

**ENVIRONMENTAL MANAGEMENT PRACTICES  
AND INSTITUTIONAL PRESSURES IN FINNISH  
MUNICIPALITIES**

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**ABSTRACT**

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Abstract  <p>According to the municipality act, Finnish municipalities must consider sustainability in their operations. The current concern about climate change has caused new pressures for municipalities to pursue sustainability. However, Finnish municipalities are facing several other changes with only limited resources. Still, they have set higher targets for their environmental work than required. The study tries to contribute to the inconsistency by adopting institutional theory to examine the influence of stakeholders on municipalities' environmental work. Authors, such as the EU, have published several guides listing environmental management practices (EMPs) for municipalities to attain sustainability. The study, therefore, tries to identify EMPs, differences in their usage between municipalities and institutional pressures behind their adoption. The study found that municipalities have adopted multiple practices, but larger municipalities were more active to adopt them than smaller municipalities. The municipalities mainly focused on emissions reduction and executed sustainable transportation and energy efficiency practices. The single most common area to execute practices was zoning. The study found that mimetic pressures were insignificant but identified several normative and regulatory pressures. Furthermore, the study suggested that municipalities had acknowledged the importance of internal factors, such as organisational culture, in environmental work. Even if municipalities had paid much attention to environmental work, they seemed to lack a coherent view of sustainability. The study agrees with the literature that sustainability and other factors might lead to competition among municipalities. In particular, larger municipalities participated internationally in this competition. The study suggests that normative pressure from stakeholders cause competition which might sometimes lead to conflicting practices. Furthermore, the study partly supports the literature by indicating that competition and normative pressures encourage municipalities to adopt EMPs. Thus, the study suggests that the theory about EMPs formulated for the business sector could also be partly adopted in the municipality sector.</p>
Keywords Environmental management practice, institutional pressure, sustainability, environmental work

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<p>Kuntalaki on aiemminkin velvoittanut kunnat huomioimaan kestävän kehityksen toiminnoissaan, mutta kasvava huoli ilmastonmuutoksesta on lisännyt kuntien tarvetta huomioida kestävä kehitys laajemmin. Kunnat kohtaavat muitakin muutoksia toimintaympäristössään ja joutuvat selviytymään rajoitetuilla resursseilla. Tästä huolimatta kunnat ovat asettaneet pakollisia korkeampia tavoitteita ympäristötyölleen. Tämä tutkielma pyrkii löytämään vastauksia tähän ristiriitaan soveltamalla institutionaalista teoriaa media-analyysiin, johon on valittu kymmenen kuntaa. Järjestöt ja viranomaiset ovat julkaisseet kattavia oppaita ympäristötyöstä sisältäen myös yksityiskohtaisia listauksia ympäristöjohtamisen käytänteistä. Tämä tutkielma ei siksi pyri listaamaan kuntien käytänteitä, vaan löytämään kuntien ympäristötyön painopisteitä ja eroja käytännöissä kuntien välillä. Lisäksi tutkielma pyrkii ymmärtämään institutionaalisia paineita, jotka johtavat käytänteiden omaksumiseen. Tutkielman mukaan kunnat ovat omaksuneet useita käytänteitä, mutta suuremmat kunnat olivat pieniä aktiivisempia. Kunnat painottivat päästöjen vähentämisen merkitystä ja toteuttivat eniten toimenpiteitä liittyen kestävän kehityksen mukaiseen liikenteeseen ja energiatehokkuuteen. Yleinen yksittäinen käytäntö liittyi kaavoitukseen. Tutkielma ei löytänyt merkittäviä mimeettisiä paineita, mutta onnistui tuottamaan yksityiskohtaisempaa tietoa kuntiin vaikuttavista normatiivisista sekä regulatiivisista paineista. Sisäisistä tekijöistä kunnat painottivat organisaatiokulttuurin merkitystä, mutta vaikutti siltä, ettei kunnilla ollut selvää kokonaiskäsitystä kestävydestä. Tutkielma vahvisti kirjallisuuden käsitystä, jossa kestävyden tavoittelu yhdessä muiden tekijöiden kanssa johtaa kuntien väliseen kilpailuun. Erityisesti suuremmat kunnat olivat mukana tässä kilpailussa, joka saattoi johtaa ristiriitaisiin käytäntöihin. Lisäksi kirjallisuus tuki tutkielman väitettä, että normatiiviset paineet ja kilpailu kannustavat kuntia omaksumaan ympäristöjohtamisen käytänteitä. Näyttääkin siltä, että ympäristöjohtamisen käytänteitä koskeva teoria, joka on kehitetty yrityssektoria varten, voidaan ainakin osittain laajentaa kuntasektorilla käytettäväksi.</p>	
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# 1 INTRODUCTION

Municipalities are going through several transitions, among which the sustainability transitions is one. The transition toward sustainable development is topical for local governments around the globe (Werbeloff et al., 2017), but Finland has been at the forefront of environmental policy development partly because of Finland's energy intensity (Mickwitz et al., 2011). People moving to urban areas will force municipalities to develop services for the growing demand, simultaneously considering sustainability (Johnston et al., 2013). Municipalities' work for sustainability has also gained attention in society and media (e.g., Lamminen, 2022). Hence, municipalities face growing pressure from their stakeholders to contribute to sustainability.

Municipalities control many sectors where they could further sustainability, and thus they have several possibilities to contribute to the environment. Examples of sectors where sustainability concerns influence municipalities are waste management, transportation, food and water supply, housing, and infrastructure development (Johnston et al., 2013; Werbeloff et al., 2017). Even if climate change and environmental concerns have posed challenges to municipalities, they also create new possibilities for municipalities to benefit by using their strengths (Mattsson, 2012). According to Johnston et al. (2013), municipalities' strength in climate work is their ability to react quickly and work at the grassroots level. Maybe as a result of this, the international community has pushed municipalities to the foci of sustainability.

International nongovernmental organisations (NGOs) and governments have determined sustainability targets such as the *Agenda2030* (United Nations, 2015) and the *Green Future* (HM Government, 2018). In 2016 Finnish government published the *society's commitment to sustainable development*, including ambiguous targets for the public sector, Finnish companies, and private persons (Berg et al., 2019). According to the commitment, sustainability is a necessity and an opportunity, but succeeding requires cooperation and shared objectives between different levels of the society (Commission on Sustainable Development, 2016). Municipalities have answered this challenge and have been actively searching for ways to reduce their influence on climate change. For citizens, this is good news since municipalities can offer possibilities for sustainable living through their various duties, which are essential for the community (Heuru et al., 2011; Riekkinen et al., 2020).

Researchers have started to pay attention to sustainability in municipalities. Primarily literature has focused on commitment networks (e.g., Karhinen et al., 2021). According to Schmidt-Thomé et al. (2020), medium-sized municipalities have been active in national networks, but small municipalities lack a coherent sustainability focus. However, smaller

municipalities are taking part in Hinku-network, and some have been members for several years (hiilineutraalisuomi.fi, 2021). Nevertheless, municipalities might consider sustainability too narrowly (Zeemering, 2018).

It would be easy to explain the narrow focus on sustainability by the limited resources of municipalities, but why municipalities would have then set higher targets than required as Lamminmäki (2018) suggested. It is not questionable whether municipalities, especially smaller ones, deal with inadequate resources (Paasi & Zimmerbauer, 2011; Helminen, 2021), so there must be something else behind the desire to contribute to sustainability. This study tries to explain the drivers behind municipalities' environmental work using institutional theory.

Municipalities should use the limited resources wisely in environmental work. Practices and their effect have been widely studied in the business sector (Laugen & Boer, 2007). Also, the public sector has acknowledged the importance of practices. Canfora et al. (2019) have gathered a comprehensive guide for public administration published by the European Union. Thus, it would not be meaningful to collect a list of practices that municipalities could use but rather examine the differences between Finnish municipalities to investigate why and how they have adopted environmental management practices (EMPs).

The literature about EMPs has focused on the business sector (e.g., Christmann, 2000; Laugen & Boer, 2007). Similarly to municipalities, firms also adapt EMPs to achieve higher environmental targets than required (Delmas & Toffel, 2004). However, there is a lack of literature examining the effects of institutional pressures on EMPs used in municipalities.

Practices are essential to execute environmental work effectively with limited resources. Thus, municipalities should identify effective practices to further environmental work in municipalities. However, since institutional pressures affect EMPs, municipalities with different characteristics will not probably be able to adopt similar practices. Thus, the study aims to examine the differences in EMPs between different sized municipalities, explore institutional pressures affecting EMPs and explain why municipalities have chosen specific EMPs by answering the following research questions.

1. What practices do Finnish municipalities use in their sustainability work, and how do they differ between municipalities?
2. What external pressures and internal factors reflect the selection of practices?



The study will first go through the characteristics of Finnish municipalities in the theory chapter. The chapter also presents theories related to practices and institutional pressures. In the end, the chapter describes the theoretical framework for the study. The study continues to present the research methods in chapter three. The fourth chapter describes the process of data analysis and presents the results. Finally, the conclusion chapter summarises the research process and compares results to the existing literature. The conclusion chapter also presents the study's limitations and further research ideas.

## 2 THEORY AND KEY CONCEPTS OF THE STUDY

This chapter will discuss the key concepts related to the study. The chapter will briefly overview the history of municipalities' environmental work and look at how municipalities have used EMPs. Key differences between the public and municipality sectors are also presented. In the end, attention will be paid to creating a theoretical framework for this study.

### 2.1 Municipalities and environmental work

Finnish municipalities' evolution started at the end of the 19th century when they were established based on the parishes governed by the church, and the municipal laws were enacted (Heuru et al., 2011; Paasi & Zimmerbauer, 2011). However, the traditions of the regional self-administration in Finland extend to the late middle age (Heuru et al., 2011). Heuru et al. (2011) defined the municipality as a regional and a political community trying to achieve the goals determined by its democratic organisation. It is worth noting that the authors pointed out that in the international context, the concept of the municipality is broader than it is traditionally understood in Finland. The global concept includes regional self-administrative entities which might be smaller or larger than municipalities in Finland (Heuru et al., 2011).

Several laws determine the function of the municipality, and through them, the government can affect municipalities' operations. On the other hand, within the legislation, municipalities have the right to self-administration, and they act as representatives of a local government (Paasi & Zimmerbauer, 2011; Valtiovarainministeriö, n.d.). A law has set sustainable development to be a legislative task of Finnish municipalities already in 1995 (Kuntalaki 365/1995 1§, 1995). The law extends to voluntarily adapted actions and legislative duties (Heuru et al., 2011). In addition to the legislation, hard law includes actions that will cause sanctions in case of non-compliance (Kasa et al., 2018). Besides the binding actions, the government also uses softer instruments, such as economic incentives, non-binding laws and recommendations, to guide municipalities towards sustainable development.

The findings of Kasa et al. (2018) might question the usefulness of the softer approach. They found that hard regulation is still needed even though soft policy measures are helpful. The authors underlined that soft policy is beneficial under prevailing complex regulations. On the other hand, they found that if a lack of resources, e.g., workforce or finance, is faced, hard measures could pay off. Besides, because of the parliamentary nature of the municipalities' decision making, it is essential that environmental work can be justified as affordable and subservient for multiple stakeholders to create common goals (OECD, 2010;

Valtiovarainministeriö, n.d.). These aspects greatly outline the complex nature of policymaking at the local level.

The self-administration of municipalities is a sum of regional, political, economic, operational, and legal factors (Heuru et al., 2011). However, municipalities also have a cultural side, and they are permitted to take care of and develop cultural services in their area (Heuru et al., 2011). Their role as providers of education, health care, culture, and several services has reinforced citizens' belonging to the local identity (Paasi & Zimmerbauer, 2011). This role is also affected by the long history of municipalities as an institution (Paasi & Zimmerbauer, 2011), and citizens in Finnish municipalities have grown accustomed to the idea that services provided by the municipality are self-evidence (Heuru et al., 2011).

The legislation has determined several requirements for the services that municipalities have to produce, and it has recently spread to determine operations in sectors where municipalities have previously been able to work relatively freely (Heuru et al., 2011). These reforms have opened the services and forced municipalities to invite tenders widely in their acquisitions (Heuru et al., 2011). Simultaneously, especially smaller municipalities struggle to arrange legislative services (Paasi & Zimmerbauer, 2011). However, the benefits of the affluent Nordic society are wanted to secure (Heuru et al., 2011). Therefore, municipalities have started to emerge, and cost savings are becoming more critical as the structure of the population is developing in a not conducive direction in the future (Paasi & Zimmerbauer, 2011). Therefore, municipalities might face similar requirements for efficiency as private companies. Municipalities have to balance the duties and resources to continue producing multiple services (Heuru et al., 2011). Simultaneously, municipalities' operational environment is changing and posing new challenges (Schmidt-Thomé et al., 2020).

Norén & von Malmborg (2004, pp. 141) presented that the public sector differs from the business sector in many ways. First, in the public sector, the counterpart for a company is an administration, and the target group consists of citizens instead of customers. However, citizens in municipalities are likely to observe their role more like a customer than they used to (Heuru et al., 2011). Therefore, citizens' liability has diminished since the rights related to citizenship are perceived as overwhelming (Heuru et al., 2011). Secondly, whereas customers are voluntarily engaged to a company, citizens' relationship with the municipality can be considered compulsory. The third difference comes to finance. Whereas companies rely on revenues, the public sector collects taxes and redistributes them. Finally, Norén & von Malmborg (2004, pp. 141) highlighted that goal-setting differs between public and business sectors: while the principle of efficiency often guides the business, the public sector is seeking justice in its operations. However, Norén & von Malmborg (2004) stated that municipalities are a mixture of elements from both the public and business sectors since municipalities can own companies that produce services for the citizens but at the same gather taxes and redistribute incomes. The mix of the elements is an

essential characteristic of municipalities (Heuru et al., 2011). However, the complex nature of municipalities forces us to examine them with caution.

