SCHOOL OF PUBLIC ADMINISTRATION

Navigating through the municipal jungle

A Study of Circular and Sustainable Procurement in Swedish municipalities

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Aim: The aim of this study is to increase the knowledge about how circular economy integrates in the management of public procurement. To achieve this, I study how Swedish municipalities define and integrate circular economy in their policy documents. Through a sample of 79 municipalities with different levels of procurement activities I study if there are differences in how local governments use public procurement as a tool to integrate the different dimensions of circular economy which would contribute to national and local sustainability goals.

Theory: This study utilizes key concepts of circular economy theory to bring forward the different nuances of how municipalities include circular economy dimensions into their procurement policy documents. The theoretical tool for anlaysis (circular economy) is an adapted version of Muller et.al. (2024) model. This framework is complemented by general aspects of sustainability, which aim to help draw the line between sustainability and circular economy.

Method: The study employs qualitative methods, based on document analysis including procurement policy documents complemented by other governing documents, such as guidelines (riktlinjer).

Results Results show that the integration of circular economy into public procurement needs further development, as it is not fully incorporated into the studied policy documents and its full potential is not being utilized. Municipalities tend to associate circular economy primarily with environmental matters, while dimensions linked to social aspects, like "Repair" and "Refurbish," are not as prominently incorporated as economic aspects that aim to use already procured items, or focusing on reducing waste.

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1. Introduction

Circular economy has been gaining prominence in recent years as a contributor to achieving sustainability goals (Sun et al., 2024). This trend is driven by the numerous challenges posed by global warming, prompting governments to integrate circular practices into governance tools, such as public procurement (Sveriges Kommuner och Regioner, 3:2019; Ellen MacArthur Foundation, 2015). By doing so, they aim to drive societal and market shifts that can mitigate the negative impacts of mass consumption (Adjei et al., 2022).

In essence, circular economy aims to detach economic growth from resource use (Kowalska & Bieniek, 2022). Adopting circular economy policies is seen as a way to ensure that natural resources are utilized within the planet's limits, allowing them to endure over time (Naturskyddsförening, 2021), while also promoting environmentally friendly solutions by considering the lifecycle of products (European Commission, 2008)

Public procurement has increasingly been used as a strategic tool to address environmental challenges by encouraging more sustainable practices in resource use and market regulation (Alkadry et al., 2019; Sönnichsen & Clement, 2020). At the same time, municipalities have the opportunity to encourage a circular economy by supporting the demand for recycled materials and adopting other strategies that extend the lifecycle of resources (Kazancoglu et al., 2020). Incorporating circular economy principles into procurement policies and governance structures could address challenges related to the lifecycle of products and their production chains (Sönnichsen & Clement, 2020).

At its core, the circular economy rethinks how resources are used and managed (Antunes, Eugenio & Branco, 2022), emphasizing strategies such as repair, reuse, remanufacturing, and recycling (Jacobs et al., 2022). When these principles are integrated into procurement policies, the aim is to reutilize already procured resources while maintaining the value of products (Swedish National Procurement Agency, 2024; Alhola et al., 2018).

According to the Swedish National Agency for Public Procurement (2024), the public sector in Sweden spends nearly 900 billion SEK annually on procured resources. This provides authorities

with an exceptional opportunity and a powerful tool capable of shaping markets (Alhola et al., 2018). Data from Upphandlingsmyndigheten shows that municipalities were responsible for 69% of all procurements in 2022 (Upphandlingsmyndigheten, 2023). This makes municipalities not only an interesting subject of study but also significantly influential actors for policy makers and the market (Alkadry, et al 2019). Government officials expect that the national procurement strategy will help renew both the public and private sectors while achieving national environmental and social sustainability goals (Regeringskansliet, 4:2016). The national strategy positions public procurement as a key governance mechanism in Sweden's transition to a circular economy (Regerigskansliet, 20:2016).

Research highlights that the implementation of circular practices in procurement strategies often lacks consistency across regions (Sönnichsen & Clement, 2020). Furthermore, strategies with an environmental focus are sometimes incorrectly labeled as circular procurement in practice, despite circular economy principles extending beyond environmental considerations (Kristensen et al. 2021). Additionally, Sönnichsen & Clement (2020) note that many procurement governing documents include only a few aspects of the circular economy.

In Sweden, efforts to integrate circular economy principles into municipal procurement strategies vary significantly, reflecting broader disparities in how circular practices are adopted at the local level. These disparities may stem from several barriers to integrating circular criteria into procurement governance frameworks (Alhola et al., 2018; Grandia & Voncken, 2019; Hall, Löfgren & Peters, 2016; Kristensen et al., 2021). A lack of knowledge and understanding is particularly significant, with proficiency in circularity often described as low or even absent, as noted in the literature. This knowledge gap frequently results in suboptimal governance approaches, limiting the effective adoption of circular principles (Ibid).

The adaptation and transition towards a circular economy in procurement governance is relatively new (Sönnichsen & Clement, 2020). The thin line between sustainable and circular procurement, from an academic perspective, leads to a complex process of understanding and adopting circular criteria (Alhola et al., 2018; Kristensen et al., 2021; Giné et al., 2022).

The literature has recognized minor differences between sustainable and circular procurement, focusing mainly on outcomes and processes. However, little has been done to examine these differences in the context of governance at the municipal level.

This thesis aims to contribute to a deeper understanding of the nuances of circular economy principles and their integration into procurement policy documents. It contributes to the broader literature by offering a comprehensive analysis of how Swedish municipalities define, manage, and incorporate circular economy principles into their procurement policies and governing documents.

1.2 Aim and research questions:

The aim of this study is to increase the knowledge about how circular economy integrates in the management of public procurement. To achieve this, I study how Swedish municipalities define and integrate circular economy in their policy documents. Through a sample of 79 municipalities with different levels of procurement activities (number of procurements per year) I study if there are differences in how local governments use public procurement as a tool to integrate the different dimensions of circular economy which would contribute to national and local sustainability goals.

The study has two main questions:

- How are circular economy criteria defined and integrated into the procurement policy documents of Swedish municipalities?
- Are there any differences in the use of circular economy dimensions related to the amount of procurement activities?

The study is conducted using theories of circular economy and general aspects of sustainability, the materials are analyzed by using an adapted analytical model where key concepts from the circular economy are employed to examine and compare municipal governing documents.

2. Literature Review

The European Union has given importance to the transition towards a climate neutral Europe by 2050 based on resource efficiency implementing a “clean, circular economy, the restoration of

biodiversity and the reduction of pollution". This implementation has become the precursor for many discussions around the role of public procurement (Pouikli, 2020). However, purchasing goods in the public sector is complex. Not only must it comply with legal rules and adhere to standards regarding transparency and integrity, but it also needs to address a variety of societal goals and public values (Kuitert, 2023).

Two of the many roles of the public entities are to establish procurement policies as well as to act as customers (Kowalska & Bieniek, 2022). Public procurement refers to the acquisition of goods and services by government or public sector organizations (Grandia & Voncken, 2019). When incorporating the concepts of circular economy and sustainability, Procurement practices address not only economic considerations but also environmental and social challenges.

The following section will navigate how the literature explains the concepts of "sustainability" and "circularity" in the procurement process, as well as the hardships vagueness brings to the table.

2.1. Sustainable Public Procurement

Sustainable public procurement is commonly defined as a process through which organizations meet their needs for services, goods, works, and utilities while simultaneously creating value by generating benefits not only for the organization but also for the economy and society, and by minimizing harm to the environment (Sönnichsen & Clement, 2020). The concept of sustainability has been evolving for over three decades and is widely understood as "responsible business conduct" (Melon, 2020). However, this concept has been attributed a variety of meanings due to the diversity of actors involved with it, including scholars, government officials, and suppliers.

This diversity leads to different interpretations of sustainability based on context. For example, someone within urban planning would think about sustainability in terms of green areas and space for electric charging stations, whereas social welfare would consider social inclusiveness and integration (Kuitert, 2023). This difference in applicability of the concept has created a vague idea of what it truly means in practice (Adjei et al., 2022). Nevertheless, with the right support from public authorities, sustainable procurement is discussed in the literature as a means

to foster collaboration between companies and the public sector to achieve common sustainable development objectives (Lazaroiu et al., 2020).

Sustainable public procurement extends beyond environmental considerations to also encompass economic and social dimensions (Alkadry et al., 2019; Kristensen et al., 2021; Lazaroiu et al, 2020; Manta et al., 2024). The incorporation of sustainability into public procurement is seen as a key mechanism to support governmental efforts to reduce CO2 emissions while also protecting natural resources like water and energy (Pouikli, 2020). It also emphasizes innovation by stimulating industries to bring market solutions that align with sustainability goals (Manta et al., 2024). Furthermore, it enables the public sector to modernize its services while reducing costs and creating opportunities for companies, ultimately fostering job creation and economic growth (Ibid).

Public actors, in particular, have utilized procurement policies as mandatory tools to influence suppliers toward better economic performance, as well as socially and environmentally responsible behavior (Grandia & Voncken, 2019; Adjei et al., 2022; Wilkinson et al., 2024). Consequently, through its consumption patterns, the public sector has the possibility to generate demand for products and services that meet sustainability standards (Adjei et al., 2022). While this provides an incentive to maximize economic, environmental, and social value (Ibid), legal constraints create uncertainty regarding the balance between regulatory requirements and sustainable concerns, leading to procurers avoiding innovative projects (Grandia et al., 2015; Mélon, 2020).

When it comes to the social aspects, sustainability translates into fair work conditions, eliminating issues such as child labor, long-term unemployment, extremely low wages, and inhumane work conditions (Grandia & Voncken, 2019). For the economic aspects, it aims toward innovative solutions and fosters competitiveness among companies and industries, thus promoting economic growth (Lazaroiu et al., 2020).

