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# Sustainability coordination within forerunning Nordic municipalities – Exploring structural challenges across departmental silos and hierarchies

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## ABSTRACT

Due to changes in status and role of sustainability efforts in municipalities over time there is an increased pressure to adopt an interdisciplinary approach to sustainability. Research has especially emphasised the broad perspective on the cooperative challenge, while less emphasis has been put directly on the specific intra-organisational challenge of nurturing cross-departmental cooperation. The article aims to provide explorative empirical insight into sustainability coordinators' internal efforts to organise and support innovative forms of sustainability cooperation. The study sheds light on two different approaches to sustainability coordination based on two separate research studies of forerunning Scandinavian municipalities. It shows how five structural factors: capacity, scope, willingness, mandates and resources, are enacted differently in the centralised approach of Växjö (Sweden) and the decentralised approach of Aarhus (Denmark). The conclusion highlights the delicate work needed to create engagement with sustainability across differences in departmental scopings and hierarchical distribution of mandates and resources. Finally, it points to how the two approaches could be complementary, as coordination in Aarhus established a robust commitment to narrow action points, while Växjö delegated more vague action points broadly throughout the entire organisation.

## 1. Introduction

Municipalities play an important role in the endeavour of improving sustainable performance in society. This is something that has been highlighted both in research (Emilsson, 2005; Keskitalo and Liljenfeldt, 2012; Johnson, 2020; Broto and Bulkeley, 2013) and in global sustainability schemes (such as Agenda 21, Habitat, the 2030 Agenda). The Nordic countries are seen as forerunners when it comes to environmental and sustainability efforts (Johnson, 2020; Borges et al., 2017 and Huynh 2021). This could be explained by their stable political situation, well-functioning society and markets, and the close relation and cooperation between the countries (Borges et al., 2017).

The status and role of sustainability efforts in municipalities have changed over time (Emilsson and Hjelm, 2009). Governance initiatives have, historically, been characterised by narrow ecological perspectives (de Bruijn and Tukker, 2002; Welford, 1998). The global initiative of Agenda 21 was an important milestone in municipalities' proactive sustainability efforts, but in practice, it mainly dealt with the environmental perspective (Brundin and Eckerberg, 2002). Sustainability was

often considered mainly the task of the environmental experts in the municipal organisation and it was often dealt with as separate projects and not part of the overall organisational management (Emilsson, 2005). As a result, sustainability efforts were typically anchored in technical and environmental departments working specifically on optimising technical infrastructures and facility management.

By the 2000s, sustainability increasingly came to represent a top policy priority for governments, which led to developments towards broader scopes of sustainability management (Krantz and Gustafsson, 2021; Emilsson and Hjelm, 2009). The importance of this broader scope was even further accentuated with the launch of the 17 Sustainable Development Goals (SDGs), as part of the 2030 Agenda. The Agenda highlights the need for new forms of collaboration through partnership and leadership (Krantz and Gustafsson, 2021; Grainger-Brown and Malekpour, 2019; Zinkernagel et al., 2018; UN, 2015). Given the broadened scope of sustainability efforts and that sustainability professionals' expertise is often founded in the environmental perspective (cf MacDonald et al., 2020), municipal capacity for sustainability coordination becomes challenged. Wang et al. (2012) elucidate that

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managerial capacity is crucial for a municipality to be able to develop and integrate sustainability into the organisation and they also highlight the importance of establishing a designated effort in the organisation for sustainability initiatives (which, in our case could be translated to the role of sustainability coordination).

Sustainability governance studies have shifted from describing sustainability practices and motives in governance towards the formulation of strategies for implementing change, according to both Wang et al. (2012) and Broto and Bulkeley (2013). Similarly, a review of governing for urban sustainability in Nordic municipalities also direct attention towards ‘vertical implementation’ as an important requirement to achieve change within municipal organisations (Fenton, 2016:66). It is well recognised within research in innovation in public governance that traditional strategies and tools to overcome unruly policy challenges have proven insufficient (Agger and Sørensen, 2018; Lopes and Farias, 2020). Implementation of sustainability implies such structural challenges, according to Innes and Booher (2018), since public governments struggle to tackle the interdependencies of such a mission due to bureaucratic and hierarchical structures. These more internal strategic organisational dimensions have been less researched in sustainability governance, according to Wang et al. (2012), thus pointing towards the need to better understand the conditions for implementing change among public governments. This is also highlighted by MacDonald et al. (2020), who also point out the important role of facilitators, i.e. municipal sustainability coordinators (or managers, as they put it).

In this paper, we contribute to this gap of knowledge with empirical insight into how sustainability coordinators within Nordic municipalities address the internal organisational challenge of implementing sustainability. These coordinators are in focus, since they play an important role as catalysts for innovation and provide a basis for joint action across sectoral and organisational borders (Korhonen et al., 2004). Coordination is understood here as an activity that helps to establish an alignment of tasks and efforts to achieve a defined goal, as described by Verhoest and Boukaert (2005). A key emphasis is put on the structural conditions for performing sustainability coordination, since it is recognised that many policy problems transcend organisational boundaries, administrative levels and sectors (Agger and Sørensen, 2018; Lægheid and Rykkja, 2014). Organisations establish a structural differentiation, according to Blau (1970), as a way of defining themselves functionally, occupationally, hierarchically and spatially (in Wilson, 2003), and this differentiation establishes structural conditions in the form of e.g. departmental silos that triggers coordination challenges almost by default (Gulick, 1937 in Lægheid and Rykkja, 2014).

The aim of the paper is to empirically explore sustainability coordinators’ internal efforts to organise and support innovative forms of sustainability cooperation. Through this focus, the paper contributes to a deeper understanding on how municipal civil servants responsible for the integration of sustainability coordinate inclusion of interdisciplinary perspectives through cross-departmental cooperation. Structural challenges are specifically addressed because coalitions between departments can be difficult to achieve since individuals and organisations develop different interpretations of how things should be, according to Byrch et al. (2017). It implies looking more structurally into the innovative practice involving the coordination between different departments in the municipality towards coordinated sustainability efforts. Special emphasis is given to exploring alignment efforts involved in coordinating across such structural dimensions.