All United Nations members have pledged themselves to carry out the 17 sustainable development goals (SDG) presented in *Agenda2030* (Lähteenoja et al., 2019). The Prime Minister's Office (2016) reported that *Agenda2030* was quickly involved in decision-making in Finland. Municipalities have the keys to fulfilling the SDGs because they provide several basic services and have a right to control the land use in their region (The Prime Minister's Office, 2016; Schmidt-Thomé et al., 2020; Zeemering, 2018). In addition to SDGs, municipalities have voluntarily adopted optional goals for different reasons (Schmidt-Thomé et al., 2020). Zeemering (2018) presented that one possible reason for the goal-setting might be that municipalities perceive threats posed by climate change and therefore want to underline the local environmental responsibility and avoid worse scenarios. Delmas & Toffel (2004) suggested that another reason for going beyond regulatory compliance is the pressure from stakeholders.

Especially, active inclusion has been a strength in Finland's sustainability politics (Berg et al., 2019). Berg et al. (2019) mentioned that sustainable development had become a widely accepted goal as a result of inclusion. The acceptance supports the sustainability transition in municipalities. It also seems that municipalities engaged in climate work have adopted sustainable principles broadly in their operations (Prime Minister's Office, 2016). However, the administrative sector might perceive the concepts of sustainability too narrowly. Zeemering (2018) pointed out that local governments might accentuate the environmental dimension of sustainability instead of considering sustainability in light of the triple bottom line or SDGs. Thus, more work is needed to achieve a broad consensus on sustainability among municipalities (Prime Minister's Office, 2016).

A possible stumbling block for integrating sustainability in municipalities might be related to the international goals not shared at the local level. For example, Hajer et al. (2015) pointed out in their research that so-called *cockpit-ism* may prevent climate work in municipalities. In other words, outlines done by a higher authority, e.g., government or international NGO, might not be in line with the resources of the executive subordinate since the international context has shaped the targets. The misfit endangers the active participation of decision-makers because the authority might not consider their initiatives (Lyytimäki et al., 2016). The findings of Andrews et al. (2011) support the suggestion that *cockpit-ism* is an existing problem. The authors mentioned that advice related to implementation given by a higher authority might not influence the organisation's performance.

Furthermore, few cases possibly demonstrate the problem of *cockpit-ism* in Finland. For example, according to Schmidt-Thomé et al. (2020), Joas (2019) found in the URMI project that municipalities do not recognise global problems that are related to sustainability. Due to this, Schmidt-Thomé et al. (2020) mentioned that municipalities are primarily interested in working for their own goals. Thus, it seems that municipalities have neglected global targets at the local level. However, Lyytimäki et al. (2016) mentioned that Finland has tools to

encounter and overcome the problems caused by *cockpit-ism*, but the results of Schmidt-Thomé et al. (2020) question if this has been realised at the local level.

Municipalities promote environmental work through collaborative networks focusing on climate issues. Schmidt-Thomé et al. (2020) suggested that these networks serve as an important place for learning. The study of Karhinen et al. (2021) done about the Hinku-network supported this conclusion. The study showed that networks bringing together actors committed to climate work might positively affect the outcomes from the environmental perspective. The results indicated that the emissions of the municipalities belonging to the Hinku-network were 3.1% lower than they would be without the membership. However, municipalities are also encouraged to seek information outside these networks. For example, Kerkkänen (2012) suggested that municipalities also find necessary knowledge from commercial or governmental organisations.

According to Schmidt-Thomé et al. (2020), ambitiousness was another factor that has built up the climate work in municipalities. As proof of this, the SITRA's report acknowledged that Finnish municipalities had set higher targets for their actions than the Finnish government requires (Lamminmäki, 2018). It also seems that large municipalities in Finland are pursuing the role of sustainable forerunner in international networks (Schmidt-Thomé et al., 2020). Nevertheless, higher goals do not remove the fact that municipalities are highly dependent on the government's climate policy (Lamminmäki, 2018), and changes in the system level are needed to further sustainability in municipalities (Schmidt-Thomé et al., 2020). However, Schmidt-Thomé et al. (2020) suggested that ambitiousness in climate work leads to competition between municipalities with several side effects, such as improved communication. With globalisation and new liberalisation, the competition between municipalities seems to lead municipalities to execute differentiation strategies (Albrecht & Kortelainen, 2021).

Zeemering (2018) wanted to highlight the importance of the management process instead of using policy tools in local governments. In addition, he stated that management discipline still lacks clear frameworks to embed sustainability into operations. To solve the problem, Zeemering (2018) suggested that sustainability should be considered in strategic processes and integrated into the reform of local governments. Thus, the author suggested that municipalities should thrive for *embedded sustainability* and rely more on "evidence-based decision making". Currently, narrow environmental plans and concerns address brief enthusiasm toward the environment (Zeemering, 2018). According to Zeemering (2018), only limited organisational benefits can be gained before sustainability is embedded into the strategic level and broader and longer-term interests in environmental issues are addressed.

Literature has questioned the green strategy and its benefits, and researchers have got inconsistent results (Delmas et al., 2011). Delmas et al. (2011) mentioned that actors working in socially responsible investing have suggested that organisations that have successfully considered environmental issues in their operations are overall well managed. Therefore, the benefits of a green strategy might be limited, and the success has resulted during other management processes. The authors continued that the "absorptive capability" determines

how a company can assimilate environmental strategies and suggested that companies should rather invest in their absorptive capability instead of straight environmental actions. Inferring from the results of Delmas et al. (2011) and Zeemering (2018), climate work must be embedded broadly in municipalities' operations.

Successful environmental work requires cross-sectional collaboration in municipalities (Mattsson, 2012). Mattsson (2012) argues that effective implementation and execution require coordination even if the actions can be executed unprompted in divisions. The author pointed out that the flow of information is not always as fluent as it should be, and municipalities might not divide the responsibility for the environmental actions. However, in Mattsson's study, 48% of respondents said coordination was carried out at least with a good grade. The report also says that the environmental sector carries most often the responsibility. However, 45% of respondents said that also central administration carries a part of the responsibility. The key for successful coordination seemed to be well-planned implementation and actively communicated targets (Mattsson, 2012). Also, Kerkkänen (2012) advised municipalities to determine environmental work targets and control their fulfilment.

Nevertheless, these targets must have clear connections to concrete actions (Mattsson, 2012). Furthermore, Mattsson (2012) highlighted that successful environmental work needs commitment through the organisation but especially from the managers because the environmental sector itself might not be powerful enough to require commitment from all sectors. Besides self-commitment, Kerkkänen (2012) mentioned that it is vital that the active sustainability actors bind other organisation members to the sustainability transition. Still, in the end, adequate resources are vital when engaging employees in the environmental plan successfully (Delmas et al., 2011).

## **2.2 Environmental management practices and their use in the municipality sector**

Authors have defined practices in different ways, but the similarity seems to be that they consider practices as a way of doing something. For example, Reckwitz (2002) cleared out that practices form frameworks for actions and explained that it is crucial to separate practices from practice. Reckwitz (2002) continued that practices consist of several elements and interrelationships. He explained that such elements could be bodily and mental forms, things and their usage, and individual elements such as motivation, emotions, and background information. According to Reckwitz (2002), practices are ways of doing something specific through multiple actions. Therefore, Reckwitz (2002) argues that practices consist of actions and form practice through them. Thus, individuals omit several practices and fit them together to guide understanding, knowing, and desiring (Reckwitz, 2002).

Schatzki's (2006) definition of practices questions Reckwitz's (2002) definition in some detail. Schatzki (2006) defined the practices as various temporal actions concerning time and place. According to Schatzki (2006, pp. 1864 & 1868), practices are affected by four factors: practical understanding, rules, teleological structuring, and general understanding. However, both authors agreed that the practices mean a determined way of doing something. Furthermore, they go along with the idea that practices contact emotions and understanding.

The difference seems to be that Reckwitz (2002) argues that practices are carried through the actions, whereas Schatzki (2006) stated that actions are part of practices. Schatzki (2006) based his claim on the proposal that practices have two key characteristics: a structure and an action. Whittington (2006), who based his claims on *strategy as practice* approach, explained that the practice includes concrete actions through which executers realise the strategy. Therefore, the definition of Whittington (2006) is similar to the definition of Reckwitz (2002) but contradictory to Schatzki's (2006) definition. When comparing this approach to practices with Schatzki's (2006), we can see that the significant difference is related to the role of actions.

Practices also have other characteristics than actions. Orlikowski (2007) emphasised the relation between materiality and practices. She stated that the materiality could be visible and appear in clothing and the interior. Practices can also occur imperceptibly in operations, such as waste management or data flows (Orlikowski, 2007). Materiality is also affecting our practices. For example, Orlikowski (2007) mentioned that search machines affect practices by filtering the results following previous searches. Also, other technological devices, e.g., mobile phones, are strongly changing everyday practices (Orlikowski, 2007).

The concept of practices is unclear and strongly related to contexts. Even among a specific discipline, the definitions of practices might vary (Jarzabkowski & Spee, 2009). Jarzabkowski & Spee (2009) mentioned that one reason for this is the problem of how a single practice can be divided from the network of interrelated practices. However, the definition of Montabon et al. (2007) is widely accepted in the literature. Montabon et al. (2007, pp. 998) defined EMPs as "techniques, policies and procedures a firm uses that are specifically aimed at monitoring and controlling the impact of its operations on the natural environment".

For this study, the researcher mixed earlier definitions and the traditional concept of business practices, in which practices are any tactics or acts done to reach targets efficiently. Thus, in this study, practices are defined as tactics and concrete actions done by the individuals to execute strategic outlines and reach the targets of the environmental plan. Primarily, this study pays attention to the actions related to forming practice through practices mentioned by Reckwitz (2002) and Whittington (2006). Therefore, this study's definition is more expansive and concerns practices and actions broadly in municipalities' environmental work. For this definition, it is essential to acknowledge that Schatzki (2006) stated that practices are stored in the organisation's memory and underlie the structures of practices even if they are not actively used. For example,

principles used to guide the transport infrastructure are not visible when construction work is not going on. However, they can still affect decision making if the municipality favours solutions that support cycling and walking as a mode of transport.

The literature divides practices into two groups based on the driver behind the practice's execution: voluntarily adopted and regulatory adjusted. Interestingly from the perspective of policymakers, Tatoglu et al. (2020) found that more customer-focused enterprises that have adopted the strategy of differentiation are more likely to execute voluntary environmental management practices. Also, Delmas & Toffel (2004) mentioned that the literature widely acknowledges that concern about customers drives firms to adopt EMPs. Tatoglu et al. (2020) also found that if the enterprise considers stakeholders, it is more likely to adopt environmental management practices voluntarily.

Researchers and managers have paid attention to best practices and their maximum effects on companies (Laugen & Boer, 2007). However, Laugen and Boer (2007) mentioned that the literature mostly ignores the implementation process of the practices. The authors conducted a study to contribute to this and found that a holistic implementation will improve long-term performance. As a downside, the incremental implementation might at first reduce the performance. However, the authors pointed out that immediate implementation will not rapidly enhance the company's ability to compete. A few years later, Andrews et al. (2011) found that it is unexpected that any implementation style by itself could improve the performance. Instead, the authors suggested that a fit between strategic orientation and implementation style must be found to proceed. Nevertheless, Laugen and Boer (2007) conducted their study in the business sector, whereas Andrews et al. (2011) dealt with public organisations.

Christmann (2000) stated that because costs caused by environmental protection are increasing, companies should adopt practices that protect the environment, simultaneously preserving the cost-efficiency. According to Christmann (2000), the discipline of environmental management mostly agrees that best environmental management practices exist to achieve this. However, Delmas et al. (2011) mentioned that according to Marcus (2005), understanding the implementation of the EMPs and strategies in terms of competitive advantage is still vague.

Implementing EMPs requires appropriate capabilities from organisations, and therefore complex environmental changes should be avoided (Bowen et al., 2001). The authors argued that the capabilities could be improved by strengthening the proactive attitude towards the environment and developing strategic processes. However, current managers have little knowledge about this (Bowen et al., 2001). Besides, Yu & Ramanathan (2016) found supporting results and acknowledged that capabilities influence environmental management practices. Furthermore, they found that environmental management practices have a remarkable effect on environmental performance, which occurred positively. Also, the earlier literature has acknowledged this relationship (Yu & Ramanathan, 2016). Thus, EMPs transmit a positive effect on environmental



management, but the practices are dependent on different capabilities (Yu & Ramanathan, 2016).

The findings of Laugen and Boer (2007) and Andrews et al. (2011) raise a question about how the knowledge about practices gained from the business sector can be used in the public sector context. Few authors have examined the differences between business and public sectors. For example, Norén & von Malmberg (2004) studied how local authorities use standardised environmental management systems (EMS). They found that the conformities of law related to EMSs in the business sector can also be applied to the public sector. However, the authors found few limitations in the usage of EMSs in the public sector. Nevertheless, environmental managers might consider the same issues in both sectors (Andrews et al., 2011). Furthermore, Andrews et al. (2011) stated that performance measuring might be more challenging in public organisations because of their complex nature.