On the one hand, research indicates that an organization's size and its ability to allocate resources can impact the implementation of sustainability practices (Alkadry et al., 2019; Grandia & Volker, 2023:60-63; Schotanus, 2023). On the other hand, existing technical specifications, which can cover environmental concerns such as performance-based criteria or existing

standards, could give public buyers purchase flexibility (Mélon, 2020) that could contrast the lack of resources.

However, determining the right sustainability factors that would result in economic surplus can be overwhelming for officials who lack expertise in specific procurement areas (Mélon, 2020). This can lead to confusion and problems in policy implementation, as addressed by Schotanus (2023). Broad issues such as sustainability, which don't have clear guidelines or definitions, can fall into discrepancies. For example, when procuring sustainable transportation, one procurer might consider hybrid cars as the best solution, while another would argue against it having public transport in mind. Schotanus (2023) points to the complexity of policy implementation and evaluation when a policy goal is not clear or contested. Due to this ambiguity around sustainability, many procurers may feel uncertain or even hesitant about how to effectively integrate sustainability into procurement, so they often choose to use conventional methods that prioritize cost over sustainability (Grandia & Voncken, 2019; Lazariou et al., 2020).

2.2. Circular economy in the procurement process

Circular economy has gained recognition in recent years due to the challenges imposed by climate change (Kalmykova et al., 2018; Ziegler et al., 2023; Sun, et al. 2024), but the concept is not new. It dates back to the 1970', with no clear evidence of a single origin or creator and it is argued to be the result of a mixture of practices such as economics, engineering and architecture (Winans et al., 2017).

Research indicates that there are over 100 definitions of the term, as it has evolved primarily in the hands of practitioners, such as policy makers that work and adapt the concept to fit the context in which it is used (Corvellec et al., 2022). Despite the concept having fallen into conceptual fragmentation and vagueness (Corvellec et al., 2022; Ziegler et al., 2023), several definitions of circularity retain the main idea of decoupling environmental deterioration from economic growth (Pouikli, 2020; Fehrer et al., 2023), offering a way to rethink how resources are used and managed (Antunes et al., 2022; Ziegler et al., 2023).

By incorporating circular economy in public procurement, organizations aim to minimize the inefficient use of raw materials and lower the amount of waste (Godlewska & Godlewski, 2024).

In doing so, they not only reduce environmental impact but also provide economic benefits by decreasing the need for new materials, water and energy expenditures (Arredondo-Soto et al., 2022; Godlewska & Godlewski, 2024). For example, purchasing energy- and water-efficient products, or goods produced with reclaimed resources align with the environmental criteria (Godlewska & Godlewski, 2024), and buying products with lifetime repair options or using already procured resources helps reduce the overall consumption and to decrease expenditure (Ibid).

As local governments do not have the authority to regulate emissions or to enact laws (Alkadry et al., 2019), public procurement can be an effective way to tackle environmental and economic challenges (Pouikli, 2020, Lassen et al, 2023) by setting conditions and requirements to manufacturers and suppliers (Alkadry et al., 2019). Consequently, procuring goods and resources in circular terms can serve as a means of enforcement, where the establishment of standards and guidelines become a tool to drive the adoption of circular practices (Lazaroiu et al. 2020). In this context, Governments are discussed to possess an important role as drivers of environmentally friendly solutions by encouraging manufacturers to use recycled materials (Kazancoglu et al. 2020).

Circular procurement is defined as: *"the process by which public authorities purchase works, goods or services that seek to contribute to closed energy and material loops within supply chains, whilst minimizing, and in the best case avoiding, negative environmental impacts and waste creation across their whole life-cycle"* (Sönnichsen & Clement, 2020; Pouikli, 2020). This description suggests that circular procurement is a complex practice -In contrast to sustainable procurement-, it involves not only the products themselves but the entire supply chain, from resource extraction, production, and delivery to use and disposal, ultimately creating a closed-loop system (Alhola et al, 2018).

Circular procurement is often portrayed as having a sole "environment-economic" approach (Alhola et al., 2018; Ziegler et al., 2023). However, beyond these benefits- circularity also has a social effect which is often neglected (Ulug & Trell, 2020; Ziegler et al., 2023). Although the main focus relies on the "closed loop of production" by manufacturing fully reusable products (Alhola et al., 2018; Ziegler et al., 2023), the social considerations that circular practices bring

are of a different nature compared to sustainability. While sustainable procurement encompass labor rights (Grandia & Voncken, 2019), circularity fosters the formation of social enterprises, cooperatives, foundations, self-help groups and many more (Zapata Campos & Zapata, 2017; Ziegler et al., 2023; Bradley & Persson, 2022; Niskanen et al., 2021). This promotes voluntary cooperation, knowledge sharing, and resilience through initiatives like "do-it-yourself" repair services (Bradley & Persson, 2022).

The social aspects of circularity provide the foundation for “circular services” (Fehrer et al. 2023; Godlewska & Godlewski, 2024) that could bring several benefits for society. Fehrer et al. (2023) notes that these types of services is often not established by public entities but they “emerge” from citizen initiatives, which can later be influenced by different actors. Moreover, procuring circular services can address social exclusion by purchasing services or work done by people with criminal history or disabilities (Godlewska & Godlewski, 2024). An example of this is Social Enterprises (*Arbetsintegrerande sociala företag*) such as YESBOX, a company which recycles it-components and provides work possibilities to citizens with autism (Yesboxgoteborg, 2023).

Normally, environmental products require a wide variety of indicators, such as greenhouse emissions, water use and embodied chemicals which studies explain as a challenge for public procurers in the regional and local level (Hall, et al. 2016). While the circular economy offers several indicators that could be incorporated into procurement processes, research indicates that not many are robust enough to serve as standard to procure goods and services (Giné et al., 2022). Additionally, while circularity is often viewed by researchers as a tool that could help implement sustainable policies, its widespread use by stakeholders and the numerous definitions it possesses have contributed to a loss of clarity (Kirchherr et al., 2017). There is even confusion surrounding circular processes and circular impacts, caused by an overlap between the two concepts (Garcia-Saravia et al., 2022). Furthermore, to make circular public procurement a reality, it is necessary to have well-defined circular public procurement criteria that specifically focus on extending product lifespans or improving efficiency (Alhola et al., 2019; Godlewska & Godlewski, 2024).

A significant portion of the literature intertwines sustainable procurement with circular procurement, portraying both concepts as complementary in achieving environmental, economic, and social goals (Lazaroiu et al., 2020; Pouikli, 2020; Kristensen et al., 2021; Godlewska & Godlewski, 2024; Wilkinson et al., 2024). Thus blurrying the differences between both practices (Wilkinson et al., 2024). However, complementing procurement literature with research specific to the circular economy and sustainability provides a clearer understanding of the differences between these concepts. It is important to understand the distinctions between these concepts, as they complement each other but define different aspects of procurement. By recognizing these differences, public sector procurers can select the appropriate criteria for tenders, attracting the right providers rather than opting for “safe” profit-oriented choices.

To summarize, public procurement is widely recognized as a powerful governance tool with the potential to drive significant environmental, social, and economic change. While its connection to sustainability has been well-established as a key contributor to achieving environmental goals, research highlights that sustainability alone is insufficient. The integration of circular economy practices is increasingly seen as essential for addressing global resource challenges and enhancing procurement's effectiveness.

However, the inclusion of circular economy principles in procurement processes has revealed significant complexities, such as conceptual overlap with sustainability, unclear definitions, and a lack of robust criteria. These challenges have led to confusion and the neglect of critical aspects of circularity. Addressing these gaps is vital to unlocking the full potential of circular public procurement as a governing tool and advancing its role in achieving broader sustainability goals.

3. Theory

Sustainable public procurement, as discussed in the previous section, is a complex practice. Authorities argue that integrating circular economy dimensions into the procurement process can help achieve national and international economic, social, and environmental goals. However, this integration has led to confusion between sustainable and circular procurement, blurring their distinctions and limiting their application in governance strategies.

While Section 3 provided a conceptual understanding of the circular economy as discussed in research, the theory chapter will navigate the general aspects of sustainability, laying the foundation to differentiate sustainable from circular economy practices in policy documents. Furthermore, this section will delve into the different dimensions of the circular economy as a theoretical framework, thus providing the tools necessary to analyze its dimensions and identify its integration within governing documents.

3.1. Understanding sustainability

Differentiating between sustainability and circular economy, as discussed in Section 3, presents significant challenges. To avoid confusion when analyzing the materials in the analysis section, it is essential to first understand the distinctions between these two concepts. This requires a solid understanding of the various aspects of sustainability, which serves as a foundational backdrop for distinguishing it from circular economy.

Sustainability is addressed in different ways across various theoretical frameworks, with some focusing on environmental and economic dimensions, while others examine the transitions needed to achieve sustainable practices (Slaper & Hall, 2011). For this study, it is essential to comprehend the broader meaning of sustainability, as it underpins many of the practices and policies being analyzed.

To establish this foundational understanding, the Triple Bottom Line (TBL) Theory is particularly useful. Although not used as a direct analytical tool in this thesis, it serves as a conceptual framework in the background, offering an integrated perspective on sustainability. The TBL framework is widely accepted in both the public and private sectors (Slaper & Hall, 2011; Isil & Hernke, 2017) and emphasizes the balance between economic, environmental, and social aspects (Masud et al., 2019). By defining sustainability through these three dimensions—people, planet, and profit—the TBL framework provides a structured lens through which sustainability can be understood (Sherman, 2012)

Developed by John Elkington in 1994, the TBL Theory highlights three interrelated dimensions (Slaper & Hall, 2011), which is explained by Arowoshegbe et al. (2016) as follows:

People: This line alludes to the benefits of conducting fair business practices, with the core idea of creating value for society while simultaneously giving back to the community, as ignoring social aspects can lead to higher economic costs for the organization. Examples of this include fair wages and healthcare coverage for workers. In this way, the framework not only addresses ethical considerations but also incorporates social responsibility, which is directly connected to the sustainable performance of a business.