The paper juxtaposes key findings from two separate research projects from two ambitious Nordic municipalities – Växjö (Sweden) and Aarhus (Denmark) – that illustrate two different sustainability coordination practices anchored at different hierarchical levels within the municipal organisation. Both municipalities are what Sanchez Gassen et al. (2018) label as forerunners due to their ambitious work on sustainable development over a long time. In this perspective, sustainability coordinators are understood as key employees in municipalities involved in the coordinative efforts to develop and integrate

sustainability goals within the organisation and making changes to the organisation in the long run. The paper is structured in four sections in addition to this introduction: the methodological approach of the paper, the theoretical lens for the comparison, a presentation of the main analytical empirical findings across the two research projects, and a concluding discussion.

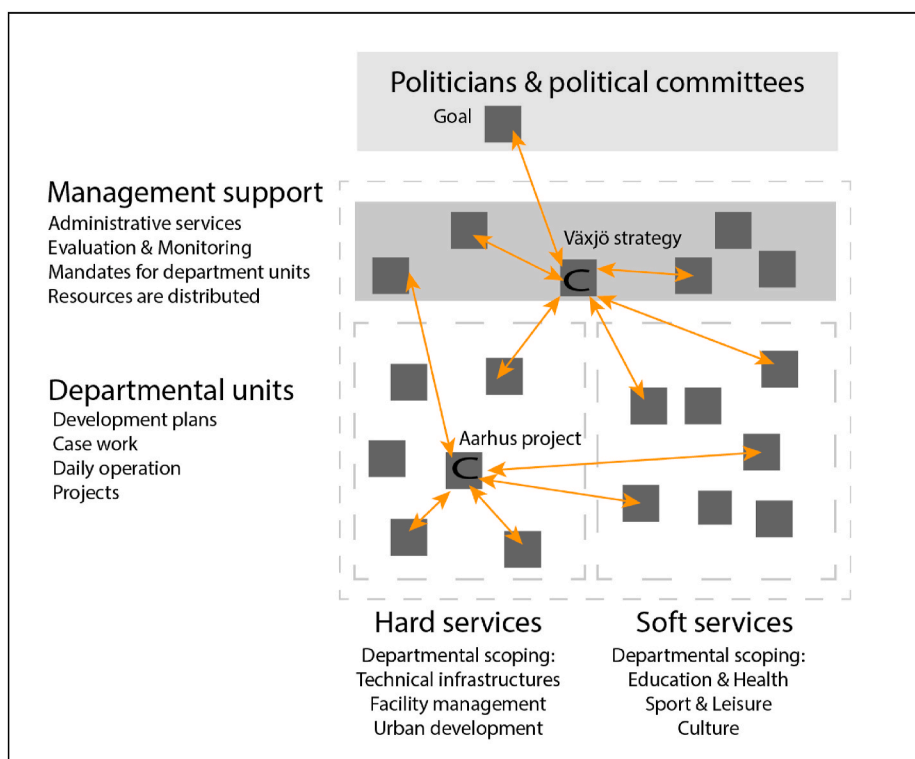
## 2. Method: Juxtaposing two innovative forms of cross-departmental cooperation

The Nordic countries are especially interesting to study and learn from, when it comes to innovative forms of cooperation, since Scandinavia has led the way in Europe in collaborative practice, according to Innes and Booher (2018). This is also the case of the two municipalities that form the empirical foundation of this paper. Växjö is a Swedish medium-sized municipality that has an integrated approach to sustainability management and has a long history of working proactively with environmental and sustainability issues (see Emilsson and Hjelm, 2009). Aarhus is the 2nd largest municipality in Denmark and has also worked purposefully with climate change since 2008 (Bugge, 2018). Both municipalities are especially relevant for the aim of this paper, because two separate research studies show that the involved sustainability coordinators have made deliberate efforts to integrate interdisciplinary sustainability perspectives as part of their approach.

The research studies of Växjö and Aarhus complement each other well, as the sustainability coordinators are positioned at different hierarchical levels in the municipal organisation, as illustrated in Fig. 1. Växjö has been included in the study, because the efforts in Växjö represent a centralised approach, where designated coordinators act through a supportive managerial policy function in the central municipal administration. In their case, a key innovative element in the coordinative effort has been to deliberately address SDGs through development of a new sustainability programme “Sustainable Växjö 2030” with a process-oriented and holistic perspective (Krantz and Gustafsson, 2021). The sustainability programme in Växjö aimed to ensure that sustainability is a responsibility for all departments and activities. A key ambition was to have an integrated approach to all ongoing changes to achieve a more coherent and aligned management structure. Aarhus has been included in the study, because the efforts in Aarhus represent a decentralised approach, where designated coordinators from the Technical and Environmental Department and the utility company act from a decentral position of performing a local development project. Although this represents a more traditional starting point, in terms of the mindset of SDGs, a key innovative element is that it includes a cooperative and integrated perspective, as a clear intention in the local development project was to experiment with the inclusion of what can be labeled as soft service departments in the development process to create added value based on interdisciplinary sustainability perspectives (Hoffman and Quitzau, 2019).

From a methodological point of view the two municipalities represent what Flyvbjerg (2006) terms as “critical cases”, because the municipal status as forerunners allow to logically deduct that if sustainability coordination is difficult in those municipalities with most experience, then, it will also be difficult in municipalities with less experience. Additionally, due to the different approaches to sustainability coordination across the two municipalities, as illustrated in Fig. 1, the two municipalities also represent a good example of “maximum variation cases”, through which it is possible to obtain information about the significance of different circumstances (Flyvbjerg, 2006). For the aim of this paper, especially the structural differences from performing sustainability coordination from a centralised or a decentralised position represents an interesting variation in circumstance that can provide input with regards to the aforementioned knowledge gap with regards to intra-organisational coordination challenges.