Effective practices that have carried out desired results should be widely adopted so municipalities can utilise their potential (Prime Minister's Office, 2016). Since smaller municipalities in Finland are coping with limited resources in a continuously changing environment, the resource-wise implementation of the environmental plan is essential. The recognition of suitable actions and practices requires an examination of the needs, strengths, and characteristics in municipalities (Kerkkänen, 2012). According to Kerkkänen (2012), issues that might be useful to acknowledge are, for example, the regional effects of the municipality, current and future employment situation, and the energy production ways. The author pointed out that soft factors, such as local know-how, should be utilised. Kerkkänen (2012) highlighted similar aspects in the implementing phase than Reckwitz (2002) included in the definition of practices.

Mattsson (2012) stated that actions related to energy usage are popular among municipalities. In her study, the three most used actions were expanding distinct heating networks, using renewables for heating, and developing energy efficiency. However, using similar actions and practices might also lead to problems. According to Mattsson (2012), in addition to the lack of resources, the selection of similar actions might form stumbling blocks for the environmental plan implementation. Often these jammed practices are cheap and easy to implement (Mattsson, 2012). Thus, the author encouraged municipalities to concentrate on the overall picture instead of small and short-term actions to find effective practices.

### **2.3 Institutional pressures affecting practices**

The institutional theory is based on the connections between organisations and their environment. According to DiMaggio & Powell (1983), the stakeholders in the environment can affect the changes in organisations by creating different pressures. The institutional theory focuses on the effect of the environment on guidelines' formulation and their structures in organisations (Scott, 2005).

Furthermore, researchers (e.g., Jennings & Zandbergen, 1995) have recognised that institutional theory is a helpful tool to examine sustainability in organisations in order to identify the concepts of sustainability and recognise the reasons behind the adoption of EMPs because pressures from the environment might cause changes in organisation's practices. According to DiMaggio & Powell (1983), the environment includes, e.g., society, cultural aspects, and human behaviour, so the social side of the theory can not be forgotten.

The pressures affecting organisations can be divided into normative, regulatory, and mimetic pressures. According to Wang et al. (2018), regulatory pressures are results of political influence from the stakeholders that are crucial for the organisation. The authors continued that earlier studies have shown that these pressures often appear from governments. On the other hand, DiMaggio & Powell (1983) presented that normative pressures result from commonly shared expectations in an organisation and are thus context-specific. They continued that educational and occupational associations affect norms and attitudes employees want to represent in organisations. Changes in norms and attitudes furthermore influence the shared expectations. Liu et al. (2010) presented that customers and suppliers can affect the shared norms by creating normative pressures through expectations.

According to DiMaggio & Powell (1983), mimetic pressures originate from the uncertainty in the organisation. Organisations can intentionally or accidentally adopt good practices from other organisations to overcome this uncertainty (DiMaggio & Powell, 1983). The authors stated that administrations are good examples of the field where visible mimetic pressures exist. However, Wang et al. (2018) concluded that the effects of mimetic pressures are finite in the fields where environmental management is recently adopted. Nevertheless, because Riekkinen et al. (2020) found that climate networks positively affect municipalities' environmental work, it could be possible that mimetic pressures attract municipalities to join the network.

Delmas & Toffel (2004) formed a framework of institutional forces affecting firms' environmental management. In the framework, stakeholders: the government, customers, communities, and the industry, create the institutional pressures that affect the factory's operations. The interactions between these stakeholders are essential in order to understand the EMPs. Institutional pressures also affect each other (Delmas & Toffel, 2004). For example, a local accident might lead to a higher pressure caused by society and cause stricter regulation.

Wang et al. (2018) offered another framework that considers the available resources and environmental commitment. Their most exciting finding is that resource availability has a different influence on practices when the pressure is regulatory than when the pressure would be normative. Their results indicated that regulatory pressure harms the EMPs in companies with adequate resources. The finding is fascinating from the public sector viewpoint because Finnish municipalities have voluntarily set higher objectives than required (Lamminmäki, 2018) but might be dealing with inadequate resources (Paasi & Zimmerbauer, 2011).

These two frameworks ignored a few factors, e.g., natural resources, which are essential from the municipalities' perspective. Researchers have developed a planetary boundary approach model to prevent, limit, and recognise the anthropogenic damages caused to the planet (Rockström et al., 2009). Initially, Rockström et al. (2009) presented nine sectors for which a safe operational space, where humans can operate without endangering nature's bearing capacity, should be determined. The model has been updated over the years to meet the requirements of changing environment. Hajer et al. (2015) found some weaknesses in this framework. The authors wanted to point out that the dimension of justified access to natural resources completes the concept of the safe operational space. This opinion could also be scaled down to the local context. The concern of equality could mean that the public sector has to identify the regional problematics from the planetary boundary framework in Finland. For example, the freshwater usage sector is not worth a deep examination, but instead, it might be helpful to study the sector of land-use change. The finding of Hajer et al. (2015) also requires addressing the differences in geographical locations among Finnish municipalities since the location poses multiple challenges related, e.g., to house warming and winter maintenance.

Hajer et al. (2015) have two more essential suggestions from the municipalities' perspective. The first one is the role of multiple actors in a society fascinated by the desire to promote sustainability. Together the actors form the concept of an *energetic society* (Hajer et al., 2015). The authors suggested that the public sector should involve such actors in the sustainable transition and utilise their potential. Municipalities can find these actors from their stakeholder networks. This proposal agreed with Delmas & Toffel (2004), who said that previous studies have indicated that environmental management practices are used to maintain or improve community relations. Jarzabkowski & Spee (2009) mentioned that strategy practitioners might even be outside the core organisation, and thus the members of an *energetic society* might have a possibility to participate in the climate work. Because various stakeholders influence environmental plans, environmental management practices related to these plans should be examined context specifically.

The second proposal is related to the local business environment and the competition among the business sector. Since companies seek competitive advantages, local governments should offer incentives for sustainable forerunners (Hajer et al., 2015). Sarkis (1998) partly support this by arguing that proactive firms are willing to sustain the competitive advantage gained from the role of a sustainable forerunner. Therefore, municipalities should offer an environment where companies create a competitive advantage through sustainability. Besides, if companies belong to the *energetic society*, municipalities might use them to proceed with their environmental work.

The local business environment, especially industrial history, might have multifaceted influences on climate work by affecting citizens' attitudes towards the environment. Studies have shown that besides the local culture, local environmental conditions impact the individuals' experiences about climate change (Crona et al., 2013). Crona et al. (2013) also found that some factors, e.g.,

higher education, are more likely to create similar attitudes and conceptions in several cultures. The study of Gammoh et al. (2019) indicated that commonality leads to a more positive outcome for environmental consciousness. According to the study, actors should highlight beneficial effects for society. However, recognising these cultural influences and local senses on municipalities' operations can be arduous, and it seems to be a barely studied subject. Nevertheless, it might be helpful to utilise collective dimensions to mitigate negative cultural bias.

Culture has another dimension that is affecting environmental practices. Organisational culture and organisations' history might influence how communities observe the institutional pressures (Delmas & Toffel, 2004). Besides, institutional and cultural dimensions of the organisation are in interrelationship and affect how individuals develop behavioural, emotional, and cognitive perceptions about the environment (Hoffman, 2001).

Finland has successfully carried out environmental strategies that exemplary emphasise aspects such as institutional learning and communication (Berg & Hukkinen, 2011). However, these must be scaled down successfully into the local scale. To do this, public managers can add value to their organisations by helping internal and external stakeholders think through the implications of sustainability as a value or focal point for government reform (Zeemering, 2018).

In addition, the regulatory, normative, and mimetic pressures organisation's internal factors affect EMPs (Delmas & Toffel, 2004). The executors need experiences about the practice modified by the organisation's internal characteristics to execute practices (Whittington, 2006). According to Delmas & Toffel (2004), these characteristics affect the implementation of environmental practices by causing different reactions against external pressures. Furthermore, the internal factors may also affect the number of institutional pressures directed at a municipality. Delmas & Toffel (2004) pointed out that market leader position can attract activists to target the company in the business sector. Thus, it is possible that, for example, Helsinki as capital has gained more attention by its environmental actions and might face more pressures to adopt EMPs.

According to Marcus (2005), the literature emphasises the influence of external drivers (Delmas et al., 2011). Interestingly, the report of Kerkkänen & Savikko (2012) partly supports this argument also in practice. They pointed out that elected and governmental officials thought that the most critical assets in municipalities' climate work are legislation, economic incentives, and enthusiastic people. Thus, two of the three assets mentioned are external.

## **2.4 A theoretical framework for the study**

The articles of Delmas & Toffel (2004) and Wang et al. (2018) form the base for the framework of this study together with institutional theory characteristics described by DiMaggio & Powell (1983). Unfortunately, Delmas & Toffel (2004)

had modified their framework for a factory level. However, the articles discussed in the earlier chapter formed a theoretical base to remould the framework fit into the municipalities' context. Figure 1 presents the framework and describes factors influencing EMPs' adoption in municipalities. Arrows describe the relationships between factors showing that external factors create the pressures and affect each other, whereas internal factors work as "filters" determining how the pressures are perceived. Together these determine how municipalities adopt EMPs.

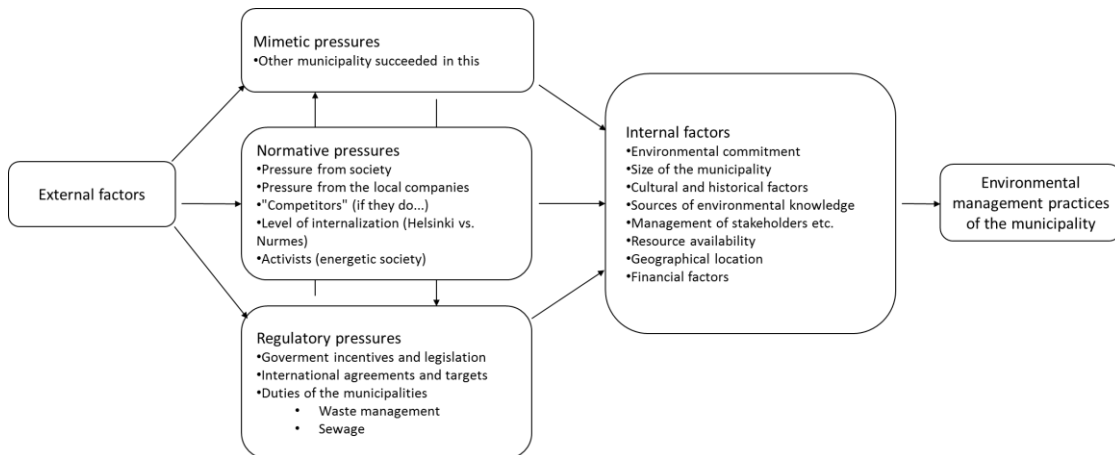


Figure 1 The framework created according to the article of DiMaggio & Powell (1993) and frameworks of Wang et al. (2018) and Delmas & Toffel (2014). The notions of Hajer et al. (2015), Crona et al. (2013), Liu et al. (2010) and Kerkkäinen (2012) completed the framework.

The framework starts from the suggestion of DiMaggio & Powell (1983) that three different kinds of pressures exist affecting changes in organisations. Three types of pressures are: mimetic, normative and regulatory. Mimetic pressures occur due to typical reactions against uncertainty, often resulting in imitation (DiMaggio & Powell, 1983). Normative pressures instead occur from the shared expectations and social engagement (DiMaggio & Powell, 1983; Scott, 2005). Liu et al. (2010) indicated that stakeholders such as suppliers, competitors and customers might cause normative pressure. However, inferring from the results of Delmas & Toffel (2004), internal factors might also attract stakeholders to target more pressures on the actor. Therefore, the internalisation level is thought to produce more normative pressures on municipalities. *Energetic society* and local companies mentioned by Hajer et al. (2015) were involved in normative pressures because Jarzabkowski & Spee (2009) mentioned that strategy practitioners could also be located outside the organisation,

Influential stakeholders, who often have a political influence on an organisation's operations, cause regulatory pressures (Wang et al., 2018). Thus, government cause most of the regulatory pressures on municipalities besides the EU legislation. However, it is essential to acknowledge that legislation is not exclusively under the control of the government since, e.g., citizens can affect the government through selection (Delmas & Toffel, 2004). Thus, the authors suggested that external pressures are interactive, as described in figure 1. Since influential stakeholders have formed the international agreements, which might

be tied to penalties or incentives, the agreements were placed under regulatory pressures.

According to Delmas & Toffel (2004), internal characteristics affect the perceptions about external pressures. They furthermore stated that internal characteristics involve, e.g., sources of knowledge, historical factors and organisational structure. The findings of Crona et al. (2013) and Gammoh et al. (2019) emphasised the effects of cultural aspects on environmental issues. Furthermore, Wang et al. (2018) suggested that the effect of external pressures depends on available resources. Thus history, several environmental factors, size and location were included among internal factors because these probably affect the municipality's resource allocation. Kerkkänen (2012) also stated that municipalities must consider regional characteristics when choosing relevant EMPs.

### 3 RESEARCH METHODS

This chapter will discuss the chosen research methods and describe how the researcher collected and analysed the data. First, the chapter will justify the choices, and after that, it will describe how data was gathered and analysed. The chapter also presents the characteristics of examined municipalities in table 1.

