— Designed Agency in Collaborations

Exploring cross-sector collaboration in Finland's artificial intelligence programme AuroraAI.

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Prospects of advanced digitalisation, namely applications of algorithmic computation and artificial intelligence, are expected to improve data-driven decision-making in business and government alike. Overshadowed by this vast momentum in technology and predicted progress, societal questions of human dignity and democratic participation in anticipation of futures are fading out of attention. Cross-sector collaborations in the public sector are perceived as a viable means to address complex socio-technical problems, such as the above, as part of an emerging shift from market- and performance-focused governance and towards public good. Simultaneously, the discipline of design, increasingly permeating other fields, sees progressive application in the public realm where it provides encouraging means of participatory engagement to support the reorientation of governance towards the human being.

My research takes a critical perspective on the preliminary, pre-2020, preparations of AuroraAI, the Finnish national programme for artificial intelligence, and interconnected cross-sectoral service provision. By developing a human-centric lens of design, the mixed-methods study constructively investigates barriers in the collaborative development and how these closely relate to the currently present and omitted actors and their respective agency. Normative aspects inherent to questions of fair participation in the creation of public good and joint futures are substantiated with the reviewed literature ranging from design to political theory.

The thesis highlights the importance of actively nurturing intangible structures of trust and mutual understanding to establish ownership and equity in decision-making. Different levels of agency among actors in the programme appear to be profoundly determined by consciously and unconsciously taken design choices regarding the structures that create the foundations for the processes of collaborative engagement. If agency is the capacity of an actor to exert power in a given context, this capacity can be deliberately or unintentionally limited and expanded; hence agency is open to be designed towards a preferred level of capacity. In the context of collaborations, designed structures, rules and norms then become the main lever to manipulate agency and thereby power dynamics, according to prefigured values and principles. Thus far, the collective agency in AuroraAI seems to be affected by the ramifications of structural limitations regarding actor involvement, open communication and the collaborative engagement regarding a partly prefigured techno-centric agenda. I propose a strategic reframing towards jointly deliberated values of public good within a wider network of actors in their self-determination of digital futures. Structures that guarantee continuous public engagement are not only considered a matter of principle but as a direct means for sustaining relational trust between the government and civil society, as well as to augment internal goal consistency and enhanced legitimacy. Hence, the study acknowledges the design of agency via formal and informal structures to be the reflection and reproduction of value-decisions regarding power dynamics in a collaboration and its political environment.

-2 Acknowledgements

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1-Introduction

The first chapter begins with a brief introduction to the context around the 'Design for Government' course and the Finnish national artificial intelligence programme AuroraAI, where my thesis is situated. Consequentially, I will then open up the perspective towards this context to delineate some of the underlying aspects and relations. Drawing together what is mentioned above, the last section of the chapter formulates the objectives and structure of the upcoming chapters.

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A World out of Balance

1 -Our world is in crisis. Despite this lurid statement, we are indeed living in a state of increasing imbalances on multiple levels, that is unlikely to be sustainable. From environmental degradation to resource depletion, human exploitation to societal polarization, power imbalance to wealth disparity or from myopic growth-seeking to the decline of interpersonal relations (Tonkinwise, 2015). Even though the ubiquity of those developments is per senothing new, it is only recently that many of them started permeating the wider public (White, Rudy, & Gareau, 2011, chapter 8). The 2020s 'Global Risk Report' shows a variety of pressing deteriorations in of the environment, while at the same time, we are faced with the increasing risk of failure in informational structures as well as in local and global governance alongside social instability (The World Economic Forum, 2020). A rise in global intertwinement, timeliness of (re) action and topic complexity makes it increasingly overwhelming to address these so-called wicked problems (Levin, Cashore, Bernstein, & Auld, 2012). While I think it would be opportunistic to say problems always impose opportunities, I think it is safe to say that they are at least likely to bring about change. Whether this change will be for the better or worse is then a matter of perspective and will depend on how and on whose terms this change will be taking place. It is, therefore, crucial to acknowledge our individual and collective agency and responsibility in creating systemic change and addressing the intricacy of issues ahead.

Collaborative and networked forms of governance are increasingly seen as a viable way to tackle the aforementioned complex or 'wicked problems' (Sørensen & Torfing, 2011) on a societal level. However, ubiquitous neoliberal thinking has led to complex intertwining of private and public institutions (White et al., 2016, Introduction). The resulting entangled and opaque ways of knowledge creation, funding and ultimately governance of public good have created a political environment of 'organised irresponsibilities', diminishing transparency, accountability and democratic participation. Our 'society of risk', as Beck calls it, is faced with involuntary exposure to ever new socio-technical and socio-environmental threats, paralysed in its (in-)capability to (re-)act (Beck as cited in White et al., 2016, Ch. 6). In this context, I find it useful to reflect on openness and diversity in governance as well as public discourse and citizen-agency in democracy (White et al., 2016, Preface).