The two municipalities are possible to juxtapose for analytical



**Fig. 1.** The different positions of sustainability coordinators in Växjö and Aarhus municipalities. The “C” in the grey boxes indicates the location of the coordination functions in each municipality. Developed by the authors.

purposes, since the Swedish and Danish municipality contexts have many similarities, including rather similar planning systems and practices in relation to local sustainability (Busck et al., 2008). In addition, local governments across Sweden and Denmark also share having a great deal of autonomy in terms of how they practice governance. The intention of the paper is to illustrate sustainability coordination with a complementary focus, hence, the paper does not compare the planning systems or practices across the two nations. Ideally, one could have studied key similarities and differences in the circumstances of sustainability coordination within one specific municipality. This was, however, not possible due to the specific aim of studying more innovative ambitions of embracing broader sustainability efforts. In each country and municipality, other types of sustainability approaches can be found together with a variety in ambitions.

As mentioned earlier, the paper is based on separate research studies of Växjö and Aarhus, respectively. The research study of Växjö has been thoroughly described in Krantz and Gustafsson (2021), while papers on the research study of Aarhus is under development (see Hoffman and Quitzau, 2019; for a partial introduction). For each study, a part of the background material is re-used in order to establish a basic introduction to each sustainability effort, but otherwise, the applied material represent new perspectives with specific focus on coordination efforts. Both research studies are based on a mixed methodology approach (see e.g. Yin, 1996), where qualitative methods such as interviews, documentation studies and observations have been used.

Methodologically, the Växjö case is based on a study of an early phase in its process of developing a sustainability programme (for a better overview of the process, please see Fig. 3 in section 4.1), and how this programme could be integrated into other organisational processes (Krantz and Gustafsson, 2021). The researchers that performed this study have a long-established relation to Växjö municipality. This particular study is based on documentation studies and interviews. Documents such as internal project plans and policy- and planning documents (i.e., annual budgets) were analysed prior to the interviews.

The interviews, which were semi-structured, were conducted with employees with key functions for the development of the sustainability programme. These were sustainability coordinators and process leaders covering all municipal activities. The interviews covered questions related to the informants' experiences from developing the sustainability programme and thoughts on its future implementation relating to, for example, roles and organisational issues, positive and negative experiences, and anchoring of the process and conflicts between different goals. Additionally, the authors attended meetings to observe (in 2018) and to validate the results from the study (2019).

The research design of the Aarhus case study is based on a direct dialogue between the involved researchers and the sustainability coordinators involved in the development project through meetings and the joint planning of workshops. Meeting notes and observations from these meetings were collected as data. Secondly, it also involved a more indirect observation of how the performed workshops impacted the social practices of the attendants of four collaborative workshops (for a better overview of the process, please see Fig. 4 in section 4.1). This was done through observations during the workshops. Besides, follow-up interviews with 11 attendees from different departments, including coordinators, was performed (in 2018). The main focus of these interviews differed, but all were based on semi-structured interview guides and emphasised roles and functions in the process, underlying departmental incentives and experiences from the workshops. The research has mainly been conducted in the initial period of the project, with key emphasis on the four cross-departmental workshops. For the project phases, where the researchers were not directly involved in meetings, documentation has been provided in the form of formal documents that describe and summarise relevant processes and results.

For this paper, specific insights related to sustainability coordination practices and its organisation have been selected from the two research studies for closer scrutiny. A common thread in both studies is that the organisational anchorage of the coordination process has been thoroughly researched and analysed. Also, both studies have followed and



described who the coordinators involved, how they performed the involvement and which challenges they experienced during this process. Based on these empirical descriptions of the processes, the theoretical approach outlined in section 3 provided an analytical scheme to categorize and reflect on the generated data in a new way, highlighting similarities and differences in both circumstances (organisational anchorage) and strategic approach (innovative forms of cooperation). This methodological approach does not provide conclusive findings per se, but should be seen as a way to provide explorative empirical insights that can hopefully form the basis to scaffold for more systematic future studies.

### 3. A conceptual scheme to juxtapose coordination circumstances and strategies

The importance of public employees that can initiate, exchange and develop new ideas is referred to as a “cultivation strategy” and emphasised by Eggers and Singh (2009) as one of the important steps in supporting innovative changes in the public sector. Having such “champions” within an organisation helps to push a strategic process along and is critical, according to Bryson (1993:18). Unfortunately, however, findings in strategic planning studies indicate that too often, well-intended goals do not have the necessary momentum for change (see e.g. Bryson et al., 2009; Innes and Booher, 2018). This implies that initial champions (like sustainability coordinators) have difficulties in nurturing more champions internally in the organisation. This implementation challenge also prevails in the strategic governance performed by municipalities to implement sustainability, as indicated in the introduction. Sustainability is especially challenging with regards to implementation, since it is imbued with a great deal of ambiguity even inside the local government itself. Sustainability represents a pluralism, as demonstrated by Dryzek (2005), as there are many different interpretations, even simultaneously within policies and debate (in Cardonna, 2014). Hence, sustainability is tricky to define and identify solutions for because it has come to represent what Rittel and Webber (1973) term as a “wicked problem” (in Pryshlakivsky and Searcy, 2013).

This ambiguity and plurality of sustainability is accentuated by structural hierarchies, as sustainability coordinators increasingly have to seek to gather momentum across the entire municipal organisation. This is a result of the change presented in the introduction, where especially forerunner municipalities have shifted their sustainability focus from separate projects to overall management strategies and from a narrow environmental focus towards the more interdisciplinary inclination within SDGs. Such shifts result in development of innovative practices among forerunners. However, these kinds of dynamics and innovative capabilities of governance are often hampered by the prevalence of rule-bound and bureaucratic silos in the public sector (Sørensen and Torfing, 2007). A key argument by Lægveid and Rykkja (2014:5) is that “the existing specialization in the public sector apparatus is not fit to handle the complex challenges society is facing”, which is based on the point by Gulick (1937) that organisation specialization triggers coordination challenges almost by default.