#### 3.1 Conduction of the research

This study examines EMPs in ten Finnish municipalities and explores why and how municipalities have chosen specific practices. The study has adopted institutional theory to explain the reasons and concepts in a specific context. Since the study examines the reasons behind a phenomenon to explain it, the study represents a qualitative research design (Lichtman, 2017). Furthermore, the qualitative approach aims to produce information about a social phenomenon similar to this study (Stenbacka, 2001). The researcher has to determine what is meaningful to produce the information in the qualitative approach (Patton, 2015). To determine what is meaningful, researchers in the qualitative approach often talk about interpreting the data. Patton (2015) clarified that this means searching meaningful themes and patterns occurring in the data.

The data for the study is collected through media analysis. The data consists of several articles, news, and documents related to chosen municipalities. This data collection method was possible because most reports and documents are public in the municipality sector. Since municipalities have recently adopted environmental management to this extent, it was predictable that most of the data would be available in electronic mode. The media analysis also revealed how municipalities communicate and present information about environmental work. Besides, this data analysing method allowed working remotely in an unforeseen pandemic.

The researcher used qualitative content analysis since the data was in text mode. The qualitative content analysis includes three approaches; conventional, directed, and summative, which can analyse meanings from texts (Hsieh & Shannon, 2005). Because there is a coherent theoretical framework for the study, using a directed approach is natural. In the directed approach, the theoretical framework guides the coding process. However, the researcher might follow strict guidelines in the qualitative approach, but it is essential to stay open for the interaction between the author and the examined subject (Starr, 2014). Thus, the conventional content analysis was also used.

The framework recognises the contextual differences, and therefore, it can be kept somewhat subjective. The framework's usage in data analysis helped dismiss the researcher's viewpoint. The existing theory from the business sector, which is partly applicable in the public sector, supports the framework's usage.

Furthermore, the researcher adopted an objective manner to analyse the data and ignored possible discourses in the texts. In addition, the framework poses the hypothesis that external and internal factors affect the adoption of EMPs in the public sector and this cause the explanatory nature of the study.

The trustworthiness of a scientific inquiry is often conjoined with the concepts of reliability, validity, carefulness, and generalisability (Stenbacka, 2001). However, Stenbacka (2001) highlighted the importance of the three latter ones in the qualitative approach and emphasised the effect of the researcher's pre-understanding. Thus, the researcher should offer a comprehensive description of the data analysis to indicate trustworthiness (Stenbacka, 2001). Therefore, the following chapters present the data collection and analysis in detail.

### **3.2 Data collection**

The data consists of eight municipalities from the Hinku-network and two active municipalities outside the network. Hinku-network connects municipalities that have pledged to reduce pollution to hinder climate change ([hiilineutraalisuomi.fi](http://hiilineutraalisuomi.fi), 2021). By choosing municipalities among the members of Hinku, the researcher made sure that municipalities had at least started their environmental work.

The municipalities outside the Hinku-network are Helsinki and Oulu, both well known for their environmental work efforts. Helsinki has several assets and a unique role as capital. On the other hand, Oulu has been active in proceeding with sustainable transportation. Both Helsinki and Oulu are members of the Covenant of Mayors and have universities. These cities give a global glimpse for this study. As Schmidt-Thomé et al. (2020) mentioned, large Finnish municipalities compete internationally in climate work, and thus Helsinki is a good reference line to see where smaller municipalities are. The mix of larger municipalities from and outside the network allows the examination between practices conducted in the Hinku-network.

The data includes the documents from the municipalities' web pages such as general information, initiatives and strategies. The areas examined were based on the theoretical framework and triple bottom line. Thus, the content was related to sustainable development, environmental protection, transportation infrastructure, business initiatives, and social and health services. Besides, news related to the aforementioned themes were searched from the municipalities' web pages, local newspapers and mass media. The targeted number of relevant documents was ten per municipality, and thus, the number of documents tried to achieve was 100. The researcher used the snowball technique to find more relevant documents. Search terms used to find data were sustainable development, SDG, and future, together with the municipality's name. Chosen data was not older than the effective municipality strategy to ensure relevancy. Nevertheless, the researcher made a few exceptions and chose a few older



documents after carefully considering their relevancy. The data collection was conducted between July and August 2021.

*Table 1 The examined municipalities and their key characteristics.*

<b>Municipality</b>	<b>Population</b>	<b>Area km<sup>2</sup></b>	<b>Region</b>	<b>Joined in Hinku</b>	<b>Number of documents</b>
Oulu	207 327	3816.27	North Ostrobothnia	N/A	10
Helsinki	656 920	715.48	Uusimaa	N/A	10
Hamina	19 877	1155.15	Kymenlaakso	2017	9
Raahe	24 353	1888.95	North Ostrobothnia	2018	8
Lempäälä	23 828	307.06	Pirkanmaa	2018	8
Turku	194 391	306.35	Southwest Finland	2019	10
Loimaa	15 770	851.92	Southwest Finland	2016	8
Enontekiö	1 808	8391.31	Lapland	2018	5
Lieksa	10 719	4067.71	North Karelia	2014	10
Kouvola	81 187	2883.29	Kymenlaakso	2019	10

Table 1 shows the characteristics of the examined municipalities. Helsinki and Oulu did not belong to the Hinku-network, but they were elected because of their active environmental management. Otherwise, the Hinku municipalities were selected all over Finland to represent several municipalities. However, examined municipalities are clustered more in the Southern-Finland.

Population information is from Tilastokeskus (2019) and addresses the situation in 2020. Maanmittauslaitos (2021) offered the area information, including water and land. The joining year to Hinku-network is gathered from the network's website ([hiilineutraalisuomi.fi](http://hiilineutraalisuomi.fi), 2019). The table shows the number of examined documents per municipality on the right side.

The table shows that the number of examined documents stayed below the desired amount. Unfortunately, some of the municipalities did not offer valid articles in a manner they could have been used. Even if most municipalities owned a document related to the environmental strategy, the delivery of conducted or estimated actions was poor in some cases. The lack of EMPs' adoption was not related to the time they belonged in the network but mainly to the municipality's interest in sustainable development. For example, Kouvola has started to act for sustainable development before joining the Hinku-network. All examined documents are listed in appendix 1.

### **3.3 Data analysis and reliability**

The researcher analysed data through qualitative content analysis, including categorisation and thematic analysis. The content analysis mainly followed the principles of a directed approach. However, the study mixed also the elements

of the conventional approach in which a researcher seeks codes directly from texts (Hsieh & Shannon, 2005). It was essential to stay open for new codes rising from the text so the interaction described by Starr (2014) could be preserved. According to Vuori (n.a.), it is usual that approaches are mixed. The codes were linked to the theoretical framework and formed five themes presenting the institutional pressures.

The researcher downloaded the texts as text files, mostly in pdf, to highlight the themes in the files. The download also allowed the researcher to return the files without changing the marks. The researcher gathered the results into an Excel chart and marked the key themes to the chart. Every municipality formed a separate chart, and a single row presented the codes found from the article.

There were two kinds of codes in the analysis. First, the codes fulfilled the definition of practices presented in chapter 2.2. In addition, these coded practices should further the practice forming through practices. Thus, general expressions, such as “sustainable transportation is furthered”, were neglected since they did not present exact information on how this could be done. If the codes responded to the requirements, they were sorted by the key themes. The research plan, which examined three municipalities, had recognised four repeating themes: sustainable transportation, energy efficiency, ecological everyday living and advancement in business operations. Furthermore, the data analysis revealed that a theme related to social equality and welfare occurred repeatedly. Because in TBL framework has a social dimension, the researcher added the theme.

The second group of codes consists of codes linked to the study’s theoretical framework. These codes represented the institutional pressures and internal factors. The researcher grouped these codes according to their described pressure and collected them in the same row with other codes. The researcher collected other notes to the end of the row. Since the stakeholders cause institutional pressures, the researcher gathered practices related to stakeholder management into a separate graph grouped by the stakeholder. By counting the number of each stakeholder, the researcher could recognise which stakeholders municipalities address the most. The researcher applied the same method to practices and pressures as well.

Furthermore, the researcher formed categories under each key theme from the practices aiming to similar goals. This grouping helped to find shared goals and practices among municipalities. It also revealed practices that only one municipality was willing to adopt. Through the grouping, the researcher was able to compare practices between municipalities. The researcher deleted single practices without a particular goal since he assumed that separate practices would not be effective.

By examining the numerical data, the researcher received information that helped understand how stakeholders create the pressures and affect municipalities. The researcher examined the practices and counted to which stakeholders municipalities address them. If municipalities have targeted practices to the same stakeholders, the pressure from the stakeholders might have forced the municipalities to react. The researcher applied the same logic to the found pressures by grouping them according to the stakeholder behind them.

Stakeholders were added during the analysis according to the found pressures. Figure 2 describe the process.

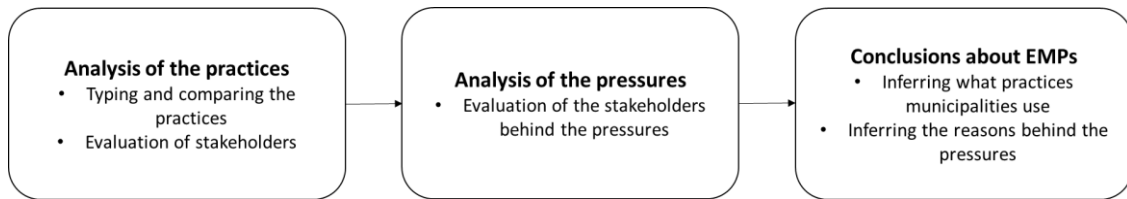


Figure 2 The description of how the reasoning has proceeded.

Figure 2 visualises the reasoning process of the study. The analysis proceeded from the analysis of practices and pressures to the conclusions. The conclusion tries to generalise the findings to the municipality sector. Since the study aims to combine an explanation of a phenomenon and an observation to form a general rule, it uses inductive reasoning logic (Mantere & Ketokivi, 2013).

The final data consisted of 88 articles, and the desired amount of data was unreached. Relevant articles of some municipalities were hard to find. Some of the articles might exist in a form that does not allow to find them from databases, and they might have required systematic examination of local newspapers and municipalities' paper reports. However, 88 articles provided an overview of where municipalities are now. Municipalities had divided the data according to their sectors, such as health services or environmental protection. The categorisation caused challenges since some articles did not concern the topic from the sustainability perspective.

The data might be biased since municipalities might publish only successful initiatives. However, municipalities can evaluate the success after conducting practice or initiative. Since the data included several plans, this bias might not be significant. Furthermore, municipalities such as Helsinki have evaluated practices and actions extensively and, therefore, might have chosen practices predicted to be effective. In addition, Kouvola has published an extensive comparison where authors have studied which actions have been practical and what kind of action the goals required to achieve. The researcher expected to find more of this kind of data initially. However, municipalities have not published documents evaluating the success of conducted actions. Instead, the articles expressed what municipalities have done and what they will do according to the strategic goals. Thus, the data is more likely to give examples of good practices often used and not of practices that municipalities should avoid.

Municipalities were primarily located in the Southern-Finland, which might affect the results. It is also possible that Hinku-membership has guided municipalities to focus more on climate work instead of holistic sustainability. However, as table 1 shows, municipalities have joined Hinku-network quite recently. Thus, the effect of the network might stay relatively low. The study still ignores smaller municipalities outside the networks, but the membership guaranteed that municipalities had pledged themselves to sustainability and have required capabilities from the study's perspective. Therefore, it might be said that the researcher has paid attention to choosing relevant informants, which

is, according to Stenbacka (2001), a requirement for producing reliable information.

## 4 RESULTS OF THE DATA ANALYSIS

This chapter will discuss the findings of data analysis. The chapter first goes through a few general characteristics of conducted practices found in this study and then examines the practices divided into the five key themes found during the data analysis. Even if the chapter discusses the key themes separately, some practices interrelate several areas. After the practices, the chapter will go through the reasons that might cause institutional pressures and present the internal factors identified to affect perceptions about the pressures. The chapter will also compare founded pressures to the theoretical framework.

### 4.1 Practices in Hinku-municipalities

Municipalities had conducted several EMPs, but they seemed to focus on environmental and climate issues since they mainly aimed to reduce CO<sub>2</sub> emissions. For example, sustainability road maps often highlighted reductions in greenhouse-gas emissions, reflecting the impression that municipalities pay more attention to climate work than the overall sustainability concept. However, the strategies and practices often included all the levels of the triple bottom line, but municipalities considered social dimensions separately. Thus, municipalities did not keep social dimensions of sustainability significant in their environmental work, and plans for equal social development were rare. However, municipalities often suggested that they should note ecological, economic and social aspects when arranging services.

On a large scale, the most commonly addressed issues were land use planning and the development of energy production. Besides, municipalities were willing to reduce the overall energy usage. According to the data, municipalities kept a close-knit urban structure and easy accessibility as effective measures to reduce pollution. Most of the examined municipalities were also willing to increase the usage of renewable energy sources and effectively combine electricity and heat production.

Even if municipalities focused on mitigating climate change by reducing emissions, they were also aware of the consequences of current development. Municipalities have conducted assessments to recognise challenges that climate change will pose to vulnerable population groups. For example, Oulu mentioned that climate change would cause additional problems for old and ill people and occupational groups depending on the weather.

At least six municipalities mentioned that continuous evaluation and concrete measurement are essential to adopt EMPs successfully. For example, Hamina mentioned that they had measured the shares of transportation. Investing in the changes in transportation seemed reasonable since Lempäälä stated that most of the emissions are coming from transportation and heating.

Therefore, it is not surprising that nine of the examined municipalities had targeted practices to further sustainable transportation. The importance of measuring also rose in the conversation in the energy efficiency category. Both small and large municipalities recognised the importance of measurement.