Design is what contributes to the manifestation of the material reality reflecting and reinforcing these problems from the object- to the systemslevel: No matter whether it is the device that allows you to read this document, the environment you are now sitting in, the infrastructure that allowed you to get there or the overarching socio-political system. They all are designed (Tonkinwise, 2015); hence their design affects us. As a discipline, design underwent a transition from shaping physical objects to creating virtual worlds and socio-technological systems. So did designers, by moving out of the 'traditional' field of design and into other realms from business to technology, to governance (Dorst, 2015a). Where design entered the public sector, it is perceived to render governance more relational, networked, interactive and reflective (Bason, 2017). Despite the Scandinavian history of participatory design in governance deliberating societal values (Gregory, 2003), design is often perceived as a tool for progress and innovation or just a pseudonym for making things 'beautiful' or 'user-centred'. However, if '[e]veryone designs who devises courses of action aimed at changing existing situations into preferred ones' (Simon, 1996, Ch. 5), design is fundamentally about creating change and exploring possible preferred futures (Marenko & Brassett, 2015). The mindset that informs the envisioning of those features will then be its primary driver of change, and the embedded values its prefiguration (Irwin, 2015). In the context of collaboration, designing the very collaborative structures is then the internal and external reflection of underlying values about how and by whom the future will become prefigured.

It is only recently that scholars and practitioners started seeking to overcome the moral shortcomings of the predominant New Public Management (NPM) in governance. New Public Governance (NPG) pursues a pluralistic and interorganisational approach towards governance. It emphasises the negotiation of values, meanings and relationships over NPM's focus on management, performance and markets (Osborne, 2010, Introduction). Collaborative governance, defined as 'the processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished' (Emerson, Nabatchi, & Balogh, 2012), is a vital example outcome of these focal changes in NPG. The cross-sector, cross-government programme

AuroraAI aims to bring about new ways of public and private service provision through the use of artificial intelligence in Finland. Funded and situated within the Ministry of Finance, the programme claims to improve societal wellbeing through proactive and connected service offers (Kopponen & Ruostetsaari, 2019). It reflects a new socio-economic era that experts think will be brought about through the widespread use of artificial intelligence (AI). Thus far, the changes to be brought about can only be anticipated and are dominated by economic- and techno-centric narratives, often neglecting the necessary longterm vision for a mature information society and peoples' agency in it (Cath, Wachter, Mittelstadt, Taddeo, & Floridi, 2017). Amongst other aspects of 'manufactured risks' in socio-technical systems (Beck as cited in White et al., 2016, Ch. 6), embarking into this new connected reality, requires critical reflection on fundamental values, ethical standards and power-balances between the involved, and currently not involved, actors in AuroraAI.

AuroraAI, the Finnish artificial intelligence programme, aims to bring together the public sector, private sector, third sector and civil stakeholders. The high level of trust between Finnish citizens and their government on the one hand, but Finland's general image as a trustworthy welfare state on the other, are presenting a unique opportunity to address the issues mentioned above in this context. AuroraAI has the unprecedented potential to build digital human-driven environments and challenge existing structures and paradigms, leading to both, a positive change (Aintila et al., 2019), as well as to become a role-model in times of growing complexity and global crises (Steering Group of the Artificial Intelligence Programme, 2017).

It is in this broad context that I asked myself how the reality of such a programme contributes to the dialogue on the issues outlined above.

Design for Government and AuroraAI 2

1 -This thesis continues exploring the prospects of 2019's 'Design for Government' project 'Aurora: A Network for Trust' and is partially funded by said course in Aalto University, Helsinki, while further supported by the Finnish Ministry of Finance, housing AuroraAI.

Design for Government is a 12-week advanced studio course at Aalto University that provides students with the possibility to work closely with the Finnish Government in exploring topics and issues of importance to Finnish

society. Amongst others, the spring 2019 instance of the course addressed the Finnish Ministry of Finance and AuroraAI; a programmed steered within this ministry. Under the title of 'Empowering Citizens through Artificial Intelligence', the project brief explained AuroraAI as a cross-sectoral programme, whose 'aim is to enable transformation toward a people-oriented and proactive society'. Within this brief, there was a strongly emphasised focus on facilitating seamless service provision across private- and public service-providers. Enabled by artificial intelligence (AI) powered networks, this service provision would help people manage their lives concerning certain events and thereby increase their wellbeing (Kopponen & Ruostetsaari, 2019).