This implies that although coordination is self-evident to address, given the structural challenges, the approach applied by coordinators is of key importance for successful results. Rigid and linear approaches would tend to end in a lack of mobilisation of the desired outcome, as argued by Bryson et al. (2009). In collaborative processes, superficial forms of dialogue often result in the tacit employment of certain frames of understanding, which interfere with collaboration, learning and creativity (Innes and Booher, 2018). This points towards critically analysing coordination approaches with attention to the delicate work needed to establish appropriate alignments across different understandings of both sustainability and the involved disciplines regarding actual implementation. Thus, a core element in the alignment process should be to listen to and discuss the meanings of issues, problems, challenges and the nature and contours of desired outcomes

(Albrechts and Balducci, 2013; Innes and Booher, 1999).

Factors developed by Fenton (2016) provide an analytical framework to understand different underlying structural conditions that influence and shape cross-departmental participation in municipal governing for urban sustainability. The factors of capacity, mandate, resources, scope and will are summarized in Table 1 and form a conceptual starting point for the analysis of the empirical data in this paper. The factors represent important points of leverage with potential to influence the extent of strategic action in municipalities and have been developed on the basis of a study of municipalities in Northern Europe (Fenton, 2016). Similar factors are also found in a U.S. study, which highlight a reciprocal relation between capacity building and policy outcome with regards to development of sustainability practices (Wang et al., 2012).

Capacity is pointed out as an important factor for implementing sustainability through processes of local governance by both Fenton (2016) and Wang et al. (2012). As shown in Table 1, it helps to capture the ability of actors to participate in processes and addressing implementation challenges in relation to this collaborative effort. In the present article, the factor of capacity is applied to capture the coordinative strategy of sustainability coordinators, and thus, represents an overarching outcome of how these coordinators navigate in relation to the other four factors. It helps to emphasize the importance of strategic performance, recognizing that actual implementation requires a shift in coordination from a logical or rational deduction of collaboration towards a more integrated approach to design and manage the collaborative processes. In this article, capacity underlines the special approach that is necessary to unlock joint solutions rather than finding the best or fairest solution (Innes and Booher, 2018). This is based on the understanding that discursive practices are needed in strategy-making, because outcomes merely occur, when dedication is put into ordering and sense-making efforts are done to keep the world together (Nicolini et al., 2003 in Bryson et al., 2009). This represents a relational understanding of strategic planning, where it is not indifferent *how* the collaborative process unfolds, as the intention is to avoid pseudo collaborations (Innes and Booher, 2018).

A factor that can potentially capture whether a collaboration is pseudo or not is that of will, as it captures the element of desire to address sustainability, as shown in Table 1. In discursive forms of strategy-making, the presumption is that a strategy will only work, if the controversies in play have been stabilized appropriately (Bryson et al., 2009). Seen in this perspective, willingness represents an outcome of the strategic process, as participants actively engage in the process, and this represent an act of enrolment, which, according to Callon (1986), is when actors become convinced about something and re-align their interests towards that new perspective.

The factor of willingness in the way of definition in the above speaks directly into the factor of scope that involves the opportunity to act based on the contextual elements that influence how a certain process is framed (Fenton, 2016). Seen from a relational perspective, this concerns understanding the commitments and mindsets that form the basis of organizational function, and which create the basis for strategic change, according to Bryson et al. (2009). A key emphasis here is to be able to set

**Table 1**  
Overview of the 5 factors based on Fenton (2016) and Fenton (2014).

Capacity	The ability of actors to participate in processes and subsequent implementation. Has both institutional and social characteristics.
Mandate	Legal, political or social/ethical norms or regulations influencing the perceived or defined scope of action. Provides the entitlement to act.
Resources	Both in terms of actual resources and perceptions about resources. It could be budget, personnel and information.
Scope	Related to legal, institutional, constitutional and organisational contexts framing a process. Relates to the opportunity to act and the extent of action.
Will	Relates to the desire of individuals and groups to address the challenge of urban sustainability, and within this, to determine how to do so.

the stage for an authentic and empathic way to forge relationships (Innes and Booher, 2018). In this perspective it is especially relevant to consider how the siloed structure of the municipality is addressed in the coordinative process. Horizontal differentiations represent one of the most important structural complexities within organisations (Hall, 1972 in Wilson, 2003), and it reflects central differences in scoping across the municipal organization. Conceptually, this factor helps to capture the structural differentiation that coordinators are faced with, when they try to address sustainability across the organisational structure. Variations in organisational missions and values may lead to paralysing disputes if dialogue is not structured and organised in a collaborative way that encourages innovation and collective commitment (Innes and Booher, 1999).

Finally, the factors of mandate and resources relate to the more political entitlement for participants to act and the economy and time accorded to the task within the organisation, as seen in Table 1. These factors are also highlighted by Wang et al. (2012), expressed as the need to systematically develop political support and financial resources. As this paper will show, these factors produce important framework conditions as to how the sustainability coordinator can enact the coordinative process. The hierarchical differentiation represents one of the other important structural complexities within organisations (Hall, 1972 in Wilson, 2003), and it reflects that missions and goals travel across the organisational structure towards departmental priorities and enactment of specific projects. In an ideal organization, one might see a clear linear approach to the travel of strategies, but in real life practice, the relationships between missions, goals, departmental priorities and projects is much more complex. In terms of understanding coordination as a discursive practice, these hierarchical practicalities prove to play an important part in the strategic efforts of sustainability coordinators.