The planet: The environmental sphere refers to practices that do not compromise environmental resources for future generations. Building on the basic definition of sustainable development, this framework aims to reduce greenhouse gas emissions, minimize ecological footprints, and promote the efficient use of energy.

Profit: When it comes to the economic aspects, this framework addresses the impact of an organization's practices on the economic system. It highlights the ability and potential of the economic subsystem to support future generations by growing as a part of sustainability. Essentially, this framework illustrates the economic subsystem's capacity to adapt and improve over time. This role is crucial for ensuring that future generations can thrive and have access to the resources and opportunities they need. Thus, it underscores the importance of a sustainable economy as a foundation for societal well-being.

The TBL framework does not serve as an explicit analytical tool in this study but rather functions as a conceptual foundation. It helps contextualize sustainability and its dimensions, providing a clearer distinction between sustainability and circular economy principles. This distinction is critical for understanding how circular economy practices are framed and integrated into municipal procurement documents.

While the TBL Theory helps set the stage for understanding sustainability, the circular economy emerges as a distinct yet complementary concept. The following section delves into the circular economy, exploring its theoretical underpinnings and its relevance to this study.

3.2. Circular Economy framework

As discussed in Section 3.2, the concept of the circular economy gained prominence in the 1990s, with various schools of thought developing different methods for analyzing circularity (Ellen MacArthur Foundation, 2015). While some scholars equate the circular economy solely with recycling (Kirchherr et al., 2017; Garcia-Saravia et al., 2022), others, including practitioners, adopt a broader perspective, using the concepts of recycling, repairing, and reusing—collectively referred to as the 3R model—to describe the circular economy framework and its implementation (Kirchherr et al., 2017; Muller et al., 2024).

Two of the most widely cited definitions are provided by Kirchherr et al. (2017) and the Ellen MacArthur Foundation, with the latter being particularly influential in the public sector (Garcia-Saravia et al., 2022). Whereas Kirchherr et al. (2017) defines the circular economy as a precursor to sustainability, the Ellen MacArthur Foundation describes it through three core principles: eliminating waste and pollution, circulating products and materials, and regenerating nature (Ellen MacArthur Foundation, 2024). Despite their differences, both approaches depict the circular economy as a restorative and regenerative economic system by design. However, neither framework explicitly emphasizes maintaining the value of products, materials, and components throughout their lifecycle (Kirchherr et al., 2017; Muller et al., 2024).

Existing research highlights the absence of a standardized framework for the circular economy (Kirchherr et al., 2017; Garcia-Saravia et al., 2022; Muller et al., 2024). This lack of standardization creates uncertainty within the field, as various research streams interpret and apply the concept differently. Muller et al. (2024) underscores the need for a unified framework that integrates the social, economic, and environmental aspects of the circular economy. To address this, Muller et al. propose a standardized framework with categories that can help assess and operationalize the transition to circular practices.

Building on theories proposed by Kirchherr et al. (2017) and Reike et al. (2018), Muller et al. (2024) develops a framework incorporating the "value retention" model, which focuses on maximizing the value of objects throughout their lifecycle. This model emphasizes strategies such as reuse, refurbishment, repair, and remanufacturing (Garcia-Saravia et al., 2022; Muller et al., 2024). Expanding on this foundation, Muller et al. introduces the 10R Option (10 ROs)

framework, adapted from the work of Reike, Vermeulen, and Witjes (2018) (see Figure 1). The framework outlines key value retention strategies, or "ROs": R0 Refuse, R1 Reduce, R2 Re-sell/reuse, R3 Repair, R4 Refurbish, R5 Remanufacture, R6 Repurpose, R7 Recycling, R8 Recover, and R9 Re-mine.

Loops	Resource Value Retention Options		Description (Purpose)
Shortest	R0	Refuse	Refuse/Avoid the consumption of products and inputs, and the generation of waste and contaminants.
	R1	Reduce	Reduce the consumption of products and inputs, and reduce the generation of waste and contaminants.
	R2	Re-sell/Re-use	Reuse or resell products, components or inputs. The product or component is used for the same purpose, without requiring practically any repair or renovation.
	R3	Repair	Carry out repairs on products/equipment in order to achieve their original function after minor defects.
Medium	R4	Re-furbish	Update and improve product/equipment performance, extending its useful life.
	R5	Re-manufacture	Bring the product back to its original function, through a more complete industrial process.
	R6	Re-purpose (ReThink)	Reuse the product or component by creating a new function or new purpose.
Long	R7	Recycling	Process post-consumer products or waste, creating recycled (non-virgin) raw materials. Recycling processing does not maintain the original structure of the product and also includes the processing of organic waste.
	R8	Recover (Energy)	Recover energy from waste through the application of different technologies.
	R9	Re-mine	Recover waste materials/resources that are disposed of in certain places (e.g., landfills).

Figure 1 (Taken from Muller et al. (2024)).

The RO model prioritizes several strategies aimed at enhancing circularity:

- **Smarter product use and manufacture:** This translates into strategies such as refusing unnecessary products, rethinking product utility and reducing resource use.
- **Extending the lifespan of products and parts:** this includes repairing, refurbishing, reusing, and remanufacturing products to keep them in use longer, thus retaining some of the original value.
- **Promoting the useful application of materials:** This involves minimizing waste through repurposing, recycling and recovering energy.

Muller et al. 2024 notes that only using the RO's model is not enough for the adoption or identification of circular practices within an organization. Therefore, he proposed an additional tool—a questionnaire consisting of 33 questions. These questions correspond to specific circular value chain practices outlined in the author's theoretical model. These questions are designed to explore particular details regarding the organization's implementation of circular practices.

For the scope of this thesis, the 10 ROs model and questionnaire by Muller et al. (2024) have been adapted by modifying some concepts and incorporating some of the social dimensions outlined in the research by Mies & Gold (2021) which includes community engagement and employment opportunity in areas such as "refurbish" and/or "repair". This adaptation was designed to better align with the aims of this study and to address the research questions effectively. The changes will be addressed in more detail in the method section (see section 5).

The framework facilitates a systematic analysis of Swedish municipalities' procurement documents to identify how circular economy principles are being integrated from a management perspective. Additionally, it highlights the nuances that different aspects of circular economy bring to the various analyzed texts.

Although the Triple Bottom Line (TBL) Theory is not used as a direct analytical tool in this thesis, it serves as a "conceptual background", offering an integrated perspective on sustainability. The TBL Theory provides an overarching structure through its three interconnected dimensions—social (people), environmental (planet), and economic (profit)—ensuring that the analysis considers the broader sustainability context. In contrast, the Circular Economy framework, with its detailed 10 ROs model and associated definitions, plays a more active role in shaping the analysis. The synergy between these two frameworks ensures a comprehensive exploration of procurement governance, highlighting both the broader sustainability context through the TBL Theory and the actionable insights provided by the Circular Economy framework. Together, they offer a robust theoretical foundation for understanding and analyzing how circular economy principles are integrated into municipal procurement practices.

4. Method

This section outlines methods used to gather and analyze materials that will help answer the research questions of this thesis. A qualitative research design is employed to explore how Swedish municipalities integrate circular economy principles in their procurement policy and other governing documents. A cross-sectional approach is adopted, as the study seeks to provide an overview of current circular economy practices rather than assess past or future changes. The municipal data gathered will later be linked to various variables, resulting in quantification that forms a key part of the analytical framework used to answer the research questions (Bryman, p. 58).

The choice to study policy documents stems from their critical role within municipal organizations. *Policies* serve as a guiding management document, designed to direct municipal operations toward the goals outlined in the municipality's overarching governing documents. In this study, procurement policy documents serve as the main data source, offering direct insights into municipal procurement practices. These policy documents are further complemented by governing documents, such as guidelines (*riktlinjer*), which translate procurement policies into actionable guidance for procurement processes. This combination ensures a comprehensive analysis of how Swedish municipalities conceptualize and integrate circular economy principles into their governance frameworks.

4.1 Picking and organizing the sample

Given the short timeframe of this study, it was crucial to establish a sample size large enough to provide meaningful insights while concentrating on municipalities most likely to yield relevant data. To construct the sample, a minimum threshold of 30 yearly procurements was established, resulting in 79 municipalities being selected for analysis. This threshold acts as a practical indicator, based on the assumption that municipalities with higher procurement activity are more likely to have better developed procurement policies and governing documents. Additionally, the smallest municipalities were excluded, as they often rely on agreements tied to larger municipalities and therefore do not have their own independent procurement policies. This ensures the analysis focuses on municipalities with the capacity to manage their own procurement processes and develop their own governing documents.

The data on procurement activity were sourced from the National Procurement Agency's statistical database (*Upphandlingsmyndigheten*). To identify potential differences among municipalities based on the number of procurements per year, the sample was then stratified into three categories according to procurement activity levels (Djurfeldt et al., 2018:123–124):

- **High Activity (100+ procurements):** 11 municipalities
- **Medium Activity (50–99 procurements):** 30 municipalities
- **Low Activity (<50 procurements):** 38 municipalities

This approach ensures that the analysis focuses on identifying variations and trends most relevant to the study's objectives. It provides a systematic and organized method for working with the selected materials, allowing for a clearer understanding of the nuances in policy documents across the different procurement activity groups. This methodology also accounts for variations in how often and to what extent circular economy principles and their dimensions are mentioned. Furthermore, it enables the identification of differences among municipalities based on their procurement activity levels, helping to determine whether procurement activity influences these aspects. Additionally, this approach offers an opportunity to observe public procurement as a governance tool and its role in contributing to national and local environmental, economic, and social goals.