Few of the municipalities recognised general ways to adapt sustainable development into operations. A couple of the municipalities, e.g., Kouvola and Turku, had put together practices and formed top initiatives. These initiatives aimed at concrete development in certain areas like improving the city centre. Furthermore, Lempäälä stated that all sectors should acknowledge sustainable development at the strategic level. Relating to the previous, Lempäälä also suggested that municipalities should not offer pre-prepared practices or actions but instead form cross-administrative workgroups and organise carefully delineated workshops. Also, Lieksa recommended focusing on an entity and not optimising a particular discipline. Besides, many municipalities said that whatever the service is, it should be part of a coherent service path that supports Lieksa's statement.

Helsinki and Turku underlined the importance of cooperation between municipalities. Municipalities had extended cooperation also over the national borders. Hamina also supported the cooperation and had joined a network called Pyöräilykunnat which proceeded cycling as a mode of transport in municipalities. Municipalities also highlighted the importance of communication and the possibilities that new technology enables.

The data analysis revealed some limiting factors which are slowing the adaption of practices. One of these is the number of available resources in municipalities. According to the data analysis, some municipalities recognised that government has a significant role in this. Municipalities required coherent policies aiming at an apparent reduction in emissions. For example, Helsinki stated that the use of road tolls is waiting for the government's statement could it be allowed. Turku mentioned that these policies also affect how municipalities reduce their emissions and how effective they are in this project. Surprisingly, Helsinki stated that another factor that hinders implementing practices might be technology development. However, more often, municipalities mentioned technology as a solution to problems and supposed that it would give new possibilities to strive for sustainability. Nevertheless, municipalities seemed to miss a coherent plan to put technology into operations.

There were various implemented practices, but similarities between municipalities were surprisingly rural in some cases. The chosen data might explain the missing similarities. For example, authorities might have presented environmental education in educational strategies, which the study did not evaluate. Environmental education can also be included in the national curriculum, which is not under the municipality sector. However, missing similarities might also mean that municipalities did not coherently understand their state of sustainability work.

Some municipalities presented more practices than others. The most active municipalities seemed to have a pervasive understanding of their possibilities to enhance sustainability. The analysis was able to identify a few practices that

several municipalities had adopted. However, some practices might have spread more widely than the analysis shows. Table 2 shows the most popular practices identified in this study.

Table 2 The five most common practices from each category. The number in brackets shows how many municipalities were willing to execute the practice.

<b>Sust. transportation</b>	<b>Energy efficiency</b>	<b>Daily ecological life</b>	<b>Business operation</b>	<b>Social equality</b>
Trials to increase the usage of shared cars and bikes (5)	Following and examining the energy consumption of municipality's buildings (4)	Zoning by taking environmental aspects into account, primarily meaning denser city structure (7)	Eco-support persons (3)	A summer job voucher (3)
Improvements in cycling routes (6)	Using leftovers from the construction site close the source (4)	Landscaping and increasing the number of green areas (4)	Cooperation with universities (3)	Neighbourhoods with mixed housing stocks (5)
Accessibility of key areas by bike (5)	Increasing the share of renewables in district heating network (6)	Tips about carbon neutrality and sustainable living (3)	Enhancement in logistics infrastructure (3)	Development of internet services (4)
Parking control in the city centre (6)	Increasing the share of solar and wind power (5)	Controlling the increasing drainage water amount (4)	Convenient services for entrepreneurs (3)	Free trials of daycare (2)
Increase the number of biogas stations and e-cars charging points (6)	Small scale energy production and demand response (4)	Usage of wood as a construction material (3)	Recognising the strengths from the operational environment (3)	Education to use internet services (4)

The practices were the most coherent in the category of sustainable transportation, where three practices were mentioned by six municipalities. Municipalities also had a mutual agreement about practices related to energy efficiency. In the last three categories, practices were scattered. In these categories, practices often gathered support from only three municipalities. However, the most common practice occurred to be zoning that supports the transition towards ecological society. Also, municipalities thought that social mixing in neighbourhoods was important.

Interestingly, both the small and large municipalities seemed to have a common goal for areal development. Regardless of the size, municipalities seemed to aim for a lively city centre. Municipalities need residents, customers, businesses and events in the city centre to reach this goal. According to the data analysis, changes in the city centre might create possibilities for sustainable transportation, daily ecological life and business operations which are all key

themes identified during the data analysis. The chapters below will go through these key themes. The theme consists of practices from which the researcher formed the categories. The categories repeated among municipalities.

#### **4.1.1 Practices related to sustainable transportation**

The practices related to sustainable transportation are divided into five categories: public transport, bicycle and pedestrian traffic, private car use, development of the city centre, and others. The vaguest category is the development of the city centre since the practices fulfilled criteria of other categories as well. Nevertheless, because these practices focused on the strictly demarcated area and were very similar between municipalities, the researcher decided to create the category as its own. Municipalities, regardless of size, expressed the same intentions to develop the city centre. However, smaller municipalities were not as eager to invest in public transport as bigger ones. However, they still paid attention to pedestrian traffic and cycling alone.

The first category is public transport. About half of the municipalities mentioned that they were willing to increase public transport usage. Four municipalities wanted to integrate the modes of transport so that the changes between them would be fluent. Oulu suggested that municipalities could achieve this by improving the possibilities of carrying bikes in public transport and adding park-and-ride system possibilities. Besides, Oulu stated that municipalities should simultaneously plan cycling and pedestrian infrastructure with the public transport network.

Municipalities were also willing to execute different trials to increase public transport usage. Practices related to the trials differed between municipalities. Helsinki wanted to improve the overall service level in public transport. Turku tried to develop the public transport system towards intelligence. Oulu and Lempäälä were turning to more traditional practices. Oulu aimed to enlarge the public transport network, and Lempäälä instead were zoning housing in the proximity of the public transport network. To attract residents, Turku wanted to build a local train. Lempäälä and Turku agreed that mobility management could be executed through price control. For example, affordable tickets for commuters may encourage citizens to use public transport. Surprisingly, only Hamina mentioned that active communication about improvements is needed to increase the usage level of public transport.

A couple of municipalities gave attention to emissions caused by public transport. Turku wanted to base bus routes that operate with electric buses. Data about Oulu indicated the same but also took renewable fuels into account. Hamina and Helsinki wanted to put an extra effort into public transport during events because transportation causes a large part of events' carbon footprint. All large municipalities paid attention to public transport. Medium-sized municipalities were interested in public transport if their area was smallish. Small and sparsely populated municipalities did not pay attention to public transport.



The second practice category is cycling and pedestrian traffic. The most popular practices were related to the infrastructure. Altogether six municipalities mentioned practices related to this. These included improvements and additions to the network, but municipalities also mentioned the importance of winter maintenance. Furthermore, five municipalities highlighted that it is essential that critical areas, such as centres, are possible to achieve by bike. In addition, Turku suggested that it could develop popular commuting routes. Three municipalities also stated that they should improve bicycle parking possibilities. Altogether four municipalities underlined the importance of coherent city structure. Relating to this, Hamina mentioned that it is crucial to understand the differences between road types. Loimaa supported this by suggesting utilising the road types according to specific contexts. Municipalities seemed to focus on cycling intensely, but two municipalities reminded them not to forget pedestrians.

Similarly to public transport practices, bigger municipalities paid attention to cycling and pedestrian practices without limitation. Medium and small municipalities paid attention if the population was dense enough. Lieksa and Enontekiö were absent in both categories. The size of their area and small population causing long distances and possibly several small regional centres might explain the absence of practices. Therefore, an extensive cycling and pedestrian traffic network might not be beneficial, especially in winter.

The third category is the development of the city centre. The most commonly mentioned practice was parking control. Six municipalities mentioned this. Mostly this was about parking limitation, but also centralisation of the parking was mentioned. Three municipalities were willing to decrease car traffic through the city centre. In addition, Loimaa wanted to slow down the speed in the centre.

Interestingly smaller municipalities, e.g., Loimaa, kept private cars as a vital traffic mode to the centre, whereas bigger municipalities tried to limit private car usage. Another option that, surprisingly, was only mentioned by Turku was a pedestrian centre. However, other municipalities also highlighted the importance of pedestrian infrastructure. A typical action seemed to be to build dense city centres to achieve this goal. Oppositely, Turku also mentioned that bus terminals should be spread around the centre to increase habitability. Several municipalities were willing to develop city centres, and only the smallest ones did not mention it in the analysis.

Private car use is the fourth category related to sustainable transportation. Six municipalities mentioned that they were willing to increase electric cars' charging points and biogas stations in their region. Five municipalities suggested field tests for shared cars and bikes. Some municipalities mainly targeted these for commuters. Thus, municipalities showed a growing interest in mobility as a service solution.

Furthermore, Helsinki suggested that they could price private car usage by using road tolls. However, this was not possible due to the current legislation. In addition to previous categories, also this category indicated that small municipalities were not eager to limit private car usage but instead supported a transition towards e-cars. Lempäälä was the most eager municipality from the

group of small and medium-sized municipalities to conduct sustainable transportation practices, but its relatively small area could partly explain it.

The group of other practices in the field of sustainable transportation is miscellaneous. Oulu and Helsinki might update the municipality's vehicles and working machines to run by renewable fuels or electricity. Few practices were also related to infrastructure. Turku, for example, stated that the municipality's investments in logistics routes might reduce the carbon footprint of heavy traffic. However, as Helsinki put it, a more critical statement might be an aspiration towards the ecosystem of transportation. Nevertheless, these practices might not be efficient as their own, and they should be integrated into the existing infrastructure to make it more complete.

According to the data analysis, zoning seemed to be an essential part of sustainable transportation. However, it can be a sensitive topic to citizens, and municipalities should approach it with caution. For example, in Lieksa, zoning an area valuable from the culture and nature perspectives caused strong critique against the municipality. Zoning and practices related to it are discussed more in chapter 4.1.3.

#### **4.1.2 Practices related to energy efficiency**

According to the data analysis, municipalities tried to reduce energy consumption and replace fossil energy sources with renewables. These practices formed three categories in this study: internal practices in the municipality organisation, practices for residents or firms, and finally, the development of energy production. However, this segmentation is artificial since some practices could be placed in several groups.

The internal practices in municipality organisation include practices under the municipality's power of command, meaning that the municipality could execute the practices on its own. Furthermore, these practices mainly affected to organisation's members. The data analysis revealed that internal practices in municipalities varied a lot, and municipalities shared only a few practices. One of the most popular practices was updating the street lights to use led technologies, as Oulu and Lempäälä suggested. Interestingly, Helsinki had also paid attention to this update but concluded that it is not worth it in either an economic or an energy-saving manner. However, Oulu planned to use led lights in the municipality's buildings regardless of this.

Another practice that gained attention from more than one municipality was examining and following buildings' energy consumption. In the analysis, Oulu, Kouvola, Hamina and Helsinki were all willing to be aware of these numbers. In this way, Helsinki wanted to find places where heat was lost. Hamina instead wanted to use intelligent technologies to do this. Another option that Turku raised in the conversation was diminishing the number of used premises by using shared service counters and the advanced possibilities of technology. According to the data, only Hamina mentioned that it would demand renewable energy production in its electric rate schedule. The finding is quite surprising. However, most municipalities mentioned that they have to

promote renewable energy consumption. To pay more attention to issues like these, Lempäälä planned to establish a workgroup focusing on energy efficiency and climate change.

Other internal practices were concentrated more in construction and schemes. For example, in the future, Turku wanted to observe energy efficiency and life cycle emissions in its initiatives. Helsinki instead suggested that economic incentives should support schemes with low energy consumption. Helsinki also continued that the leftover land should be used as close to the source as possible to cut down the municipality's construction schemes' emissions. Also, Oulu, Turku, and Kouvola were integrating the clever usage of leftovers and resources into the operations model of the construction site. Kouvola, for example, suggested that rubbles could be used in different road structures. However, smaller municipalities except Hamina and Lempäälä were relatively passive to present internal practices.

The group of practices for residents and firms consists of practices through which a municipality can support individuals to pursue energy effectiveness and practices that individuals can execute themselves. Municipalities were highlighting the importance of guidance. Helsinki wanted to uplift the desire of condominiums to invest in energy efficiency. Lempäälä and Raahe counselled new residents about energy efficiency before alienating a plot. One of the most commonly mentioned practices was quitting oil heating in households. Three municipalities mentioned this. Helsinki mentioned that government should offer incentives to support the quitting of oil heating. On the other, Lempäälä suggested that municipalities should support households to update the heating systems. Three municipalities also suggested that older buildings could be restructured to be more energy efficient. Two more municipalities tried to add intelligence to buildings to improve energy efficiency.

The last group of energy efficiency-related practices is the development practices of energy production. As expected, these practices highlighted renewable energy sources such as wind and solar power. Altogether five municipalities expressed straightly their willingness to add the share of both wind and solar power. All of these municipalities were located on the shore of the Baltic Sea. Oulu and Helsinki place the targets even further. Oulu wanted to invest in biogas production, and Helsinki tried to eliminate the coal usage. Furthermore, six municipalities wanted to use renewable energy in district heating networks.

