practices. *Journal of Public Budgeting, Accounting & Financial Management*, 12, 400-420. <https://doi.org/10.1108/JPBAFM-12-03-2000-B003>
- McNamara, C. (2009). *General Guidelines for Conducting Interviews*. <https://ic.arc.losrios.edu/~wards/302gero/handouts/Week%204/intrview%20guidelines.htm>
- Meehan, J., Ludbrook, M. N., & Mason, C. J. (2016). Collaborative public procurement: Institutional explanations of legitimised resistance. *Journal of Purchasing and Supply Management*, 22(3), 160-170. <https://doi.org/https://doi.org/10.1016/j.pursup.2016.03.002>
- Michelsen, O., & de Boer, L. (2009). Green procurement in Norway; a survey of practices at the municipal and county level. *Journal of Environmental Management*, 91(1), 160-167. <https://doi.org/https://doi.org/10.1016/j.jenvman.2009.08.001>
- Mutambara, A. G. (2022). 'The Only Constant in Life Is Change'-Heraclitus. *Journal of Foresight and Thought Leadership*, 1(1), 1.

- Newman, I., & Benz, C. (1998). *Qualitative-quantitative - Exploring the Interactive Continuum*. Board of Trustees, Southern Illinois University.
- Nollet, J., & Beaulieu, M. (2003). The development of group purchasing: an empirical study in the healthcare sector. *Journal of Purchasing and Supply Management*, 9(1), 3-10. [https://doi.org/https://doi.org/10.1016/S0969-7012\(02\)00034-5](https://doi.org/https://doi.org/10.1016/S0969-7012(02)00034-5)
- Lov om offentlige anskaffelser (anskaffelsesloven), (2016). <https://lovdata.no/dokument/NL/lov/2016-06-17-73?q=anskaffelsesloven>
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods*. Sage.
- Procurement manager, F. (2023, 03.03). [Interview].
- Procurement manager, S. (2023, 13.04). [Interview].
- Regjeringen. (2022). *Regjeringen vil skjerpe miljøkravene i offentlige anskaffelser* <https://www.regjeringen.no/no/aktuelt/regjeringen-vil-skjerpe-miljokravene-i-offentlige-anskaffelser/id2950025/>
- SA, M. o. R. R. (2021a). *Innkjøp og offentlege anskaffingar*. <http://www.mrrevisjon.no/rapporter.489352.no.html>
- SA, M. o. R. R. (2021b). *Offentlege innkjøp og anskaffingar*. <http://www.mrrevisjon.no/rapporter.489352.no.html>
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.
- Schotanus, F. (2005). Cooperative purchasing within the United Nations. *European Journal of Operational Research - EJOR*.
- Schotanus, F., & Telgen, J. (2005). Implications of a classification of forms of cooperative purchasing. *IEEE Electron Device Letters - IEEE ELECTRON DEV LETT*.
- Schotanus, F., & Telgen, J. (2007). Developing a Typology of Organisational Forms of Cooperative Purchasing. *Journal of Purchasing and Supply Management*, 13, 53-68. <https://doi.org/10.1016/j.pursup.2007.03.002>
- Seidman, I. (2006). *Interviewing as Qualitative Research*. Teachers College Press.
- Sesana, M. M., & Salvalai, G. (2013). Overview on life cycle methodologies and economic feasibility for nZEBs. *Building and Environment*, 67, 211-216. <https://doi.org/https://doi.org/10.1016/j.buildenv.2013.05.022>
- SSB. (2022). *Offentlig forvaltnings inntekter og utgifter*. <https://www.ssb.no/statbank/table/10807/tableViewLayout1/>
- SSB. (2023a). *Fjord* <https://www.ssb.no/kommuneareal/fjord>
- SSB. (2023b). *Sula* <https://www.ssb.no/kommuneareal/Sula>
- SSB. (2023c). *Sykkylven* <https://www.ssb.no/kommuneareal/sykkylven>
- Sula. (2023). *Budsjett 2023-2026*. www.sula.kommune.no Retrieved from https://www.sula.kommune.no/_f/p1/i1cc34d05-b57b-491c-ad72-69de4e43b47a/budsjett-2023-okonomiplan-2023-2026-vedtatt.pdf
- Sykkylven. (2023). *Budsjett 2023*. www.sykkylven.kommune.no Retrieved from https://www.sykkylven.kommune.no/_f/p1/i9cf89a13-6251-445e-86ab-2643c0902b74/budsjett-og-okonomiplan-2023-2026.pdf
- Taylor, S., Bogdan, R., & Devault, M. (2015). *Introduction to Qualitative Research Methods* (4th ed.). John Wiley & Sons.
- Testa, F., Annunziata, E., Iraldo, F., & Frey, M. (2016). Drawbacks and opportunities of green public procurement: an effective tool for sustainable production. *Journal of Cleaner Production*, 112, 1893-1900. <https://doi.org/https://doi.org/10.1016/j.jclepro.2014.09.092>
- Walker, H., Miemczyk, J., Johnsen, T., & Spencer, R. (2012). Sustainable procurement: Past, present and future. *Journal of Purchasing and Supply Management*, 18(4), 201-206. <https://doi.org/https://doi.org/10.1016/j.pursup.2012.11.003>