4.1.1. Description of the materials

Policy documents: Policy documents are established by the municipal council and outline the values and approaches of municipalities. They define what the municipality aims to achieve within specific areas involving multiple operations. These documents vary significantly in length and content, ranging from 1 to 6 pages, depending on the municipality. Although commonly labeled as "policy documents," they may also be referred to as "*inriktning"* or *"riklinjer"* (guidelines) in the cases where the municipalities decided to merge guidelines and policy together as one document. Identifying these documents involves examining their ownership by specific municipal departments and content.

Policy documents typically define goals and, in this context, general principles for procurement, addressing economic, social, and environmental dimensions. Additionally, they specify the legal frameworks upon which they are based, such as the Public Procurement Act (*LOU lag 2016:1145*). These documents are often applied across various municipal departments (e.g., education, healthcare, construction) and are written in a general manner without addressing specific procurement areas.

Complementary governing documents: In addition to policy documents, complementary governing documents with implementation purposes were included in the analysis. These primarily consist of *riktlinjer* (guidelines). However, since municipalities do not have a standardized approach to governing documents nationwide, *anvisningar* (instructions) or *regler* (rules) were analyzed in cases where *riktlinjer* were not available, as they fulfill a similar purpose. These documents provide practical guidance on procurement procedures, translating the broader principles outlined in policies into actionable steps. For example, they may specify interdepartmental cooperation or detail the priorities for procurers, such as the use of renewable energy sources.

These documents are typically adopted by the municipal executive board and serve as a "guide" to clarify rules and procedures. They outline how operations should align with the political goals and strategies outlined in policy documents. Additionally, they inform staff about procurement procedures and priorities, such as renewable energy use or waste reduction.

Both policy and governing documents are subject to regular updates to remain compliant with changes in EU and national laws and regulations.

4.2 Data collection method and analysis tool

The data collection method consisted in the retrieval of governing documents from each municipality using search terms such as *"Inköpspolicy", "Upphandlingspolicy", "policy för upphandling", "inköp", "Upphandling", "Riktlinjer för upphandling", "riktlinjer för inköp", "inköpsriktlinjer"* and *"Upphandlingsriktlinjer"*.

The initial search was conducted using Google's search engine by entering the name of the municipality followed by one of the concepts listed above. In most cases, this approach successfully led me to the relevant documents.

When Google did not yield the desired results, I navigated through the municipality's official website menu and looked under sections such as *"styrande dokument"* (governing documents). Municipalities often organize important documents, such as policies, under this section. If this approach still did not produce the required results, I used the website's internal search tool with the same keywords. This method provided access to all documents related to procurement, and I reviewed each title until I found the relevant material.

In some cases, even this method was insufficient. I then repeated the search on different dates, assuming there might be ongoing updates to the documents. This approach was successful for a few municipalities. When I was still unable to locate the documents, I contacted the municipality directly by emailing their customer service or, where available, the procurement department using the contact information published on their website.

The search resulted in a total of 120 documents accounting for policy and complementary governing documents (e.g. guidelines) from 79 Swedish municipalities. The difference in numbers is due to the varying practices of some municipalities; for example, some municipalities publish their policies as plain text in a webpage part of their official website, others collaborate on procurement, resulting in shared policy documents, while others combine policies and guidelines into a single document. Consequently, the number of documents does not match the total number of municipalities in the sample.

4.1.1. Finding the answers

To answer the research questions, the study employs a structured analysis of policy and governing documents. The analysis is guided by key circular economy concepts, as outlined in Figure 2, adapted from Muller et al. (2024). These concepts provide the framework for identifying, categorizing, and interpreting circular economy across policy documents in Swedish municipalities.

Addressing the first research question: "*How are circular economy criteria defined and integrated into the procurement policy documents of Swedish municipalities?*"

The study systematically examines policy and governing documents to identify how circular economy principles are defined and described. Definitions and criteria for circular economy dimensions are analyzed within the context of broader procurement goals to determine if and how they are framed explicitly or implicitly in relation to sustainability. This includes:

- **Language and headings:** Evaluating whether circular economy criteria are explicitly mentioned in the text or implied under the umbrella of sustainability.
- **Conceptual integration:** Assessing whether key circular economy dimensions (e.g., reuse, recycle, remanufacture) are included as priorities or principles.
- **Framing:** Understanding how circular economy principles are positioned (e.g., as environmental, economic, or social tools) within the documents.

By reviewing the content, structure, and terminology, the study identifies how municipalities incorporate and manage circular economy principles in their procurement strategies at the policy level.

Addressing the second research question: "*Are there any differences in the use of circular economy dimensions related to the amount of procurement activities?*"

To answer this question, the study stratifies the sample of 79 municipalities into three groups based on procurement activity levels: high activity (100+ procurements/year), medium activity (50–99 procurements/year), and low activity (<50 procurements/year). The policy and governing documents for each group are then compared to:

- **Quantify mentions**: Recording the frequency and emphasis of circular economy dimensions across groups.
- **Assess integration**: Determining whether specific circular economy dimensions (e.g., reuse, repair, recycle) are more prominent in one activity group than others.
- **Identify trends**: Exploring whether municipalities with higher procurement activity levels demonstrate more comprehensive or developed circular economy practices compared to those with lower activity levels.

The identified key concepts were recorded in an Excel sheet, organizing data by municipality and activity group. This allows for a systematic comparison of circular economy mentions across the sample. The total number of indicators or key concepts identified for each municipality is converted into percentages to quantify the extent of circular economy integration and highlight differences in how circular economy practices are prioritized among municipalities.

By connecting these analytical steps to the research questions, the study provides a clear understanding of how circular economy principles are defined, integrated, and differentiated in Swedish municipal procurement policies and whether procurement activity levels influence these practices.

4.2.2. Analysis tool

Ten representative questions were selected and adapted from the original analytical tool, which contained 33 questions in total. Each chosen question was designed to represent one of the RO's concepts. The questions underwent several adjustments throughout the process. The first adjustment was made before conducting a test analysis, which involved applying the questions to a sample of 10 documents. This test was carried out to ensure that the questions aligned with the dimensions of the RO's model and were suitable for the type of documents being analyzed. As policies and other governing documents can vary significantly in structure and content, this step was crucial for refining the analytical tool.

After the test analysis, the questions were further adjusted to better align with the way the documents were written. Once the actual analysis began and after discussing with my supervisor, it became evident that the content differences among the documents required a set of less specific and broader questions. These changes were necessary to capture the nuances and variations in the documents effectively.

These iterative adaptations ensured that the analytical tool was tailored to the specific purpose of this study, enabling a more comprehensive and nuanced examination of policies and the governing documents.

Some of the dimensions of the tool were modified as well to better fit the analysis of the materials. Specifically, the concept of "Re-mine" was replaced with "Rethink". In the original

tool, “Re-mine” focused on waste recovery from landfills. This aspect was incorporated instead under the “Recover” dimension. Meanwhile, “Rethink” was redefined and detached from “Repurpose”. In this study, “Repurpose” refers to using materials for alternative purposes, whereas “Rethink” emphasizes incentivizing product design innovations or encouraging alternatives such as using renewable energy or promoting lower-emission transportation options for goods.

Although the position of "Re-think” (Re-mine) has been shifted within the framework, this adjustment does not affect the tool’s functionality or results. Each dimension measures different aspects of the circular economy, and in this study, they do not provide a grading system or hierarchy. Instead, they serve as distinct categories to identify and analyze various practices.

The social aspects of the circular economy were integrated into the dimensions of “Repair,” “Remanufacture”, and “Refurbish”, as these dimensions often emerge from citizen initiatives and community groups focused on these practices. They also encompass businesses that offer repair services at the point of sale.

The “loops” column was entirely removed from this analytical tool. In the original table, loops represented the levels of value retention, which refer to the different ways to keep resources in use for as long as possible based on the effort required to maintain or restore them to keep them in use. In the original model, this column is divided into three groups; Short, Medium and Long loop (Muller et al., 2024):

- **Short Loop**: Includes **refuse, reduce, reuse, and repair**. This loop retains the most value since goods and resources do not need to be broken down or transformed to stay in use.
- **Medium Loop**: Includes **refurbish, remanufacture, and repurpose**. In this loop, objects lose some value as they require more work to be put back into use.
- **Long Loop**: Includes **recycle, recover, and re-mine**. This loop demands the most effort, as materials need to be completely transformed, leading to a significant reduction in value.

As mentioned above, the purpose of the “loops” concept is to illustrate how different dimensions of circular economy practices retain value (Muller et al., 2024). However, this concept was deemed unnecessary for this study, as the focus is to study the integration of circular economy principles into procurement policies and governing documents rather than the impact they have.

After implementing all the changes and adaptations, the model was restructured into a new table containing the components outlined above. The final analysis tool was designed to suit the analytical purposes of this study. See table below.

R-Strategy	Concept	Question	R-Strategy	Concept	Question
R0 Refuse	Refusing unnecessary materials or products in the procurement process.	Do the documents mention how to use materials that are reusable or recyclable in procurement?	R5 Refurbish	Refurbishing products for reuse rather than disposal.	Are there any mentions for refurbishing products such as restoring or upgrading them for reuse instead of disposal?
R1 Rethink	Rethinking product design and utility to maximize longevity.	Do the documents encourage reducing the physical materials used in products and include practices that help make products last longer?	R6 Remanufacture	Remanufacturing products to restore them to good condition for use.	Are there mentions for remanufacuring products to restore them to good condition for reuse?
R2 Reduce	Reducing overall resource consumption and waste production.	Do the documents mention or explain how to create products that use renewable resources and generate less waste?	R7 Repurpose	Repurposing materials for different uses.	Are tere any mentions of repurposing materials for alternative use, such as innovative approaches to extend the utility of products?
R3 Reuse	Reusing materials or products through efficient management practices.	Are there any mentions of structured processes or strategies for reusing materials or products?	R8 Recycle	Recycling materials to prevent waste and promote circularity.	Are there any mentions of procecess for material recycling to promote CE, such as waste separation?
R4 Repair	Encouraging repairs to extend the lifespan of products.	Are there practices mentioned that focus on extending the service life of products within the procurement documents?	R9 Recover	Recovering resources from waste to reintegrate them into the economy.	Are there any mentions of recoering resources from waste to reintegrate them into the economy?