Interestingly, even if municipalities were eager to improve the share of renewables in district heating networks, only one municipality expressed that it would use wind and solar power simultaneously with renewables in the district heating network. Thus, it is possible that other municipalities do not have a concrete plan to increase the share of renewables in the district heating network, or they are going to use other renewables, such as water or wood, instead of wind and sun to produce energy. Only three of six municipalities that mentioned the willingness to increase the share of renewables in the district heating network indicated some features of producing the heat. Enontekiö considered terrestrial heat, whereas Loimaa ruminated on the possibilities of heat pumps in heat

production. Kouvola was the only one of these municipalities mentioning that it is willing to use more surplus wood material in heat production. Also, smaller and more sparsely populated municipalities were active in this category, especially in district heating.

The data analysis revealed that at least four municipalities were interested in regional and small-scale energy production possibilities. Extensive implementation of these practices could form, as Lempäälä put it, a scattered energy system. At least three municipalities talked about installing solar panels on top of the buildings. Solar panels were the most popular way to produce energy on a small scale. Depending on the production scale, terrestrial heat and heat pumps can also be included in regional energy production possibilities. However, this topic has recently gained more attention in media than the data analysis indicated. Another practice in this group was heat production from exhaust air and wastewater. For example, Loimaa planned to utilise the excess heat of industry in the district heating network. Oulu wanted to add the number of combined heat and power generators. Helsinki and Lempäälä instead planned to adapt the heat and electricity demand response. Furthermore, the data indicated that municipalities are willing to use all waste heat from multiple sources.

#### **4.1.3 Practices related to daily ecological life**

Practices related to daily ecological life should allow citizens to live ecologically. Municipalities have several possibilities, besides the responsibility, to guide individuals towards daily ecological life regarding zoning, infrastructure, and services. In data analysis, this showed up in a variety of practices. However, municipalities had several practices that were not widely spread. The practices of this chapter formed five categories: zoning, environment improvement, education and rearing, organised events, and resistance to climate change.

The first category of the theme is called zoning. This group included one of the most popular practices in the data analysis, which was zoning by taking the environment into account. Seven municipalities mentioned this, but how they intended to implement this differed. Most municipalities wanted to make the city structure denser to make services readily available. However, the coin has also a downside. For example, Turku seems to disagree and clarified that its vision is to spread services and customers around the centre to get more liveliness. Both ways might impact how the residents reach and experience the city centre. However, Turku also stated that it would minimise the necessary movement needed to achieve services by changing the service structure. Oulu furthermore suggested that commuters should easily reach the employment areas. Turku and Lempäälä also wanted to concentrate on the growth near the public transportation routes. Lempäälä summed this up by stating that the zoning process should include environmental impact assessment.

Furthermore, these development actions seek to create vibrant neighbourhoods: this meant either suburbs or regional centres depending on the characteristics of the municipality. As general advice, Turku mentioned that

regional entities should be recognised. Oulu favoured dense regions consisting of one-family houses and blocks of flats. Raahe instead wanted to centralise sparsely populated areas to the villages and regional centres. According to Raahe, this had two advantages. Firstly, this would allow the municipality to arrange services with a reasonable effort. Secondly, it would reduce the fragmentation in continuous forest areas. One option to make suburbs more liveliness is to increase the number of available outdoor exercise places and routes in the area, as Lempäälä suggested. Loimaa also suggested that the municipality might change the market square into a skating field in the winter. As this chapter shows, practices related to zoning are also linked to sustainable transportation practices and practices of social equality. Municipalities with more extensive areas had recognised the importance of lively regional centres. However, the emphasis of the zoning varied depending on the strengths and characteristics of the municipality.

Six municipalities mentioned practices related to the improvement of the environment, and many of them had paid attention to forest management. Helsinki and Kouvola both considered reforesting areas cut down before. Also, Oulu wanted to grow its carbon sinks, but the way to do this was unclear. Other municipalities mentioned that they are willing to improve forest management. As four municipalities suggested, one way to do this could be landscaping or adding green spaces in the city. As a more specific practice, Kouvola has launched a trial where it will set plants that grow in the blaze of the sun in the yards of schools and kinder gardens. Furthermore, to support biodiversity, Kouvola also wanted to create conservation areas and eliminate invasive species.

The practices related to education and rearing gained attention from the municipalities. Helsinki and Oulu wish to improve environmental education in schools. Lempäälä planned to hire a contact person on every school and kinder garden responsible for sustainability issues and share information on sustainable development. Lempäälä also thought it would be helpful to compile an information package about sustainable development for teachers. Hamina took a traditional way and strived to increase schools' plant-based and local food share.

Municipalities can also promote daily ecological life through organised events and campaigns. For example, through exercise campaigns, municipalities can support citizens to prefer cycling as a mode of transport. Hamina, for example, had launched a cycling map and has arranged bike maintenance days. Kouvola was also interested in this kind of practice. Lempäälä and Hamina thought that municipalities should also commit to sustainability campaigns such as Earth Hour, showing commitment to sustainable development. On the other hand, Oulu thought the municipality could carry out the theme project. Three municipalities, Lempäälä, Oulu and Hamina, suggested that the municipality might share tips related to carbon neutrality and sustainable choices.

Half of the municipalities had recognised threats that climate change would pose to them. Practices related to the threats form the last category. Since the practices were related to housing and infrastructure used daily by residents, practices related to the threats were categorised in this chapter. Threats

recognised were similar among municipalities, but the number of practices was limited. The most often mentioned worry was the increasing amount of drainage water. Four municipalities mentioned this. However, only a few of them presented solutions. Raahe had an intention to build wetlands that would control floods and decrease the rinsing of organic matter. Helsinki was also willing to expand green areas. These kinds of practices might also have social and environmental dimensions. Besides, they might increase the contentedness of the city. Turku also thought that it might be necessary to start using artificial groundwater. Furthermore, it seems that municipalities paid attention to creating modern water systems as a whole. Interestingly media have recently paid attention to these topics as well.

It is essential to notice that most of the practices are interrelated between the presented groups. The relationships will become even more evident when analysis proceeds to business operations and social equality practices. As we can see from this chapter, daily ecological life needs support from infrastructure that can be made greener by adopting practices mentioned earlier. Kouvola supported this by stating that residents are encouraged to live ecologically by reducing private car usage. Municipalities can also commit residents to sustainable living through these practices. Lempäälä highlighted that the engagement could bring long term benefits for the municipality. For example, Lempäälä explained that youngsters who can understand their actions' environmental effects probably also act sustainably in the future.

Municipalities had widely acknowledged the meaning of zoning, but the practices differed between municipalities depending on their size, population, and location. Municipalities that actively presented EMPs in other categories were also active in this theme. The municipalities that had been passive seemed also ignore practices related to daily ecological life. However, there were also ideological differences between municipalities when considering ecological life, causing variation in practices.

#### **4.1.4 Practices related to business operations**

The fourth theme of practices is related to business operations. This theme formed two categories: internal practices in a municipality and practices for an attractive business environment. It is essential to acknowledge that this chapter also considers municipality operations as business operations. Another important note is that the municipality's emissions do not include industrial processes (SYKE, 2020). In this light, municipalities' motivation to execute practices striving for a greener industry can be questioned. Because it is crucial for municipalities to hold the employers in the area, this might form a conflict of interest. However, this chapter tries to open up the practices that could make the business operations more sustainable.

Internal practices in municipalities were scattered. On a large scale, Oulu and Helsinki wanted to change the organisational culture, and one possible way to do this might be the education of employees. Another possible way that Helsinki has started and then has spread to other municipalities is to use eco-

support persons. In addition to Helsinki, three more municipalities mentioned using eco-support persons. However, eco-support persons require adequate resources from municipalities. For example, Kouvola noted that this is essential to be successful. Hamina specified that adequate resources are essential in all sectors where municipalities promote sustainability. To share the burden to all sectors, Lempäälä suggested that an information package could be created and shared all over the organisation. In addition, Lempäälä thought that communication instruction about sustainability might be helpful to harmonise it in the municipality. Few municipalities mentioned that they should create a road map to clear out the goals of sustainability work. In the end, all of these practices aimed to change the organisation's operations.

Single practices mentioned were, for example, the removal of small mixed waste bins and focusing the waste collection on larger recycling points. Furthermore, Hamina and Lempäälä suggested that removal work and telemeetings could be supported. Kouvola listed that the municipality should minimise private car usage during the workday. This way, employees could commute by public transportation or by bike. By adopting practices related to sustainable transportation, the municipality could further this more effectively. Municipalities mentioned that they could use eco-products, such as eco-asphalt, in their projects.

Practices for an attractive operational environment should attract businesses to invest in the area, guide businesses to seek sustainability and support the green transitions in the business sector. Both small and big municipalities agreed on this issue. Some of the practices that could also proceed with this goal are already discussed in the previous chapter. For example, the city centre development is probably a way to lure small and medium-sized enterprises. Moreover, the investments in existing infrastructure and logistics could also draw new businesses to the area. Helsinki and Hamina mentioned that politics should be predictable in the long range to accomplish the vision of a sustainable economy. In this context, this mostly means municipality areal politics, but municipalities also require the same from the government. Lieksa and Turku suggested that the municipality build the heating infrastructure for the local businesses. This would allow the municipality to affect firms' heating solutions.

Municipalities planned to adopt some of the practices with vocational schools, universities of applied sciences, and universities. Essential elements of these practices were support and initiativeness from municipalities and cooperation with local businesses. Interestingly small municipalities, Enontekiö and Loimaa, seemed to put effort into the occupational and upper secondary school education where larger cities were investing more on higher degree cooperation. The location of universities could explain a part of this. However, Lieksa was conducting initiatives with the university of applied sciences located in the neighbouring region. Enontekiö and Lieksa both validated their choices according to the needs of local businesses.

On the other hand, Helsinki, Oulu, and Turku highlighted the need for cooperation with universities. Turku wanted to create a science park and

innovative environment, whereas Oulu invested in a dense campus area and a technological research tradition. Municipalities could use different competitions to involve experts and institutes of higher education. Helsinki showed an example of this and organised an energy challenge with a million euros award. Of course, this kind of event requires significant output from the municipality. However, the same comes to every practice, but institutions' inputs in competition could reduce the overall municipality effort.

Municipalities were willing to attract labour to support the local economy, but the practices for the businesses differed between the municipalities. The analysis indicated that the needs for these practices vary depending on the local economic structure. Hence, it is vital to recognise the municipality's strengths and characteristics. Enontekiö, the northernmost municipality of this study, highlighted the importance environment and its protection because it is essential for traditional livelihood. Therefore, Enontekiö wanted to sustain nature and use it to develop new products.

Enontekiö also recognised that local entrepreneurs might need concrete support. Therefore, Enontekiö wanted to support local businesses by providing help for marketing. Lieksa instead stated that the municipality should redesign the acquisition criteria to support local entrepreneurs. Helsinki also thought that criteria and ways of acquisitions should be developed. Interestingly Lieksa, Enontekiö and Turku wanted to enhance the logistics related to business operations. When enhancing the infrastructure, the municipality must examine the local context and assess its effect on the environment and local competitiveness. For example, Lieksa considered investments in infrastructure that would foster sustainable development and bioeconomy in the region.

Business-related practices tried to simplify the structure of services provided for entrepreneurs. According to the data analysis, municipalities should observe the services from the business's perspective and primarily focus on the convenience of these services. Lieksa pointed out that services should be reached from a single desk to achieve this goal. Enontekiö wished to form an entrepreneur portal for its local entrepreneurs. Oulu did not come to a concrete conclusion but highlighted that municipality should modernise business services and utilise digitalisation. Oulu was also willing to support technology in work life.

Other practices related to the operational environment were affecting land use. Helsinki and Raahe were willing to set alienation conditions for lots. Raahe was also willing to control the price level of both private and business lots. Raahe continued that the municipality's existing premises should be used effectively by renting them to associations. Turku and Enontekiö highlighted the need to recognise the municipality's strengths, which might be the key to effective and reasonable resource allocation. The focus on strength seeking should be comprehensive. For example, Lieksa and Enonetkiö recognised that nature could be their strength and work as a pull factor.



#### 4.1.5 Practices related to social equality

Practices related to social equality formed the last theme, which rose unexpectedly from the analysis. Many of the municipalities had executed practices that closely relate to the social dimensions of sustainability. For example, Oulu had also recognised that climate change would pose new challenges, especially to vulnerable population groups. This theme includes categories of practices promoting equality and practices related to children and youth.

The practices related to children and youth highlighted the importance of education. Altogether five municipalities thought education should be developed at least at some level. The practices in this group were various, and similarities were largely missing even if there seemed to be an agreement that education needs new investments that would support the children's growth. The most common practice was a summer job voucher through which municipalities enhanced the youngsters' possibilities to find employment. Helsinki and Hamina mentioned preventive work in schools. Helsinki and Turku mentioned that getting more participants in early childhood education would be worthwhile. Municipalities agreed that participants could be attracted by giving a possibility of at least trying day care for free. Helsinki and Lempäälä agreed that municipalities should improve services and the service's path to answer better to the needs of the youth. According to Lempäälä, the most significant need is for easily accessible services.

The group of practices promoting equality was more coherent than practices related to children and youth. Turku presented most of the practices. Most common practices were related to zoning processes and aimed to improve the multifaceted living possibilities around the municipality. Altogether five municipalities suggested that neighbourhoods with mixed housing stock have beneficial effects on social sustainability. Oulu mentioned that this might even positively influence the municipality's competitiveness. Loimaa suggested that municipalities could further social mixing by controlling the price of the plots and ensuring versatile plot offerings. Developing neighbourhood units by enhancing social mixing and decreasing inequality was the most popular way to improve equal living. Municipalities mentioned that they could also enhance neighbourhood inequality by investing in illumination and considering the accessibility in zoning processes.