- WallStreetMojo. Life Cycle Costing. In.
- Wealth, L. (2018). *Sustainable development principles*. <https://www.sustainable-environment.org.uk/Principles/principles.php>
- Williamson, Ó. (1981). The Economics of Organization: The Transaction Cost Approach. *ajs*, 87, 548. <https://doi.org/10.1086/227496>
- Winter, G. (2000). A Comparative Discussion of the Notion of 'Validity' in Qualitative and Quantitative Research. *The qualitative report*, 4, 4. <https://doi.org/10.46743/2160-3715/2000.2078>
- Yin, R. K. (2009). *Case study research: Design and methods* (Vol. 5). sage.
- Ålesund. (2023). *Konserninnkjøp*. Ålesund kommune. <https://alesund.kommune.no/kommunen/alle-einingar/kommunalomrade-organisasjon/konserninnkjop/>

9.0 Appendices

9.1 Interview guide

Part 1

Introduce yourself, as well as the study. Purpose, rights, confidentiality, recording, and if anything is unclear.

Part 2

1. After the new Procurement Act in 2016, has much changed in how the procurement process is?
 - a) Has procurement in general become easier or more difficult? Please explain.
 - b) What are the biggest challenges with today's arrangement?
2. Do you have any views on the arrangement that exists today? Is there something that can be made simpler or changes you want that can be more beneficial for a small municipality?
3. Do you ever feel that quality and cost of goods and services are at the expense of sustainability? If yes, explain.
4. What tool is used to measure the different criteria in a procurement process?
5. What do you find most important to measure in public procurement? Legal obligations, the economic, innovation, or process goals? a) Why is it important to measure this?
6. Have you developed your own procedures for procurement of goods/services in your municipality?
7. Have you experienced any benefits in the use of more sustainable goods/services? If yes, explain
8. How is the follow-up to suppliers in terms of contract provisions and sustainability? Is there something you actively do? What challenges do you meet?
 - a) What do you do if a supplier does not comply with the contractual agreement in terms of sustainability?
 - b) Have you ever had to renegotiate a contract as the supplier did not comply with the criteria chosen beforehand?

9. How is the follow-up to suppliers in terms of contract provisions and sustainability? Is there something you actively do? What challenges do you meet?
 - a) What do you do if a supplier does not comply with the contract provisions in terms of sustainability?
 - b) Have you ever had to renegotiate a contract as the supplier did not comply with the criteria chosen beforehand?
10. In a procurement process, do you actively seek local suppliers?
 - a) Are there challenges related to the use of local suppliers in a small municipality as you meet contacts in the store, socially, etc.
 - b) How often do you have to say no to local actors in a procurement process because they do not meet all the requirements that are set? If you have experienced this, do you ever think about how this is perceived by the local residents, etc?
11. How much of the procurement activity in your municipality is made through the procurement collaboration led by Konserninnkjøp?
 - a) How do you feel the arrangement works today?
 - b) Do you have requisition agreements? If yes, who has the right to requisition in the municipality? Is it only ordered within the agreements, or are purchases made from other suppliers as well?
12. Do you have your own sustainability strategy?
13. Examples of current environmental requirements for suppliers

Is it possible to get an overview of:

Your supplier composition

Your costs (excluding salary and personnel) on the large cost accounts.

How much does the municipality use in total for the purchase of goods and services?

(Kostrafigures and account figures)

Supplier: Are there any environmental requirements from this tender from fjord/sykkylven/sula municipality that led to a change in your business? If so, do you have any examples? Environmental requirements have been on the agenda for a few years already, to what extent have you adapted to meet the new requirements from the municipalities in the area?