Figure 2

The inclusion of specific questions within each dimension aims to provide deeper insights and to facilitate the identification of the diverse aspects of the circular economy. These questions ensure that the analysis captures the nuances of municipal procurement practices without oversimplifying their complexity.

5. Analysis and results

This section presents the findings from the data gathered from the municipalities included in the sample and provides further analysis using the theoretical framework outlined in section 4. The aim is to identify key circular economy concepts in Swedish municipalities' procurement policies and governing documents by exploring how circular economy criteria are defined and integrated into procurement policy documents.

Additionally, this analysis investigates whether municipalities differentiate circular procurement from sustainable procurement practices and whether clear distinctions exist between them. It also identifies observable trends in the integration of circular economy practices and examines how these trends correlate with the volume of procurement activities.

5.1 Reviewing the data

In terms of layout and content, significant variations have been encountered. Some documents present their goals in bullet-point format, while others are structured as short, "report-like" documents that include sections such as introduction, objectives, definitions, and goals. These documents often specify which areas of procurement they cover, addressing the general acquisition of goods and services across all municipal departments. They also frequently reference supplementary documents, such as guidelines or broader municipal plans. To exemplify:

> ***Gävle:*** *"Purchases and procurements are based on the* ***municipal plan*** *and the* ***strategic programs*** *for social sustainability, environment, and business development."*
>
> ***Varberg:*** *"Environmental as well as social and ethical considerations shall always be taken into account in procurement and purchasing. The requirements set shall aim to achieve the goals in the* ***municipality's environmental plan*** *and other decisions made by the Municipal Council."*

References of sustainability and circularity also differ greatly across the texts. Sustainability practices can be highlighted at the beginning and reiterated throughout the documents, or it can be briefly mentioned only in the concluding sections.

When it comes to specific mentions of the circular economy, 16 documents explicitly mention circular economy, and only 5 of these documents treat sustainability and the circular economy as distinct themes, dedicating a section to each practice separately. Two examples of explicit mentions are Nässjö Municipality, which addresses circular economy under the heading "circularity" (*cirkularitet),* and the municipality of Gothenburg, which titles its section "circular principles" (*cirkulära principer*). Both municipalities provide explanations and examples of their approach, with Gothenburg standing out for its clarity, stating that "more products and materials should be included in a closed-loop system".

More commonly, circularity is embedded within the texts under sustainable practices, often presented as synonymous with or as a subset of sustainable procurement which is often connected to environmental areas. For example Enköping's municipality states:

"*Environmental Sustainability*

> *In all procurements, **environmental impact shall be considered**, and appropriate measures shall be taken accordingly. Such measures may include, for example, requirements for environmental labeling, standards for materials and production processes, as well as solutions for **reuse and circular procurement**.*"

Moreover, many documents refer to other governing materials, such as municipal environmental goals or Agenda 2030. These supplementary materials are intended to guide procurers by providing recommended readings that clarify environmental, social, and economic aspects of procurement. They also suggest how procurers can incorporate requirements to achieve the municipality's environmental and social objectives. For example, Örebro Municipality states:

> *"To promote sustainability perspectives in procurement and purchasing, economic, social, and ecological considerations should be prioritized and linked to the municipality's goals as outlined in overarching strategies and budgets, environmental programs, climate plans, and other guiding documents."*

These references do not clearly differentiate between circular economy and sustainability, as the references often focus on broader documents. However, there is potential for circular practices to be integrated into procurement processes if they are emphasized in the referenced documents.

Nevertheless, since the decision to apply circular economy criteria is left to the procurers, it is difficult to determine which dimensions, if any, are included.

Focusing on the differences between policy and complementary documents. Most commonly, policy documents that focus solely on sustainable principles do not specify the order in which these principles should be considered, or which dimensions are more important than others. For instance, Piteå Municipality refers to achieving the "*best outcomes*" through strategic procurement by considering "*needs, quality, and social, environmental, and economic sustainability*". However, it does not provide guidance or clarify what this means in practice or how to prioritize these dimensions. In contrast, documents that explicitly mention the circular economy tend to some degree to offer guidance on how to prioritize products and services. For example, Strängnäs Municipality states: "*Procure services instead of products, or rent/lease, to encourage companies with circular business models.*". In this example, they highlight the importance of focusing first on "services, rent or leasing" instead of buying products.

Although complementary documents provide a broader range of options and approaches for integrating sustainability and circular economy principles into procurement, they can lack specificity to some extent. Continuing with Piteå's municipality, their guidelines emphasize that:

> *"Municipal resources should be used efficiently, and the need for goods and services should be met at the lowest possible total cost, which may include: Lifecycle cost of the good/service, Administrative cost, Storage cost, Transportation cost*"

In this example, the guidelines offer more concrete possibilities for requirements to be included in procurement compared to the general nature of the policy. They specifically mention considerations such as "*lifecycle costs*" and "*transportation costs*", aiming to achieve economic sustainability. However, the use of terms like "*shall*" or "*should*" introduces a degree of vagueness regarding how these criteria should be prioritized. Nonetheless, municipalities like Malmö can take a more guiding path, for instance:

> **"*Special consideration*** *shall be given to resource use, primarily concerning energy, water, and raw material availability. The City of Malmö shall, to* ***the greatest extent possible, prioritize*** *the procurement of non-toxic, ecologically, and ethically produced*

> *goods, favor sustainable material choices, and* ***ensure*** *that the purchase of goods, services, and contracts is environmentally efficient.* ***Renewable energy shall be given priority*** *in purchases, and fossil fuels shall be phased out.*"

In contrast to Piteå, Malmö's municipality, has another approach by using words such as "*special consideration*", "*to the greatest extent possible*" and "*ensure*" which direct the attention towards the areas of importance, providing a hint of how to prioritize.

This variation could be attributed to the number of procurement activities conducted annually by each municipality. For instance, Piteå, categorized in the low procurement group (fewer than 50 procurements per year), may lack the resources to further develop its procurement documents. In contrast, Malmö, which belongs to the high procurement group (more than 100 procurements per year), has likely allocated more resources to enhance and refine its procurement documents.

Other municipalities take a broader approach, offering recommendations on what aspects to consider and how to encourage the areas they want to influence when procuring goods and services. For example, Gothenburg Municipality suggests:

> *"During procurement, circular principles can be considered, for example, by setting requirements or using evaluation criteria to encourage material efficiency, renewable raw materials, recycled raw materials, renewable fuels, product longevity, or reparable or dismantlable products."*

These differences in content highlight variations in the structure of procurement documents and the way circular economy principles are addressed across municipalities. The integration of circular economy practices into procurement routines appears to correlate with the extent to which procurement is utilized as a governance tool. More developed documents, which include examples or definitions, tend to reference circular economy concepts or dimensions more frequently. This not only reflects the availability and allocation of resources but also suggests a municipality's willingness or eagerness to use procurement as a driver of change and a means to implement political goals.

Another observation is that not all municipalities maintain up-to-date policies or governing documents. Some of the analyzed documents date back to 2015, indicating that updates may not

have been consistently implemented in response to new laws, regulations, or political mandates. This observation points to a variation in how municipalities manage and prioritize the revision of their procurement frameworks. However, during the search for materials for the analysis, a small number of official reports (*tjänsteutlåtande*) were found that referenced the revision of procurement policies and/or guidelines. This could indicate that some municipalities are in the process of updating their documents, potentially due to a review of their political goals. However, this is merely a hypothesis, as there is no explicit mention or evidence of such updates in the procurement documents analyzed for this study.

5.2 Circular criteria integration

The analysis of procurement documents across different activity groups—high activity (more than 100 procurements per year), medium activity (50–99 procurements per year), and low activity (fewer than 50 procurements per year)— reveals varying levels of integration of circular economy concepts. Regardless of the level of procurement activity, around 85% of the municipalities studied do not explicitly mention circular economy, and about 15% make direct references to this concept. Instead of direct mentions, the circular economy dimensions are often embedded within broader themes, such as “Sustainability” or environmental-related headings. This placement suggests that municipalities in general perceive circular economy mainly as a tool for addressing environmental issues, rather than incorporating its broader potential, which includes economic and social aspects. In the analyzed documents, references to circular economy practices predominantly focus on reducing environmental impact, with limited mentions of economic benefits such as creating value through repurposing resource use or reducing waste by recovering materials and reintroducing them into the economy. An example can be seen below:

> **Linköping:** ***“****By imposing* ***environmental requirements*** *in procurement, the municipality contributes, among other things, to the* ***transition to a more circular economy****.”*

Similarly, the social dimensions of circular economy, such as engaging community organizations to promote repair, refurbishment, and remanufacturing, are largely absent or only indirectly referenced. These aspects, which could contribute to extending product lifecycles and fostering

local job creation, are not explicitly emphasized in the procurement documents, suggesting a narrow interpretation of circular economy principles.