As indicated above, this paper utilizes an adapted version of the factors developed by Fenton (2016) to compare how sustainability coordinators navigate with regards to different structural circumstances. Through this comparison, it becomes possible to better grasp and describe the discursive practice that sustainability coordinators perform in order to mobilise internal stakeholders in the municipality across both horizontal and hierarchical differentiations. As Fig. 2 illustrates, the analysis of sustainability coordination in the two studied municipalities is focused on both a horizontal (scope) and a hierarchical (mandate and resources) dimension. The mobilisation of relevant internal stakeholders is understood through the coordinative efforts to establish a willingness to engage with sustainability across especially the horizontal differentiation. This coordinative effort includes an aspect of capacity that reflects how the coordinator approaches this process (capacity factor). The

analysis is mainly explorative to identify who the coordination champions are, where they are positioned in the municipal organisation, how they establish interdisciplinary dialogue across different departments and how they adjust and adapt their coordination based on feedback and response from the framework in which they operate.

#### 4. Sustainability coordination under different circumstances

Sustainability coordinators in each of the two studied municipalities act as champions seeking to integrate a more interdisciplinary approach to sustainability. The coordinators act from two different structural starting points in the municipality, which have an effect on how the coordination processes are outlined and the circumstances under which the coordination is carried out. In the first part of the analysis, the overall similarities and differences between the circumstances for coordination is outlined. Understanding sustainability coordination as a discursive practice entails recognizing ongoing adaptation of the coordinative efforts. This is why, in the second part of the analysis, a deeper insight into the adaptive efforts of the coordinators is analysed in terms of how these react and adapt to these circumstances.

##### 4.1. Two different structural starting points for sustainability coordination

In Växjö and Aarhus, sustainability coordinators engage with different institutional logics due to differences in structural starting points of the coordination process.

In Växjö, the coordination especially focused on facilitating a participatory set-up based on developing policy directions for sustainable development across the entire municipal organisation. In this case, the process was led by sustainability coordinators in the municipality centrally positioned directly under the city council. These coordinators perceived that they had a clear mandate from the municipal management for this process. From the outset, it was also a clear objective to develop a cross-departmental sustainability strategy, which resulted in an early constitution of a working group that took part in setting up the participatory process. This working group consisted of representatives from all municipal departments (mainly middle managers) and municipally owned companies. There was also a steering group and a political reference group appointed to support the work of the coordinators. The overall coordination process is shown on Fig. 3. First, an initial awareness-raising workshop was organised, with the attendance of about 80 employees. The purpose of the workshop was to anchor and create broader awareness for the SDGs and sustainability in general. Thereafter, a three-step method was applied to more systematically

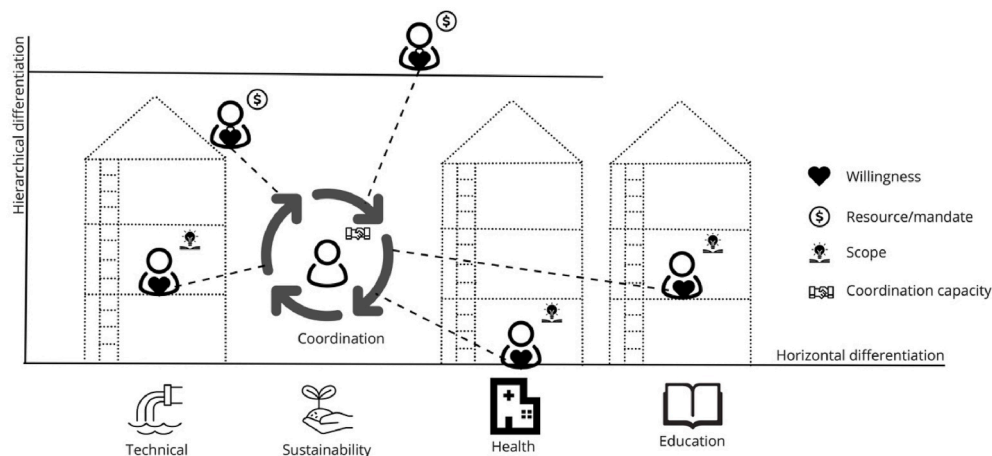


Fig. 2. An illustration of an ideal example of sustainability coordination, where the coordinator achieves promotion of willingness across the organisation through their coordination capacity. The task of coordination should be seen as an integrated part of the work, although it is visualised outside of the silos. Developed by the authors.

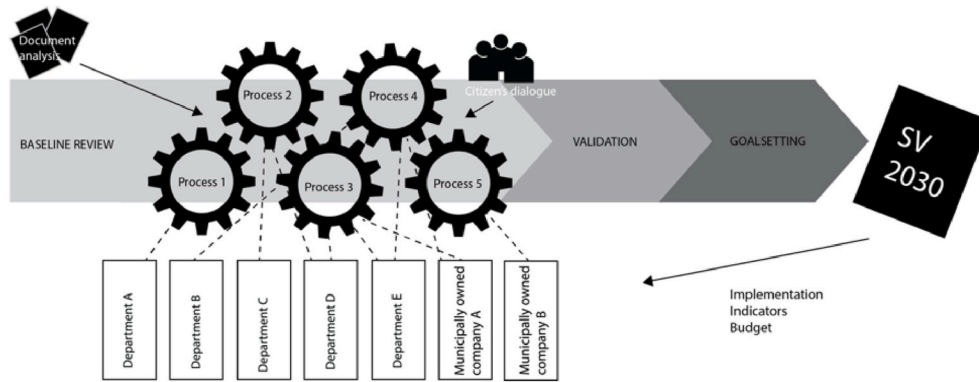


Fig. 3. Overview of the process of developing Växjö's sustainability programme. From Krantz and Gustafsson (2021).