Municipalities could further the equality through their multiple services. The most popular practice aimed to develop internet services. Four municipalities mentioned this. However, municipalities have noticed that it is also essential to ensure that residents, especially elders, can use these services. When the remote services are efficiently adapted, they also reduce emissions caused in the municipality area. Raahe and Hamina also discussed the availability of the services. They agreed that the services should be available at one desk so services are as convenient as possible to use, especially for the long-term unemployed. They explained that workshops might be a fruitful method to do this. Turku and Enontekiö suggested differently that the culture should be

available for all. Turku and Helsinki also stated that the municipality should offer activities for elders.

This category was the only one where smaller municipalities seemed to be more eager to conduct practices than bigger municipalities. It might be possible that longer distances and older populations have forced municipalities to find affordable practices to solve the problems. In addition to presented practices, the study found a group of miscellaneous practices that only one municipality mentioned. Because these practices did not gain such broad support that they could be categorised, the chapter did not present them. However, smaller municipalities presented several practices to improve the well-being of the elder and the unemployed. Bigger municipalities were paying attention to the integration of immigrants and negative areal development.

## **4.2 Affecting institutional pressures and their effects**

The chapter will discuss normative pressures, regulatory pressures, and internal factors identified during the data analysis. Mimetic pressures addressed towards municipalities were insignificant in data analysis, so this chapter ignores them. Municipalities recognised more normative than regulatory pressures, and they widely shared some of these pressures. The data analysis also identified several internal factors, but the factors were scattered, and similarities were rare.

The analysis could not connect any of the findings to mimetic pressures. Also, similarities in practices between the municipalities stayed relatively slight. Led lights posed an excellent example. Helsinki thought their usage in streetlights was not worth the investment, but still, other municipalities were thinking of investing in led lights, both outdoor and indoor. Furthermore, municipalities aimed to reduce carbon footprint, which indicated that municipalities tried to mitigate climate change. The analysis did not reveal did the mimetic pressures among municipalities, or normative pressures from stakeholders cause the focus on climate change.

Municipalities recognised that stakeholder groups form pressures that force municipalities to contribute environment. Municipalities often targeted specific practices to answer stakeholders' needs and requirements, making it easier to recognise the pressures formed by stakeholders. The summer job voucher poses a good example. For example, the municipality might say they wish to prevent youths' net migration and support youth employment by offering summer job vouchers. Thus it is clear that practice is the summer job voucher through which the municipality tries to find a solution for the pressure posed by youths.

Altogether six municipalities recognised that stakeholders affect the municipality's environmental work. Municipalities recognised the following stakeholders: companies, citizens, youths, employees of the municipality, other municipalities, experts, Finnish NGOs, the government, and international NGOs. Stakeholders are listed from most often mentioned to most rarely mentioned.

Table 3 presents the stakeholders mentioned by municipalities. In the figure, LG stands for local government.

Table 3 Stakeholders mentioned in data analysis

	Companies	Citizens	Youths	LG's employees	Other LGs	Experts	FIN NGOs	Government	Int'l NGO
Oulu	4	5	4	4	0	2	0	2	2
Helsinki	13	6	5	2	2	2	0	0	1
Hamina	4	4	0	1	1	0	1	1	0
Raahe	3	4	0	0	0	0	0	0	0
Lempäälä	5	12	2	8	2	1	1	0	0
Turku	8	5	5	3	2	0	2	0	1
Loimaa	3	5	1	0	0	0	0	0	0
Enontekiö	2	1	1	0	1	0	1	0	0
Liekka	6	6	4	0	0	0	0	1	0
Kouvola	5	3	3	3	2	2	1	0	0
<b>Total</b>	<b>53</b>	<b>51</b>	<b>25</b>	<b>21</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>4</b>

Further analysis showed that municipalities also face pressures caused by educational organisations. Besides, municipalities mentioned that they have identified local associations to form a stakeholder group but did not recognise them to cause any pressures.

#### 4.2.1 Normative pressures

The pressures caused by residents and youths led to practices that tried to enhance the municipality's holding and pulling powers to keep and attract new citizens and organisations. Many municipalities tried to recognise the needs of the citizens and responded to the pressures according to these needs. For example, Hamina said it wanted to render ecological life to its citizens, and Kouvola wanted to improve the city's liveliness. Bigger municipalities tried to attract citizens and companies beyond Finland. For example, Turku mentioned that it was willing also to reach possible international citizens. Municipalities highlighted the importance of active communication in several media channels when controlling the pressures. In addition, municipalities mentioned that guidance, feedback collection and inclusion are essential.

Municipalities also considered sustainability as a way to improve their image. Smaller municipalities, such as Hamina, Raahe, and Liekka, saw sustainability as part of brand work. Bigger municipalities seemed to pursue more international efforts. Turku, for example, was willing to improve its growth and join the group of growing Nordic cities. Furthermore, municipalities thought they might increase the region's attractiveness by adopting environmental practices. Desired results were, for example, a comprehensive public transport network or active communication.

A deeper analysis of the practices indicated that education organisations seemed to cause significant pressures for municipalities. All municipalities with universities mentioned the importance of cooperation. Other municipalities were also highlighting the importance of education. The pressures caused by educational organisations were strongly related to business operations regarding

the availability of appropriate labour. Therefore, something else than the educational organisations might cause the investment in education. The pressures might also be related to competition between municipalities in which the prize is professionals and vigorous business. Hence, the pressures and competition might lead to a circle where experts' expectations drive municipalities to pursue sustainability.

Interestingly whereas municipalities with universities were competing about international experts, smaller municipalities tried to ensure the workforce for local entrepreneurs. Municipalities were also willing to execute practices for entrepreneurs regardless of the municipalities' size. Therefore, it seemed that entrepreneurs and companies were responsible for significant pressures. Few municipalities mentioned companies as a significant reason for pressures, but the analysis of practices indicated broader support to this claim. Besides, companies were the most common stakeholder group mentioned in the data, as seen from table 3. Municipalities highlighted the long aim of policy-making to offer companies a controlled and foreseeable operational environment. Municipalities' policy-making was often related to land use and the housing market.

The practices related to youths were closely linked to groups of citizens and education organisations and aimed to enforce the pulling and holding powers. Municipalities also supported the employment of the youths by offering summer job vouchers to the youths. Simultaneously, municipalities implanted youths in the region. In addition, municipalities were willing to invest in the youth and prevent their marginalisation. According to table 3, eight municipalities also mentioned youths at least once. Municipalities could control the pressures from the youths with educational methods. For example, environmental education and collaboration with companies could commit youths to sustainability and the region. Also, other practices such as offering free day care trials might assist the municipality in holding the families in the region.

Many of the municipalities mentioned municipalities' employees as a stakeholder group. Since shared expectations cause normative pressures, employees form a source of normative pressure. According to the data analysis, studied practices often affected available knowledge and information sources via education and guidance. Also, internal communication and changes in organisational culture were acknowledged. The practices thus seemed to support the sustainable transitions by affecting normative pressures. Therefore, even if these practices might increase the pressure to strive for sustainability, they were not seen negatively. Instead, these practices and possible enhanced pressures support municipalities' environmental work. Interestingly, the data indicated that municipalities might also create normative pressures on citizens through EMPs to encourage them to act sustainably.

Normative pressures were sometimes related to national networks. Municipalities mentioned that the national Hinku-network is a stakeholder causing pressure to pursue carbon neutrality. Nevertheless, especially smaller municipalities might see the network as a solution to the shortage of resources since it offers professional support. Thus, it can either be a way to control the pressures or a reason for pressures. If a network could fulfil municipalities'

missing resources, it can also create a positive pressure to accelerate and support municipalities' sustainability.

Helsinki and Turku highlighted competition internationally. The goal of this competition seemed to be visibility internationally and the luring of professionals. Furthermore, Helsinki and Turku wanted to act as forerunners in sustainability and show up as a showcase to the world. However, Turku and Helsinki mentioned that they are willing to cooperate with other municipalities to achieve the goals regardless of the competition. In addition, other municipalities also underlined the importance of cooperation between municipalities.

Municipalities also observed normative pressures related to trends. For example, digitalisation, immigration, and urbanisation formed pressures that forced municipalities to react. In addition, two municipalities said that the effects of climate change might cause new pressures on municipalities. If municipalities would not consider the pressures of these trends, it might harm the municipality's performance. This finding might explain the popularity of the practices related to digital services.

#### **4.2.2 Regulatory pressures**

Regulative pressures can be divided into soft and hard laws. Hard law includes legislation and orders that must be complied with to avoid sanctions. Soft law includes non-binding laws and recommendations that might be encouraged to follow by using incentives. Interestingly municipalities mentioned more often pressures related to soft law than hard law. The focus on soft law is exciting from the viewpoint that sustainability is part of the law determining the legislative tasks of the municipalities (*Kuntalaki 365/1995*, 1995). Few municipalities mentioned that municipality law influenced their sustainability matters. Especially municipalities notified the changes in legislation. Lempäälä supports this by highlighting that the government program and government environmental strategy are crucial for municipalities. Also, Helsinki required changes from the government to existing legislation. Even if the pressures were scattered, few pressures distinguished from the group. The most often mentioned causes for pressures were the energy efficiency agreement of the municipality sector and Agenda 2030. The Paris agreement also gained attention. All of the previous could be observed as soft law.

Other soft law instruments recognised in the analysis were international agreements. These agreements created pressures affecting mainly bigger municipalities. The pressures occurred through shared recommendations, pledges, and statutes. Oulu and Helsinki had joined the Covenant of Mayors, an agreement of local governments to commit to EU climate and energy objectives (Covenant of Mayors, n.d.). Municipalities also kept the commitment to shared objectives important and enforced it by reporting.

Municipalities acknowledged that soft national and international strategies and recommendations influence municipalities' operations. Oulu mentioned that the regulation behind them also affects municipalities. Nevertheless,

municipalities might observe the soft law instruments more as guiding tools. On the other hand, they might have already integrated the hard law into the operations and therefore have targeted proportionate resources to fulfil the legislative duties.

The data analysis showed that municipalities, regardless of their size, depended on the policies and incentives of the government. Therefore, the government was posing straight pressures for municipalities' sustainability work. Nevertheless, municipalities often mentioned these with a negative tense, indicating that municipalities were willing to have more support from the government. Therefore, these pressures might also hinder sustainability work. Sometimes, the current legislation might not make all practices available. In the first place, municipalities wished that government policy would be logical. Municipalities mentioned a few repeating themes related to funding, climate policy, and social and health services reform. The analysis indicated that these themes created uncertainty in the municipality sector.

#### **4.2.3 Internal factors**

The framework of this study, presented in Figure 1, shows that internal factors act as a filter between the pressures and the adopted EMPs. Identified internal factors were miscellaneous, and only a few gained support from more than one municipality. However, a more holistic understanding can be formed by combining the internal factors with pressures and practices.

It is essential to understand that municipalities are not striving for maximum profit but rather for growth and viability, essential to running legislative duties. Therefore, it is possible to break the normative pressure of competing against other municipalities into internal factors. For example, Oulu said its goal was to pursue vitality, and Turku tried to climb at the top of international development. The intention to strive for high goals might surge from internal ambition.

Another factor that affects the duties of municipalities is the balance of the economy. Even if municipalities might not pursue maximum profit as business companies, Helsinki mentioned that the municipality's services must produce revenue or other benefits to be worthwhile for the municipality. Also, Enontekiö mentioned that it seeks cost savings. However, especially if the economy is balanced, the benefits can be more multivarious than economic profit. The identified practices supported this claim. The practices often had a clear goal to achieve, but the goals might have been anything between cost-savings and residential comfort.

The data analysis also identified more internal factors linked to the organisational culture and history. From the perspective of the pressures, only Oulu mentioned internal acquisition criteria as internal factors. However, because municipalities mentioned the acquisition criteria often among practices, they might have acknowledged the effect of acquisitions more widely. According to the data analysis, the comparison between acquisitions could allow the municipality to push its stakeholders towards sustainable development. Oulu

mentioned that traditions are affecting the decisions. Kouvola instead said that they needed changes in attitudes. Lempäälä furthermore stated that it is vital that the municipality's management is committed to sustainability goals. Helsinki put these all together by suggesting that they must pay attention to working culture. Therefore, it seemed clear that municipalities had started to pay attention to the importance of organisational culture.

Besides this, Oulu and Enontekiö said that the municipality's location affects the practices through business possibilities and weather conditions. For example, municipalities planning the use of wind power were all located on the coast of the Baltic Sea. Also, the large size and scarce population affected the practices in Enontekiö and Raahen.

### 4.3 A framework for institutional pressures in municipalities

The theoretical framework of the study, presented in figure 1, was modified according to the data analysis findings. Figure 3 displays the modified framework. The most significant difference to the original framework is that mimetic pressures are missing since the study did not recognise any of them.



Figure 3 The framework of institutional pressures in the municipality sector according to the data analysis

The study succeeded to identify several normative pressures in detail. The study suggests that all of the pressures presented in the theoretical framework existed except the energetic society. However, the most active citizens might partly represent the energetic society. In addition, the study found that the development of technology, migration, universities, municipalities' employees and commitment networks create normative pressures to municipalities. Regulatory pressures mainly stayed the same. However, municipalities required a more coherent policy from the government to support their climate work. Thus, the government climate policy extends the category of regulatory pressures. The study recognised similar kinds of internal factors with the theoretical framework.

However, the source of environmental knowledge was removed since it was recognised to cause normative pressures through municipalities' employees.