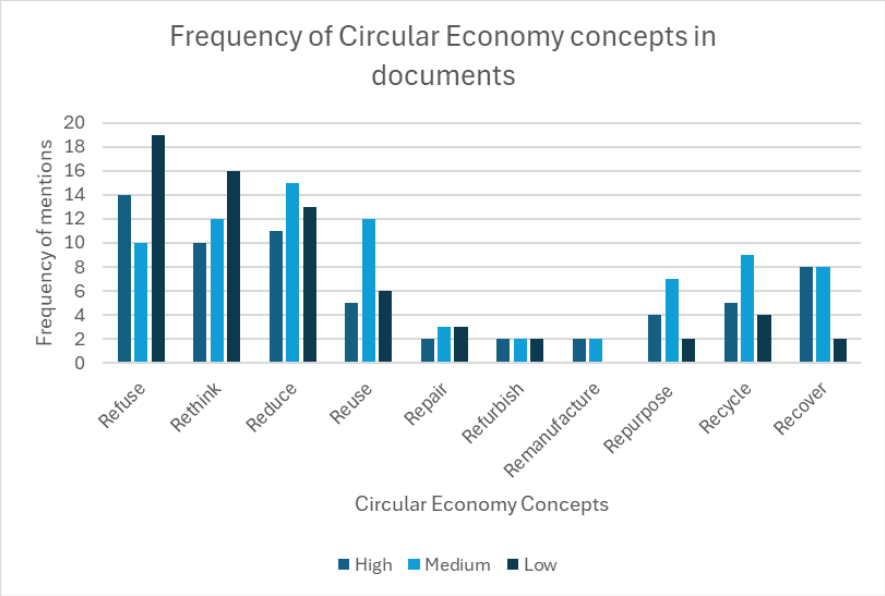

Figure 3

A closer examination of specific circular economy dimensions reveals significant variation in their presence across procurement groups. According to figure 3, concepts like “Refuse,” “Rethink,” and “Reduce” lead the number of appearances across all groups that can be found in between lines or explicitly mentioned in the text. This indicates a primary focus on minimizing unnecessary resource use, reducing waste, and rethinking procurement practices to align with sustainability objectives. In contrast, dimensions like “Repair,” “Refurbish,” and “Remanufacture” are less frequent in the analyzed documents, regardless of procurement activity levels. This suggests that the extension of product lifecycles as a whole is not being fully addressed.

Additionally, if we look at differences between the different activity groups, dimensions related to waste management, such as “Recycle” and “Recover,” are more consistently referenced in the medium and high procurement groups. This suggests that these municipalities may place greater emphasis on end-of-life product management, reflecting practices aligned with the waste hierarchy (“Avfallstrappan”).

Focusing on individual group divisions, the low procurement group places significant emphasis on “Refuse” and “Rethink,” reflecting a potential focus on avoiding unnecessary procurement possibly due to smaller-scale activities or limited resources. To exemplify how these dimensions are addressed in the documents, Stenungsund Municipality (low group) states:

> *“The number of **unnecessary purchases should be minimized**. **Purchases should be avoided by utilizing resources already available within the organization or through the second-hand market**. **Circular solutions** should be pursued, along with **services and products** that have the **smallest possible climate and environmental impact** throughout their entire lifecycle.”*

In the medium procurement group, there is a notable emphasis on “Recycle” and “Recover,” suggesting a stronger focus on waste management practices compared to the low and high procurement groups. These practices often align with waste hierarchy principles, indicating a priority for managing materials and resources at the end-of-life stage.

5.3 Social aspects

Generally, the social aspects of procurement are addressed in a dedicated section within the analyzed documents. This section may stand alone or be included under the broader umbrella of "sustainability". In practice, social aspects are often approached from an ethical and labor rights perspective, as well as an integration policy perspective. This means the primary focus is on employment and integration practices.

When it comes to employment and inclusion, municipalities mention social aspects in terms of employment opportunities, focusing on people who are long-term unemployed or those with disabilities. These are often included as requirements for contractors to provide internships or jobs to these groups, to reduce social exclusion and promote integration. For example:

*“Municipalities shall work towards a **good living environment and long-term sustainable development** by choosing goods, services, and contracts that are environmentally adapted, both in terms of the external environment and the **workplace environment**, while also **considering social and ethical requirements**. Requirements shall, in accordance with the nature of the procurement, be imposed on the suppliers with whom municipalities enter into agreements,*

ensuring that they: ***Promote good working conditions and gender equality in the workplace****,* ***adhere to labor market conditions and/or collective agreements, combat discrimination and corruption, and allow transparency*** *in their operations and whistleblower protection for employees. These requirements shall also apply to subcontractors engaged by the supplier."*
Oskarshamn municipality

Besides integration policy, certifications such as Fair Trade and ethical labor conditions are common among the analyzed documents. These two aspects being relevant in an international context, where municipalities aim to ensure that they meet minimum standards for wages, working conditions, and the prohibition of child labor. An example of this is Piteå municipality, which emphasizes goods that are ethically sourced and produced under fair labor conditions:

> *"Piteå has been certified as a* ***Fairtrade City municipality*** *since 2009. This means that the municipality, together with businesses and non-profit organizations,* ***works to increase the supply, demand, and consumption of Fairtrade-certified products throughout society****. Through this commitment, the* ***municipality has undertaken to increase the share of Fairtrade-certified products in purchases and procurement****, as outlined in the municipality's food policy program.* ***Suppliers of these goods and services must ensure****, through proper procedures, that the delivered* ***products are produced under conditions that comply with international agreements and national laws in the manufacturing country****"*

Procurement is also connected to other broader social goals such as promoting gender equality, lowering discrimination, promoting anti-corruption practices and opportunities for marginalized groups (e.g. people with criminal records). These mentions are generally broad, an example of this is Oskarshamn municipalitiy:

> *"...while also considering* ***social and ethical requirements****. Requirements shall, based on the nature of the procurement, be imposed on the suppliers with whom municipalities enter into agreements, ensuring that they:* ***Promote good working conditions and gender equality in the workplace****, comply with* ***labor market conditions*** *and/or collective agreements,* ***combat discrimination and corruption****, and* ***allow transparency*** *in their operations and whistleblower protection for employees.* ***These requirements shall also apply to subcontractors engaged by the supplier***." Oskarshamn municipality

Regardless of the number of procurement activities, not a single document wrote about social aspects under circular practices. However, procurement is occasionally connected with stimulating local economy and supporting social economy, such as cooperatives, NGOs and other community organizations. Only four municipalities, Botkyrkan, Härnösand, Norrtälje and Örebro, make reference to such inclusions:

Härnösand and Norrtälje municipality:

> *"****Non-profit organizations*** *(social enterprises, cooperatives, associations, foundations, non-governmental organizations) are an important resource in society and contribute to diversity. The municipal group shall, to the greatest extent possible,* ***facilitate the participation of non-profit organizations in its procurement processes****"*

"***Participation in the municipality's procurements should be facilitated*** *for all bidders, and opportunities should also be created for small and medium-sized enterprises as well as the* ***non-profit sector to participate.****"*

Both municipalities refer to the non-profit sector (*idéburen verksamhet*), a category that often includes citizen-driven initiatives due to their focus on generating social benefits rather than economic profits. This indicates that the social aspects of the circular economy could potentially be integrated into procurement practices by incorporating contributions from these socially oriented organizations

Botkykan municipality:

> *"Social requirements may involve the supplier creating employment and **job opportunities** for **people who are far from the labor market**, but they can also be used to **promote equality and gender equality**, programs for s**ocial integration**, and the **development of the social economy**."*

In the case of Botkyrkan, the document directly mentions the development of the ***social economy*** as a way to create new employment opportunities for individuals who are far from the labor market. The social economy contributes to the circular economy by encompassing groups such as cooperatives or associations driven by a sense of solidarity, which often focus on the durability of products (OECD/European Union, 2022).

Örebro municipality:

> *"Procuring with social considerations means designing evaluation criteria and specific contractual terms/conditions during the preparation of procurement documents so that the execution of the procured services aligns with certain social goals (e.g., increased employment, reduced social exclusion, etc.). This approach can also facilitate participation from the social economy, which generally has less knowledge and resources, making it easier for them to submit bids and compete in the tender evaluation.*

> *The social economy: Refers to organized activities that primarily have societal purposes, are based on democratic values, and are organizationally independent of the public sector. These social and economic activities are primarily carried out by associations, cooperatives, foundations, and similar organizations. Activities within the social economy are driven mainly by public benefit or member benefit, rather than profit interests."*

Örebro particularly has a more developed section for social matters. The inclusion of a definition of what "social economy" means, shows a commitment to incorporate a wider spectrum of actors

in the procurement process. However, to translate this statement into the inclusion of circular economy would just be an assumption.

5.4 Life-cycle of products

A concept frequently mentioned in municipal procurement documents is the "**lifecycle of products**". This term appears in various contexts, including as a stand-alone phrase or in connection with sustainability and/or circular economy. An example of a stand-alone mention is found in Skövde Municipality, which states:

> *"Life-cycle perspective should be fundamental when calculating total costs."*

The lifecycle of products encompasses a wide range of practices, from material sourcing and manufacturing to usage, maintenance, and end-of-life management. Ideally, references to the lifecycle perspective would include criteria such as the use of renewable energy, recycled materials in production, and repair options to extend product lifespan, which are important aspects of circular economy. However, in the analyzed documents, this broad scope is not fully connected to the lifecycle perspective. Instead, the concept is introduced in vague terms, often with no follow-up or actionable details, as seen in Umeå Municipality's statement:

> *"Furthermore, the lifecycle perspective shall be fundamental when assessing cost-effectiveness."*

In many cases, mentions of the lifecycle perspective are tied to cost-effectiveness or economic efficiency, particularly in reference to minimizing unnecessary purchases and overall, less resource usage. For example, Luleå Municipality mentions:

> *"The municipality shall contribute to more efficient resource management, meaning that purchases should result in **reduced resource** use **from a lifecycle perspective**."*

Despite these mentions, it remains unclear how municipalities integrate this perspective into procurement processes or what methods are employed to monitor and ensure compliance with these requirements. The lifecycle perspective has been also found in documents in connection to circular economy principles. A strong example comes from Stenungsund Municipality:

> "*The number of* ***unnecessary purchases should be minimized****. Purchases should be* ***avoided by utilizing resources already available within the organization*** *or through the* ***second-hand market****.* ***Circular solutions should be pursued****, along with services and products that have the s****mallest possible climate and environmental impact throughout their entire lifecycle***."