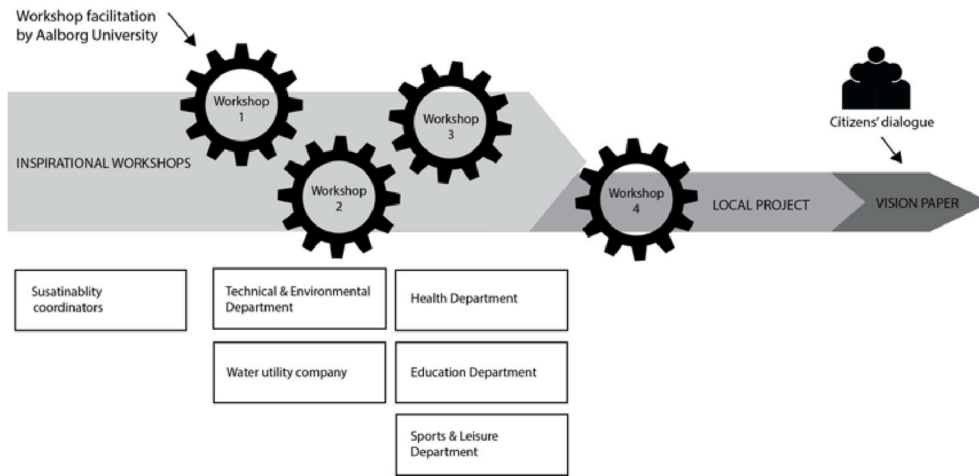


Fig. 4. Overview of the coordination process in Aarhus municipality. Developed by the authors.

identify Växjö municipality's contribution to sustainability through fulfilling the SDGs in developing a sustainability programme: (1) baseline review, (2) validation, and (3) goal setting. This facilitated a good dialogue about how sustainability could be integrated into and develop the core activities to forward sustainability. Through this process, important champions from different departments were produced, and through these, local actions became delegated to each department for follow-up.

In Aarhus, the coordination process was anchored within a specific and operational project concerning climate adaptation in collaboration between the water utility company and the Technical and Environmental department of the municipality. The project had significance as a pilot project scoping how climate adaptation should be addressed in the rest of the city. Project leaders from the two institutions formed a small managerial steering group and acted as sustainability coordinators in the process. The broader sustainability perspective came into play, as the coordinators had the ambitions to use the huge investment over a long term period to create added value through implementing innovative nature based and multi-functional approaches to this otherwise technical project. To qualify and implement this approach they needed to organise a cross-departmental process of dialogue and involvement. The coordination process was initiated with three cross-departmental workshops, as shown in Fig. 4, aimed to build dialogue and inspiration across different departments with very different perceptions of their core tasks. These workshops were established and facilitated in collaboration with researchers from Aalborg University. The cooperative dialogues were carried out in parallel to the more technical street-by-street approach to implementation, as the utility had already developed a

technical implementation plan for the climate adaptation initiatives for two pilot areas. Based on the first workshops, a fourth cross-departmental workshop was developed with a more specific focus on implementing solutions in a specific neighborhood. The result of the process was the development of a vision paper for the local climate adaptation project, including broad sustainability intentions, which formed the basis for later citizens' dialogue and local conceptualisation of solutions. In the decentralised approach in Aarhus, there was an initial resistance from soft service departments to engage in the technical project, as climate adaptation was considered out of their scope. Subsequently, the implementation of the innovative multi-functional (cross-disciplinary) approach in the various plans and budgets needed special coordination.

The main structural similarities and differences relating to each of the factors are summarized in Table 2. Both coordination processes have strong similarities in terms of performing cross-departmental workshops with the aim to broaden the scope of sustainability. In Växjö, the centralised approach to coordination provides an effective starting point for the dialogue processes, which is reflected in clear mandates and resources and a strong willingness to participate in the workshops. The decentralised approach in Aarhus establishes challenging preconditions for the coordination process, due to unclear mandates and resources for the cross-departmental collaboration and initial reluctance to engage in the workshops. As will be shown in the following section, these initial challenges and the operational starting point enabled a deeper dialogue concerning especially scoping and resource issues that proves to be beneficial for the outcome.

**Table 2**  
Structural similarities and differences in Växjö and Aarhus across the five factors at the outset of the sustainability coordination process.

	Växjö (S)	Aarhus (DK)
	Centralised coordination approach	Decentralised coordination approach
Coordination focus (approach)	Centralised starting point based on development of common goals.	Decentralised starting point in technical project with an ambition to widen the scope as a pilot project for the city wide implementation of climate adaptation.
Mandate & Resources (hierarchical)	Clear mandates and resources for developing the overall strategy.	Unclear mandates and resources for cross-departmental efforts.
Scope (horizontal)	Cross-departmental dialogue organised around common strategy.	Cross-departmental dialogue organised around widening the project focus.
Willingness (outcome)	Strong initial willingness to formulate common strategy.	Initial reluctance from other departments to engage.

#### 4.2. Adaptive efforts of sustainability coordinators

In both municipalities, it represented a key challenge for the cooperative interplay in the development process that sustainability had traditionally been the task for technical and environmental departments. In Växjö, the initial workshop with a wide representation from the different departments was acknowledged for contributing to broadening the view on sustainability in the municipality. The workshop was seen as an important occasion for anchoring and informing about the SDGs internally. Among participants, the workshop was recognised as an important means to raise the issue of integrating sustainability more broadly across the municipal departments and contributing to professionalise sustainability issues. In Aarhus, coordinators specifically expressed during interviews that cross-departmental cooperation represented a challenge for them. The coordinators describe how they were not used to thinking about dialogue across departments in that way. Similarly, the invitation to talk about the technical project was also new for participants from soft service departments.

Willingness to engage among participants represented a key emphasis in the coordinative efforts in both of the studied municipalities. In the managerial approach in Växjö, there was a great initial interest in engaging in cross-departmental workshops. One of the interviewees from a soft service department felt that the initial workshop made it clear that social cohesion and other related issues were also part of sustainability, indicating a stronger coupling of sustainability to their operations. However, the data from participants from soft service departments also indicates questions and anxiety about how integration of sustainability would affect the departmental core activities. Integrating sustainability as a concept into the soft service departments was perceived as a fairly new phenomenon and something that became more discussed with the new sustainability program. One of the interviewees mentioned that social sustainability had previously only been integrated to a small degree into the sustainability discussion. This person expressed a need to talk more about the indivisibility of the different perspectives of sustainability. However, others questioned this indivisibility and its connection to their daily work as it would increase the complexity and feasibility of their operational sustainability efforts. Moreover, some were anxious that sustainability would be the main priority, meaning that the operational core activities within departments, such as quality of elderly care, would be negatively affected.