## 5 CONCLUSION

The study aimed to examine the use of EMPs in Finnish municipalities and explore the factors affecting them. The literature has paid attention to municipalities' environmental work, but the EMPs and their adoptions have gained less attention. The study explored used EMPs in municipalities by conducting a media analysis and analysed the data through qualitative content analysis. The study also recognised significant stakeholder groups and combined information to infer influencing pressures.

Municipalities have adopted sustainable targets for their operations as the law requires. Municipalities also considered different aspects of sustainability and have adopted numerous EMPs. The study indicated that municipalities focus more on climate change than overall sustainability and conduct practices mainly to develop sustainable transportation and energy efficiency. The single most common practice was zoning by considering environmental aspects. Bigger municipalities conducted more EMPs than smaller ones, and they might have a more coherent understanding of the effects of their environmental work. Even if larger municipalities presented most of the EMPs, smaller municipalities paid more attention to practices with social aspects.

The study identified several normative pressures and internal factors affecting municipalities' EMPs but could not identify more regulatory pressures than the theoretical framework. Mimetic pressures were absent in the study. Citizens, companies and the youths caused the most significant normative pressures to municipalities. In addition, universities caused normative pressures. Among the internal factors, the organisational culture was one of the most important, and municipalities often tried to develop it. The study indicated that larger municipalities benefited from soft measures, whereas smaller municipalities responded to hard measures.

The competition between municipalities was brutal, especially among internationally considerable municipalities. As the data analysis showed, many municipalities tried to strengthen their images by emphasising sustainability in their operations. Normative pressures from stakeholders and competition between municipalities could also lead to other practices conflicted with environmental work goals. For example, Turku wanted to expand towards the sea while working for a denser city structure. Hence it seems that economic well-being might overdrive the environmental aspect of sustainability. The next chapter will discuss the contribution of the study to the literature.

### 5.1 Discussion and contribution

The contribution to existing literature was diverse. As expected, the study suggested that bigger municipalities are more active in climate work. Available

resources can at least partly explain this. Besides, there were indications that municipalities might have to adopt a broader sustainability perspective to achieve SDGs efficiently. The broader sustainability perspective might also support the collaboration in the municipality organizations, which the literature mentioned as one of the keys to success. Furthermore, the study found similarities in factors driving firms and municipalities to adopt EMPs by suggesting that competition and normative pressures encourage them to improve environmental management.

The study supports the finding of Zeemering (2018) that municipalities might have adapted a narrow perspective to sustainability. Larger municipalities presented more practices than smaller ones, and the EMPs of larger municipalities might also have longer-term goals. Furthermore, larger municipalities formed comprehensive initiatives to adopt practices. The practices mainly occurred in the region, even if the desired outcomes would gain international attention. Thus, the study supports the conclusion of Schmidt-Thomé et al. (2020) that municipalities pursue their own goals and do not recognise global problems, except climate change. The study suggests that bigger municipalities actively seek possibilities to show their commitment to sustainability globally. The findings of Schmidt-Thomé et al. (2020) supported this suggestion by stating that Finnish municipalities thrive for a forerunner position in global networks. However, this study indicates that municipalities are willing to share their knowledge.

Municipalities acknowledged the importance of active communication and used it to engage stakeholders. According to Mattsson (2012), active communication inside the municipality organisation is critical for successful cooperation. Municipalities were eager to measure their efforts to see their progress which is vital, according to Kerkkänen (2012). Furthermore, this study indicates that this information is used in internal and external communication.

Surprisingly some of the municipalities, e.g., Helsinki, had conducted a comprehensive review of possible practices, possibly indicating that evidence-based decision making is becoming a part of local politics. Nevertheless, Zeemering (2018) highlighted the importance of *embedded sustainability* in strategic processes, which Finnish municipalities have not reached even if Lempäälä stated that all sectors should consider sustainability at the strategic level. Another delighting finding was that municipalities have started to focus on complete sustainability instead of part optimising. In addition, municipalities have broadened their environmental strategies to regional completeness.

Similar to Schmidt-Thomé et al. (2020), the study found that municipalities' ambitiousness in environmental work has led to competition between municipalities. In addition, the study suggests that normative pressures might cause a part of this competition. Hence, municipalities must answer stakeholders' requirements to compete for experts and companies. However, the study indicates that smaller municipalities might not face the same pressures as larger municipalities, so they might not participate in the competition.

Furthermore, the study suggests that the competition together with normative pressures might lead to a differentiation strategy, partly supporting

the findings of Albrecht & Kortelainen (2021). For example, the actions of Helsinki and Turku are good examples of such practices which tried to implement the differentiation strategy and react to the wishes of the citizens. This suggestion is also in line with the finding that bigger municipalities executed more EMPs than smaller ones. The previous might indicate that the findings of the Tatoglu et al. (2020) and Delmas & Toffel (2004) also apply in the municipality sector. Thus, the same factors, the differentiation strategy, and stakeholders' consideration guide municipalities and firms to adapt EMPs.

The suggestion that municipalities might execute differentiation strategies is not new, and, e.g., Albrecht & Kortelainen (2021) have suggested that municipalities have executed differentiation strategies. However, the literature rarely mentions that environmental work would lead to differentiation. However, existing literature (e.g., Lamminmäki, 2018; Schmidt-Thomé et al., 2020) suggests that Finnish municipalities are ambitious in climate work. On the other hand, Delmas et al. (2011) suggested that a green strategy on its own might not be successful. Therefore, the finding that municipalities might implement differentiation strategies by executing conflicting practices might not be surprising. Thus, the study suggests that municipalities might have to consider their actions from a broad sustainability perspective and carefully take advantage of regional strengths to separate from competitors, maintain sustainability, and improve competitiveness. The proposal is very similar to Kerkkänen's (2012) suggestions. Few municipalities had recognised their regional characteristics and strengths and had based specific practices and actions on them to separate from other municipalities. Good examples are Turku's intention to spread the city towards the archipelago and Enontekiö's wish to sustain the traditional way of life.

The study also indicates that capabilities and resources might affect EMPs in municipalities. Bigger municipalities seemed to have more possibilities to execute EMPs in cooperation with stakeholders such as universities. Interestingly both small and large municipalities highlighted the importance of government policy, and they seemed to be intensely dependable on it. The need for government policy might be related to municipalities' lack of resources, hindering the sustainability work in smaller municipalities. Thus, the finding of Yu & Ramanathan (2016) that EMPs depends on capabilities applies at least partly in the municipality sector.

Municipalities have not paid much attention to which practices have achieved the desired outcomes. Thus, it is hard to infer how widely EMPs have spread in Finnish municipalities. Nevertheless, the study shows that municipalities have focused on similar subject matters even if the practices differ. The chosen practices somewhat acknowledged the characteristics, needs and strengths as Kerkkänen (2012) suggested. However, municipalities did not investigate these thoroughly. The study partly shares the concern of Mattsson (2012) that municipalities have seized on easy and cheap practices, which again might indicate inadequate resources. However, this study addresses that municipalities have become more ambitious in environmental work. Still, the lack of resources and clear governmental environment policy seem to drive

municipalities, especially smaller ones, to focus on general practices with questionable effectiveness.

Municipalities noticed that the responsibility for environmental work should be divided into multiple sectors and thus highlighted similar kinds of aspects to Mattsson (2012). However, the results indicate that municipalities did not comprehensively observe sustainability, and the dependencies focused on a particular sustainability division. Thus, the coordination and understanding of sustainability might remain unnecessarily low. As Delmas et al. (2011) and Zeemering (2018) pointed the positive effects of green strategy might result from other management systems if they are well managed. Thus, municipalities should pay attention widely to their management procedures. The solid aspiration for changing organisational culture might indicate that municipalities have recognised this craving.

The aspiration of changing organisational culture might also reflect the current trends in society. According to Orlikowski (2007), technology affects practices, and thus, it is probable that digitalisation will change the current practices in municipalities. Municipalities might have even recognised this, and digitalisation often occurred in the analysis. Furthermore, Orlikowski's (2007) suggestions set Helsinki's proposal that digitalisation might hinder environmental work to new light. It might be possible that the rapid development of technology makes the new practices old-fashioned and forces municipalities to adopt them quickly. Changing current practices ties resources that might hinder municipalities' willingness to adopt new ones.

On the other hand, normative pressures support municipalities to adopt EMPs even beyond regulatory compliance, as Delmas & Toffel (2004) suggested. The study recognised that companies and citizens were the most influential stakeholder groups. The significant normative pressure from the citizens supports the proposal of Heuru et al. (2011) that the role of citizens is changing. If citizens consider themselves customers, they can require that the municipality pays attention to their demands. The study did not identify the *energetic society* as Hajer et al. (2015) suggested. Instead, the study recognises that the pressure from citizens forces municipalities to react by developing the city image and structure. The reaction might be essential for municipalities in order to sustain liveliness.

Municipalities had targeted practices to support sustainable transitions of the companies. The practices aimed to develop infrastructure that would support sustainable business. The literature encourages municipalities to do this. For example, Hajer et al. (2015) advised municipalities to support sustainable businesses in their area. By offering support and incentives, municipalities might hold companies in the region.

The study recognised that regulatory pressures affected environmental work in municipalities, but they emphasised soft measures over hard measures. Especially bigger municipalities underlined the importance of international agreements. Nevertheless, since smaller municipalities executed fewer EMPs than bigger ones and showed less commitment to soft measures, the study partly

supports the proposal of Kasa et al. (2018) that if a lack of resources is faced, hard measures would be a useful guiding tool.

The study did not recognise mimetic pressures. There might be two factors that might explain the absence of mimetic pressures. First, sustainability is not a new issue in the municipality sector and therefore, it is hard for municipalities to make a difference by it. However, the growing number of news articles dealing with municipalities' environmental work indicates that the public will pay more attention to municipalities' sustainability. Besides, this study suggests that municipalities might observe the concept of sustainability more comprehensively in the future. Thus, especially smaller municipalities might be wise to wait that larger municipalities pursuing competitive advantage have tested the use EMPs going beyond the regulatory compliance before investing in their adoption. Wang et al. (2018) observed the same effect in the business field where firms have recently adopted EMPs.

Furthermore, since the law has set sustainability development as a duty of municipalities, the well-known practices are widely spread among municipalities. This might explain why the study did not recognise mimetic pressures, and it indicates that mimetic pressures still underlie the structure of municipality organisations. Furthermore, the absence of mimetic pressures might also be related to Jennings and Zandbergen's (1995) argument that companies had adopted similar practices because of the current regulation. Since sustainability had been a legislative duty of the municipalities, it might be that the legislation has reduced mimetic pressures.

The study's findings are not contradictory to the existing theory and can contribute to a few aspects. Thus, the results indicate that the selection of informants was successful, and the data analysis was accomplished carefully. Moreover, a qualitative study aims to generate understanding (Stenbacka, 2001, pp. 551). This study recognised several institutional pressures and internal factors and helped explain why municipalities have adopted certain EMPs. Thus the study succeeded to create an understanding of the phenomenon. Creswell & Miller (2000) suggested that the researcher can by himself affect the study's trustworthiness. The authors said that the researcher is responsible for determining when the data is saturated or adequate to form themes and categories. The data of this study was not saturated, but there were visible themes and categories. Furthermore, vague themes and categories that were not supported were left out to increase the trustworthiness. However, there are some limitations which are discussed below.

## **5.2 Limitations of the study**

The study only examined Finnish municipalities and observed a relatively short period. The study also considers Finnish legislation and might not be expendable to other countries with a different administrative structure. In addition, the data about smaller municipalities did not reach the desired level. Moreover, the

examined documents might not comprehensively represent the sustainability concept in the municipality sector. Thus, the data selection might explain the missing similarities between municipalities. It might also be possible that municipalities have published information about successfully implemented practices to avoid unfavourable attention.

The data selection might also cause another bias because the media might not represent reality. Thus, it is not sure how widely examined documents reflect institutional pressures. It is possible that the role of the most important and influential stakeholders is overrated.

One problem related to this is that municipalities offer information about sustainability, but it is divided according to the administrative structure. Therefore, some disciplines were hard to connect to sustainability or might even not be found. Thus, it might be hard to realise how extensive view municipalities have of sustainability. The bias might be furthered by selecting municipalities from the Hinku-network of which members focus on climate issues. However, as Stenbacka (2001) suggested in a qualitative study, informants must have adequate ability to respond to research questions, and thus this selection criteria can be justified.

### 5.3 Suggestions for further research

The study was able to identify several practices used in the municipality sector. However, the study could not recognise how these were created and chosen. Any of the elements mentioned by Reckwitz (2002) could not be identified. Especially the influence of background information on chosen practices would be interesting to study deeper. Furthermore, questions related to the implementation of practices were left unsolved. Andrews et al. (2011) have studied the implementation process, but the question of how municipalities could most effectively adopt the practices remains unanswered.

Besides identifying practices, the study created a more holistic understanding of the pressures affecting EMPs in the municipality sector. However, the study used several articles made for the business sector to form the theoretical framework. Thus, it would be helpful to examine how widely the theory about practices developed according to business sector principles can be adapted in the municipality sector. Some studies compare the municipality sector to the business sector (e.g., Norén & von Malmborg, 2004), but the understanding of EMPs seemed vague. Also, municipalities' current environmental performance stage places an exciting research topic.

Furthermore, the study could not identify the differences in effective EMPs between small and large municipalities. The question remains if municipalities have used the guides formed by authorities to choose and implement EMPs successfully. Also, the information about the effect of *cockpit-ism* was not significant.

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## APPENDIX

### Appendix 1. Media sources

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