However, such comprehensive examples are rare. In many documents, the lifecycle perspective serves as the sole reference to environmental concerns, with no further discussion of circular economy principles, as demonstrated throughout the examples in this section. This approach suggests that municipalities primarily use procurement as a tool to address environmental issues, reflecting their commitment to contributing to national and international environmental goals. For instance, Malmö Municipality states:

> *"Suppliers shall strive to adopt a lifecycle perspective regarding the environmental impact of products and services and impose environmental requirements on subcontractors."*

Occasionally, municipalities link the lifecycle perspective to sustainability goals, either within paragraphs addressing broader sustainability matters or as part of sustainable public procurement. However, even in such cases the connection remains vague and lacking in detail. For example, Eskilstuna Municipality states:

> *"****Sustainable public procurement*** *means that the municipality meets the need for goods and services in a way that ensures a sound deal* ***across the entire lifecycle****."*

While mentions of the lifecycle perspective highlight its importance, the lack of elaboration or concrete implementation details makes it difficult to assess which parts or to what extent municipalities are integrating lifecycle thinking into their procurement processes. Without clear definitions, actionable guidance, or follow-up mechanisms, procurers are left to learn on their own what this concept means and how to integrate it within procurement.

5.5 Innovation

Generally, municipalities describe their procurement practices as being open and welcoming to innovative solutions. These solutions are intended to address issues and needs that cannot be solved through standard procurement. Some municipalities argue that innovative solutions should cover products or services that do not yet exist. Others emphasize being open to new solutions that can positively impact society, the environment, or the municipality itself.

> *"Municipal procurements should promote **innovation** and new thinking. This could involve a new product, service, or process, new ways of organizing business operations, work organization, or external relations. These solutions could bring improvement, change, or transformation within an operational area."* – Norrtälje Municipality

Most municipalities do not specify what type of innovation they are seeking. This means that the documents often lack clarity on whether the innovative solutions should be sustainable, circular, or focused solely on new techniques in general. Some documents only mention the term "innovation", while others refer to "innovative techniques or services." Consequently, it is not possible to conclude that these municipalities specifically aim for circular innovations. However, these documents do not exclude the possibility of circular innovative solutions being welcomed, provided they meet all the procurement criteria.

Another observation is that a few municipalities express a desire for innovative solutions without explicitly using the term "innovation". Instead, they use phrases like "smart ideas" or "smart design," as exemplified by Kalmar Municipality:

> *"Services and products with low environmental impact should be chosen. The municipality's procurement should also promote new environmentally **smart ideas**.*

Circular cycles, where waste is minimized through smart design and reuse, should be encouraged."

The Swedish public sector defines innovation as a way to find new solutions that create value for society, companies, and individuals. While this definition is broad, adding specific criteria such as "circular cycles" (as mentioned in Kalmar's example above) could facilitate better integration of circular economy principles in procurement. The absence of this conceptual clarity in most procurement documents highlights a recurring gap in the integration of circular economy practices.

5.6 Fair Trade Cities and other certifications

The Fair-Trade City certification is an international initiative involving over 2,000 cities and regions working towards ethical consumption and sustainable purchasing (Fairtrade, 2024a). This certification not only supports environmental welfare but also focuses on improving working conditions in developing countries by promoting regulations such as minimum wages and vacation entitlements.

The Fair-Trade certification is a recurrent mention among municipalities. This certification means that a municipality strategically integrates sustainability criteria into its procurement process while committing to collaborations with businesses and civil society. According to fair-trade statistics, 35 municipalities across Sweden hold this certification, 22 of which are part of the analyzed sample (Fairtrade, 2024b). This reference highlights their commitment to environmental and social responsibility. When fair-trade certification is mentioned, the documents often provide more detailed information, emphasizing the municipality's dedication to sustainability. For example, Piteå municipality:

"Piteå has been a certified Fairtrade City municipality since 2009. This means that the municipality, in collaboration with businesses and non-profit organizations, works to increase the availability, demand, and consumption of Fairtrade-certified products throughout the community. As part of this commitment, the municipality aims to increase the proportion of Fairtrade-certified products in its purchases and procurements..."

However, not all certified municipalities reflect this commitment in their procurement documents. For instance, Kristianstad and Umeå, certified since 2015 and 2013 respectively, do not mention their Fair-Trade City certification in their governing documents. This omission is particularly notable as it suggests a potential misalignment between their certifications and procurement practices, raising questions of non-compliance. Moreover, it highlights a missed opportunity to leverage the certification as a significant contributor to achieving sustainability goals through procurement.

In addition to Fair-Trade, other certifications, such as Svanen, Bra Miljöval, and the EU Ecolabel, are also mentioned in some documents. These certifications emphasize environmental and social procurement requirements, ensuring the integration of specific criteria into the procurement of goods and services. Västerås provides a good example of such integration:

> *"**Environmental requirements** can, for instance, be placed on products, such as properties **specified in technical specifications**, in conjunction with **performance and functionality** requirements, or through **references to environmental certifications** (e.g., Svanen, Bra Miljöval)."*

The analyzed documents present various certifications as requirements, each addressing specific aspects of procurement. Some certifications focus on environmental concerns, such as preventing deforestation, while others emphasize responsible consumption practices and work ethics. These certifications are frequently cited as tools to ensure compliance with sustainability standards in procurement. However, the connection between these certifications and the circular economy is not explicitly mentioned in any of the documents.

For instance, certifications like *Svanen* include requirements that consider the entire life cycle of products. This means placing particular emphasis on a product's raw materials, production processes, usage, and disposal. Such certifications encourage companies and organizations to prioritize renewable, recyclable, and sustainably produced raw materials (Svanen, 2024).

6. Discussion and contribution

This section discusses the findings analyzed from a circular economy perspective, addressing the research questions of this study. It also incorporates insights gathered through email conversations with municipalities during the process of collecting official documents. While these emails were not part of the data formally analyzed, the municipalities provided permission to broadly reference their statements to ensure anonymity.

By critically reflecting on the results, this section highlights key challenges, gaps, and opportunities in advancing circular procurement in Swedish municipalities. Furthermore, it offers insights into the potential for connecting CE principles with innovation and social sustainability goals to foster a more comprehensive and impactful approach to procurement

6.1 How are circular economy criteria defined and integrated into the procurement policy documents of Swedish municipalities?

6.1.1 Circular Economy Practices

One of the answers for the first research question is that the integration of circular economy (CE) principles into municipal procurement policies in Sweden is uneven and primarily focused on environmental objectives. The analyzed documents reveal that municipalities often perceive and/or portray CE as a tool for addressing environmental concerns, with limited emphasis on its broader economic and social dimensions. While this approach reflects a commitment to sustainability, it falls short of leveraging the full potential of CE to drive innovation, economic value creation, and social inclusion.

Municipal procurement documents often mention CE principles only sparingly. The life-cycle perspective, which aims to rethink how products are manufactured to maintain their quality throughout their lifecycle, is rarely addressed in detail, instead it is often mentioned in connection of “cost effectiveness”. This oversight highlights a need for clearer guidelines and more explicit integration of CE principles into procurement policies.

The findings of this study indicate that CE principles are not clearly differentiated from sustainability in the context of municipal procurement. In many cases, the two practices are conflated, with procurement governing documents often treating them as synonymous or closely intertwined. This lack of differentiation leaves procurers with the responsibility to interpret and interiorize themselves on how to integrate CE-specific requirements into procurement processes. This observation aligns with earlier research, which highlights the vagueness and ambiguity of procurement policies, making it difficult for practitioners to effectively implement CE principles (Alhola et al., 2018; Kristensen et al., 2021; Giné et al., 2022).

This blurriness contributes to procurement being a fragmented practice rather than a unified one (Sönnichsen & Clement, 2020). This means that procurement practices are not consistent across the country, which could affect the inclusion of CE, despite municipalities' efforts to cooperate by creating common or joint documents to regulate the procurement process. Consequently, this lack of clarity regarding the integration of circular economy principles in public procurement could hinder municipalities from fully benefiting from the circular economy. For instance, including repair criteria in procurement would not only contribute to waste management (Zapata Campos et al., 2022) but also reduce economic costs while addressing social inclusion and fostering a societal shift toward more sustainable practices (Zapata Campos & Zapata, 2017).

The complexity of municipal procurement is further illustrated by the need for flexibility in addressing gaps in formal policy documents. During the process of obtaining missing documents, some municipalities highlighted the necessity of creating "unofficial documents" to manage specific aspects of procurement. As described in the analysis, one municipality even replaced its formal policy with a guideline (riktlinjer), citing the lack of clarity in traditional policy documents. This adaptive approach highlights the challenges municipalities face in operationalizing procurement strategies, reinforcing earlier research findings and aligning with the observations in this study.

A significant observation from the analysis is that procurement documents lack detail on how social businesses can contribute to circular economy practices, leaving a large and innovative area underexplored. While the analysis shows that many municipalities express openness to innovative solutions, these opportunities are not explicitly tied to circular economy principles.

For instance, emphasizing “innovative repair services” in procurement strategies could bridge this gap. Such an approach would foster the growth of social enterprises, integrating social and economic sustainability into CE practices while benefiting society in the long term.

6.1.2 The uneven prioritization of Circular Economy dimensions

A second aspect of the answer is the significant variation of CE dimensions among municipalities. As shown in the analysis, dimensions like “Refuse” and “Rethink” are commonly addressed, often linked to reducing unnecessary purchases and rethinking procurement practices. However, other dimensions, such as “Repurpose” or “Repair,” are rarely mentioned, indicating gaps in policy focus. This inconsistency suggests a lack of uniformity in how CE practices are defined and integrated, pointing to opportunities for policy development to foster a more comprehensive approach to circular procurement.