This illustrates that Växjö faces a key challenge in the coordination of their sustainability efforts, with regards to further commitment and local actions in terms of the capacity to translate the SDGs into local action. Knowledge about sustainability alone is not enough to create engagement, since engagement is often spurred by resonance with regards to core activities within a specific department. Also, employees

should feel that the goals are not too overwhelming, but something that they could contribute to and work with. One of the interviewed employees from a soft service department explains that a prerequisite for dealing with sustainability is having both knowledge as well as an appropriate approach. With this, a point is made towards the need to deal with the complexity of sustainability, as the approach needs to acknowledge the importance of feasibility since it is difficult to deal with all challenges at the same time. Moreover, this person reflected that knowledge will be developed over time and contribute to a more efficient approach to sustainability. This underlines that the agenda of soft service departments does not necessarily connect to the sense of urgency coupled to sustainability. Sustainability somehow needs to be related to the scoping of their core activities to trigger more specific action within departmental units and projects. It is therefore important that the coordination takes this into account, especially given that the coordinators had a background in the technical/environmental field.

In the decentralised approach in Aarhus, on the other hand, the initial resistance from soft service departments to engage in the technical project became a central focus in the coordination process. The resistance, merely observed in Växjö, was very directly addressed in Aarhus as the sustainability potentials including the soft aspects is not explicated as such in the concept of climate adaptation. This led to attentiveness to how the different departments could scope the climate adaptation project to make sense for their ambitions and core activities, respectively. According to some of the coordinators, they learned to put special emphasis on "listening and empathising with other sections' needs and frameworks" during the process. One of the more experienced coordinators that became involved in the coordination points towards the importance of ensuring attentiveness to how others in the organisation can see how the initiatives serve the organisation as a whole:

*"If it (a project, ed.) only serves the best of one unit where others should merely contribute into that unit, because it is understaffed, lack time, or due to bad dispositions, then, it becomes an irritation because it creates a pressure in an organisation when extra tasks need to be integrated. (...). So, if one can see that this is an overall solution that we should solve - and it makes good sense, and talks directly into the core tasks, the vision of our work - then, one will gladly work into it."* (authors' translation)

Both coordinators and participants acknowledged that the workshops and informal dialogues helped to enunciate these needs and bring forward the frameworks that others are working under. It also provided an important prerequisite in the sense that personal relations developed through this process have governed the direction of initiatives, as progress was made towards the areas of synergy and positive willingness. In that way, willingness actually becomes a platform or guiding principle that helps find a cross-cutting orientation. This represents a major difference compared with Växjö, where themes were picked on the basis of general discussions, and with fewer manifestations of issues of resistance with regards to scoping.

The alignment of processes is not only necessary across departmental silos since the findings show that the prevalence of mandates and resources also represents important factors for the coordinative efforts. In the centralised approach in Växjö, the sustainability coordinators are better positioned to engage participants from other departments because of the clear mandate and the prioritised resources. Due to a long tradition of working with environmental and sustainable issues, the Växjö study elucidated that the employees' knowledge level related to sustainability was considered generally high when the SDG implementation was initiated, although differences were observed between departments and across hierarchies (Krantz and Gustafsson, 2021). This provided sustainability coordinators with a strong coordinative capacity, a clear mandate and resources to engage in the task of developing an overall vision for sustainable development. This established an immediate willingness to engage in the workshops, which produced champions that were able to invest time and resources in sustainability integration.



In the decentralised starting point in Aarhus, the coordinators had to struggle with upward management to ensure that interested participants would be able to engage in the cross-cutting dialogues. The coordinators expressed the coordination process as being resource-intensive and demanding. One of the coordinators explained how the interdisciplinary perspective had required taking time to better understand how the whole organisation works. This person needed to be able to identify the qualifications of different key persons in the organisation, and know the latitude of these persons. This reflects a higher complexity of the working process, which was not deemed usual for the technical department to engage in. The issue of latitude proved especially important with regard to the willingness to engage by other departments, as resource restrictions quickly proved to represent a bottleneck for engaging key persons from soft service departments. In one of the interviews, a coordinator explained that the lack of resources to participate in workshops and other meetings was critical to address since the employees from other departments had needed both mandate and resources to engage in the activities connected to the climate adaptation project. This mandate and resource issue was solved through upward management during the coordination process. A steering group consisting mainly of heads of departments and units relevant to the (broadened) climate adaptation perspective was established. The steering group handled mandate and resource issues on behalf of the coordinators so that employees from soft service departments could be allowed to register time and resources to participate in the climate adaptation project. Only if the process would succeed in reformulating the otherwise technical climate adaptation project and translate this into the scope of the other departments the mandates and resources could follow.

Although both coordination processes were based on similar forms of cross-departmental dialogue workshops, it is clear that the coordinators adapted each process to different circumstances, as summarized in Table 3. The findings indicate differences in both process and outcome. Most importantly, there is a difference in the form of willingness achieved. Växjö has achieved a strong awareness and engagement to sustainability goals across their organisation, but with less emphasis on implementation in each department. Aarhus has achieved engagement of key persons across departments with regard to specific local actions in the project, but without a broader impact in the organisation as such. Seen in this perspective, coordinative efforts and outcomes in Växjö and Aarhus are complementary to each other, which indicates a potential to

more systematically combine such coordinative efforts.

### 5. Concluding discussion

This paper has empirically explored sustainability coordinators' internal efforts to organise and support innovative forms of sustainability cooperation based on research studies from Växjö and Aarhus municipalities. The empirical insight has shown that even in forerunner municipalities, sustainability coordinators are struggling to develop and implement more interdisciplinary sustainability efforts. This highlights a general need to acknowledge the delicacy of coordinating such a task. In the following, specific points of attention are outlined for municipal practitioners that wish to address sustainability coordination more broadly across the entire municipal organisation.

The analysis of the two cases shows that the coordination has a delicate character, because each sustainability coordinator adapts his/her process to the different circumstances at hand, depending on how and where the coordination is organisationally anchored. It reflects an approach to strategy-making where the focus is on adopting strategies to place-specific qualities and assets rather than producing a strategic plan in a more traditional sense (Albrechts and Balducci, 2013). Such adaptation is often seen in relation to innovative practices, which most municipalities would need to go through, when implementing new practices in their organisations. Experiences from forerunner municipalities can function as inspiration and provide insight into potentials and challenges. Seen on the surface, the main coordinative action in both cases has had the format of dialogue workshops across municipal departments, but a more detailed look reveals how the coordinators as part of preparation and follow-up act as both knowledge-brokers and silo-breakers in the municipalities. The results indicate that what Innes and Booher (2018) term as 'superficial' forms of agreement, should be critically challenged in coordination practices, since such forms of agreement often result in the tacit employment of certain frames of understanding, which interfere with collaboration, learning and creativity.

The paper illustrates that intra-structural tensions prevail within municipal organisations. It especially highlights the treacherous character of the scoping factor in relation to the challenge of ensuring willingness to engage with sustainability. The more interdisciplinary approach to sustainable goals, also intended in the SDGs, prove to be especially challenging, since both cases show that the soft service departments think in a different way compared to technical and environmental departments, and do not immediately see a clear link from their core activities to sustainability. This clash in scopes is highlighted in this paper as a major concern of moving from superficial forms of agreements towards robust forms, since there is a risk that sustainability will not be translated into the core activities of soft service departments. This supports the importance of addressing sense-making activities in coordinative efforts, which, according to Albrechts and Balducci (2013), are critical to actively supporting the framing of behaviour of stakeholders involved in decision processes about urban and territorial transformations.

A key take-away from the two cases is the need to ensure that a concrete and specific dialogue is held about how sustainability correlates or not with the core activities of different municipal departments. This requires a special way of conducting the dialogue, as Innes and Booher (1999:12) point out that the most productive moments in consensus building happen when participants successfully "play with heterogeneous concepts, strategies and actions with which the various individuals in the group have experience, and try combining them until they create a new scenario that they collectively believe will work". In this regard, the insights from the paper indicate that such forms of dialogue were especially mobilised in Aarhus, as a result of having to handle the issue of initial resistance with regards to willingness to engage. By adopting an empathic response to this resistance, in terms of trying to understand and address the core issues of the soft service

**Table 3**  
Similarities and differences in adaptive efforts in Växjö and Aarhus based on the factors during and at the end of the coordination process.

	Växjö (S) Centralised coordination approach	Aarhus (DK) Decentralised coordination approach
Willingness (outcome)	Strong initial willingness to formulate general visions. Indications of questioning and anxiety of indivisibility between sustainability and core activities.	Initial reluctance to engage, which required convincement and mandates. Efforts become oriented towards those participants that coordinators succeed in engaging.
Coordination focus (approach)	General dialogue based on themes. Further initiative and action is delegated to each department.	Upward and outward initiatives to ensure a priority towards cooperation. Action and initiative is embedded.
Scope (horizontal)	Workshops lead to information and understanding about sustainability. Common points of interest are identified.	Workshops involve listening and building new relations and languages across departments. Scopes for local action defined by engagement from key persons.
Mandate & Resources (hierarchical)	Mandates and resources for local action are unclear.	Mandates and resources for involvement and local action is developed along the way.

departments, the sustainability coordinators in Aarhus successfully nurtured a wider circle of sustainability champions across the municipal organization.

A key recommendation for practitioners is to address the complementarity of centralised and decentralised approaches in sustainability coordination within each municipality. Neither one of these coordinative efforts in this study seem to be ideal in terms of effectively bridging both the hierarchical and horizontal dimensions. The centralised approach in Växjö provides a solid managerial framework with necessary mandates and resources to develop more interdisciplinary sustainability goals, but the scoping seems fragile with regards to implementation. The decentralised approach in Aarhus provides a more robust initiative for implementation of more interdisciplinary sustainability solutions in the pilot project but faces the danger to merely represent a specific and isolated initiative. For practitioners, this highlights the need to bind coordinative processes together more systematically across a municipal organisation. In the case of Växjö, one can point to the need for the sustainability coordinators involved to push further through and follow-up on the delegated action to departments. In the case of Aarhus, one can point to sustainability coordinators to lift the experiences from the studied process up to managerial levels to ensure integration in the organisational sustainability goals, mandates, and resources.

Based on this paper, more research into the importance of intra-structural factors on sustainability coordination is recommended. The experienced resistance in both studies resonates with a key point by Burch (2010) about the influence that institutions, organisational structures and their characterising cultures have on the success with which we respond to climate change. The argument of focusing on creating integral commons in new forms of stakeholder management to navigate relational tension, from, for example, Kurucz et al. (2017), also applies to internal coordination processes within local governments. The factors of scope, will, mandates and resources supported the deconstruction of the coordinative capacity, as they represented different intra-structural dimensions that sustainability coordinators navigated within. However, a more systematic review of and insight into these different dimensions and how they relate would be fruitful.

Integrating and implementing broad sustainability efforts represents an enormous coordination challenge. Such coordinative challenges often start within municipal organisations with ambitious sustainability goals. This paper has sought to direct attention towards expanding our understanding of the very practical and adaptive form of navigation that innovative sustainability coordinators face under different structural circumstances.

#### CRediT authorship contribution statement

**Maj-Britt Quitzau:** Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing, Visualization. **Sara Gustafsson:** Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing, Funding acquisition. **Birgitte Hoffmann:** Methodology, Investigation, Formal analysis, Writing – review & editing, Funding acquisition. **Venus Krantz:** Methodology, Investigation, Formal analysis, Writing – review & editing, Visualization.

#### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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