Another critical observation is the underrepresentation of lifecycle extension practices, such as "Repair" and "Refurbish," in procurement policies. The analysis reveals that these dimensions, which are fundamental to CE, are rarely prioritized or fully developed in detail. This indicates a missed opportunity to address key aspects of CE that emphasize product durability and waste reduction. Research highlights that these dimensions are often linked to social contexts, including community-based initiatives that actively involve citizens in repair, refurbishment, and remanufacturing processes (Lane & Kerr Allen, 2024). Addressing this gap through targeted initiatives, such as pilot programs or contracts explicitly requiring repair and refurbishment, could not only extend product lifecycles but also support repair-focused enterprises, contributing to both circular and social sustainability.

6.1.3 Social dimensions of circular economy

A third component of the answer is the economic aspects of CE. From the analysis it can be said that the economic aspects of CE, such as creating value through efficient resource use, waste reduction, and minimizing environmental impact, are only partially integrated. Practices like recycling, recovering, and repurposing materials, which can reduce costs and stimulate innovation, are mentioned but are not consistently integrated in the documents. The analysis shows that the prioritization of certain CE dimensions varies significantly among municipalities.

For example, dimensions like “Refuse” and “Rethink” are commonly addressed, often linked to reducing unnecessary purchases and rethinking procurement practices. However, other dimensions, such as “Repurpose” or “Repair,” are rarely mentioned, indicating gaps in policy focus. This inconsistency suggests a lack of uniformity in how CE practices are defined and integrated, pointing to opportunities for policy development to foster a more comprehensive approach to circular procurement.

Enabling the participation of circular citizen driven initiatives in the procurement processes would allow the circular economy to realize its full potential by connecting its principles to local social contexts. By involving community organizations in procurement, municipalities could expand the scope of circular practices, aligning them with broader integration policies and offering opportunities for long-term unemployed individuals and newly arrived residents. These efforts could also strengthen communities by fostering a sense of belonging and shared purpose, reducing barriers, and promoting inclusion.

A significant gap identified in the analyzed municipal procurement documents is the lack of emphasis on how social businesses and community-driven initiatives can contribute to circular economy (CE) practices. While many municipalities express openness to innovation, these opportunities are rarely tied explicitly to CE principles. For instance, incorporating “innovative repair services” into procurement strategies could help bridge this gap, fostering the growth of social enterprises and aligning CE practices with social and economic sustainability goals. This oversight leaves a large and innovative area underexplored, particularly given the potential of social dimensions to extend product lifecycles, promote local job creation, and strengthen community engagement.

6.2 Are there any differences in the use of circular economy dimensions related to the amount of procurement activities?

6.2.1 Circular Economy integration across activity groups

According to the analysis, the second research question can be answered from 3 different perspectives. The first, is the integration of CE across activity groups where the predominance of the dimensions “rethink,” “refuse,” and “reduce” across all activity groups in procurement

documents can potentially be attributed to the national strategy for procurement. According to the Swedish Environmental Institute (IVL), this strategy encourages public-sector actors to adopt a life-cycle perspective in their procurement processes, promoting a holistic view that minimizes "unwanted spillover effects" and ensures more efficient resource use (Svensk Miljö Institutet, 2024). The emphasis on these dimensions reflects the alignment of municipal procurement documents with this national strategy.

Mentions of the various dimensions appear relatively consistent across all activity groups, with no major differences in the explicit references to circular economy principles. This consistency can suggest a uniform approach to building policy documents across the country.

During the analysis it was noted that procurement cooperation is frequently emphasized by municipalities, both on their websites and in their management documents, often spanning municipalities across different activity groups. For example, Östersund collaborates with municipalities in Jämtland, Motala with municipalities in Västra Götaland, and Vetlanda with several municipalities in the Jönköping region. In the latter case, these municipalities worked together to develop a common "sustainable procurement guideline." As a result of this collaboration, other municipalities' procurements can be found listed on Vetlanda's official municipal website.

These close collaborations may contribute to the observed uniformity in procurement documents. While it is not possible to determine the exact reasons behind this consistency, it could be influenced by shared strategies or alignment with national guidelines. This raises interesting questions about how municipalities across different activity groups interpret and apply circular directives in similar ways, even when their levels of procurement activity differ. This consistency might also reflect a prioritization of aligning with national goals, potentially at the expense of addressing specific local priorities. This may explain why both high- and low-activity municipalities exhibit similar patterns in their integration of CE principles, despite differences in their resources and policy development capacities.

6.2.2 Differences between activity groups

The second, is differences between activity groups. The analysis shows that low procurement activity municipalities (<50 procurements/year) tend to have less developed policy documents

and often rely on fewer governing documents. In some cases, they use guidelines specifically for "*direktupphandling*" (direct procurement of goods or services from specific businesses for costs below 700 thousand SEK). This trend is also observed in the medium procurement group, though not to the same extent.

These differences in handling managing documents may be attributed to the need for clarity. For example, one municipality stated in its meeting minutes (*sammanträdesprotokoll*) the necessity of removing a formal policy and replacing it with guidelines to ensure greater clarity. Another possible explanation is resource availability and the specific needs of the municipality. With fewer procurements per year, the resources allocated to the procurement department might be lower, which may lead these municipalities to manage procurement using unofficial documents or through group collaborations, as one municipality mentioned when providing the policy I requested by email.

When it comes to mentioning CE or its principles, their documents often lack a holistic perspective or practical frameworks for implementation. This may be due to resource limitations and the specific needs of smaller municipalities.

In contrast, municipalities with high procurement activity levels (100+ procurements/year) tend to have more developed procurement policies and governing documents. These municipalities are better positioned to adopt a comprehensive approach to circular economy practices. They often demonstrate a broader understanding of CE principles, incorporating dimensions such as lifecycle extension, resource recovery, and waste minimization into their policies. For instance, their documents can show examples of what types of services to consider or goods that should be avoided.

This comparison highlights that while high-activity municipalities are more likely to incorporate CE dimensions in a more structured and clear manner through their policy documents, low-activity municipalities face challenges that can be related to resource constraints and policy development. However, despite these differences, some commonalities remain, such as the consistent emphasis on broad CE dimensions like "rethink," "refuse," and "reduce" across all activity groups.

6.2.3 National guidelines, local plans and certifications

Third and last, is the use of national guidelines, local plans and certifications. The analysis shows that certifications such as Fair-Trade City, Svanen, and Bra Miljöval are mentioned in the documents of only a few municipalities, regardless of their procurement activity levels. These certifications emphasize sustainability goals and demonstrate a commitment to environmental and social objectives. However, their potential to support CE practices is not fully realized. Even though certifications ensure that certain criteria are being used and evaluated, references to certifications connected to CE are often vague. They are typically mentioned in isolation and are not explicitly aligned with general aspects of CE or specific dimensions such as "Reuse" or "Remanufacture."

Although many municipalities in the sample hold a Fair-Trade City certification, not all of them mention this in their policy documents. Instead, it is sometimes referenced on their websites. Similarly, mentions of requiring specific certifications for products are not clearly articulated in the documents of either activity group.

Many municipalities also make reference to alternative documents, such as waste plans or municipal plans. However, it is often impossible to directly link circular economy principles to these referenced documents with a bare eye, beyond speculating that some elements might hint at CE. In conclusion, procurement activity levels do not significantly impact how referencing to other documents and certifications are integrated into policy documents.

7. Conclusion

This study aimed to examine how Swedish municipalities define and integrate circular economy (CE) criteria into their procurement policies and governing documents, with a focus on the strategic and managerial aspects of circularity. It also sought to explore differences in the use of CE dimensions across municipalities with varying procurement activity levels.

The analysis reveals that while municipalities have made some progress in incorporating CE principles into procurement, significant gaps remain. Circular economy criteria are often framed within the context of environmental sustainability, with limited emphasis on their broader

economic and social dimensions. This conflation of CE with sustainability creates ambiguity and could be one of the hinders for the full realization of circular economy practices.

Municipalities also face challenges in achieving a fully closed-loop approach to production. Dimensions such as repair, refurbishment, and repurposing are underrepresented in procurement policies. These dimensions, if emphasized, could extend product lifecycles, reduce waste, and foster local job creation. The absence of social dimensions, such as engaging community organizations and social enterprises, further limits the transformative potential of CE practices.

Differences among municipalities based on procurement activity levels were also observed. Municipalities with higher procurement activity tend to have more developed policies and a more holistic understanding of circularity. In contrast, smaller municipalities often provide shorter or narrower mentions of the CE dimensions, which could be attributed to a lack of resources highlighting the need for targeted support and collaboration.

These findings underscore the importance of clearer policy guidance, innovative procurement practices, and the inclusion of social dimensions to advance CE integration. Policymakers could play a crucial role in developing standardized frameworks and providing resources to enable municipalities to adopt circular practices more comprehensively. Additionally, the answers of this study contribute to the existing knowledge of circular economy by developing the understanding of CE's different dimensions as well as its use within governance tools, such as procurement, to shape policies and drive societies towards more responsible consumption.

While this study provides valuable insights, it is not without limitations. The analysis is based on publicly available documents, which may not fully reflect the municipalities' practices or intentions in the bidding process. Future research could explore the practical implementation of circular economy principles and their impact on local communities and markets.

In conclusion, integrating circular economy principles into procurement policies presents an opportunity for municipalities to drive sustainability, innovation, and social inclusion. By addressing the identified gaps and leveraging the potential of CE practices, municipalities can play a pivotal role in advancing both national and local environmental, economic, and social goals. To advance the adoption of CE principles, municipalities could benefit from fostering

innovation within their procurement processes. Developing frameworks that prioritize repair, refurbishment, and repurpose could address existing gaps and enable more comprehensive CE adoption. By integrating these practices, municipalities could not only extend product lifecycles but also create opportunities for market growth, social inclusion, and environmental sustainability. This would represent a shift from addressing CE as an environmental tool to a multidimensional strategy that incorporates its economic and social benefits.

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