As the brief itself did not precisely imply any particular direction, our team consisting of Mia Aintila, Dian He, Molly Balcom Raleigh and me decided to opt for a more abstract, systemic approach. While neglecting the profound philosophical debate behind the question, we embarked on this project with the general assumption that the purpose of governments is to enable us to do things we cannot otherwise do by ourselves. Equipped with this angle, the team explored ways of reframing the basic underlying concepts of wellbeing and individual autonomy reflected in AuroraAI. Centring the programme development around social values in the wake of new techno-economic structures in the anticipated era of AI, deemed crucial:

66 We're entering a new economic era that experts in the EU and in Finland think will be brought about through widespread use of artificial intelligence, (AI), in concert with other digital technologies. Throughout the world, governments and businesses are developing sets of interconnected online services - known as service ecosystems - that rely on AI to make sense of huge data sets. These services promise users convenience, personalization, and new, more useful products. Businesses hope that these services will increase operational efficiency and open new markets for financial growth. Governments, in turn, hope that economic growth and easier service delivery enabled by AI will result in increased wellbeing for their citizens. But while there is much experimentation and research happening, we have yet to actually experience what this proposed future economy will be like.

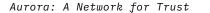
While there is much momentum, and funding, driving us toward this future, it's important to remember that people have agency in the decision to participate in new technologies. Despite the rhetoric from economic analysts and techno-optimists, the changes on the horizon are not inevitable or even necessarily the most desirable ways to shape our society. We must collectively decide which human values and qualities of Finnish society we center in this development, even if we decide to embrace these changes....

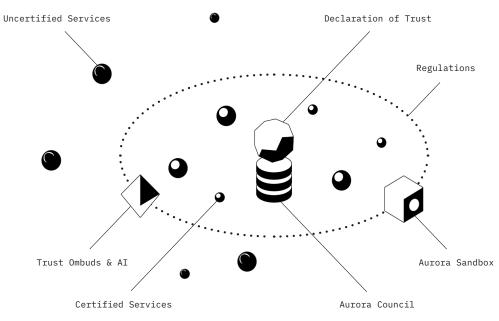
We propose that throughout the development of this new service ecosystem, attention is focused on maintaining the high level of trust that Finnish Citizens and other people around the world have in Finnish governmental institutions. We think the AuroraAI programme can lead Finland through these changes in an unprecedented way if the next phase of development can shift its paradigm from Human-Centered to Human-Driven, designing the AuroraAI network for people, to design it with people, and infusing the will of the people into every element of a new, AI-enabled Finnish service ecosystem.

— Aintila, Balcom Raleigh, He, & Wittka, 2019, Executive Summary

As a result, the group presented a conceptual framework that would both procedurally and hierarchically structure the programme around trust, transparency and participation as a public good. Based on the 'Declaration of Trust', which is essentially an evolving co-created contract between Finnish society and the government, the foundations for all developments around AuroraAI would be laid out by a national ethics council. These foundations, as well as the council itself, consisting of experts and lay-people, should inform new policy developments. A mandatory development programme for new service providers ought to ensure that services are satisfying the spirit of the Declaration of Trust. Only the afterwards certified services should be allowed to operate within the AuroraAI network and are further monitored by technical means and human Trust Ombuds. The final unified service delivery towards the Finnish society would then also serve as the interface, that gives access to Declaration of Trust; ensuring that people will be 1) able to trace service behaviour back to the underlying ethical principles and 2) stimulate the continuous adjustment of those principles in concurrent with service usage.

Figure 1





Note. Adapted from Aintila, M., He, D., Balcom Raleigh, M., Wittka, M. (2019) Aurora: A Network for Trust. Project Report. Design for Government at Aalto University.

The final presentation of the outcome was held on 21th of May 2019 in Helsinki City Hall and as part of the 2019 Aalto Festival. Video documentation of the show, as well as additional resources and reports, can be found on the course's website (<u>dfg-course.aalto.fi</u>). Teaching, discussing, interviewing, and alike that took place during the course as a class and as a team significantly contributed to the development of this thesis.

Results of the project render a distinct approach visible; in contrast to what is commonly perceived as design (the object), our DfG project delved into the subject. Hence, the focus is less on what is designed but on who designs it and on what premises. The designed system pictured above is not so much about its elements; it is about the values, thinking and mindset behind. Something worth pointing out here is that necessarily the negotiated values will become manifested in the object or thing designed. Hence, they will affect humans and non-humans in their futures through the technologies and mechanisms they use. They are something that can take many forms out of which one, for example, could be Aurora: A Network for Trust. Nevertheless, it is essential to realise that Aurora is one possible answer; another one could be a nation-wide ban of artificial intelligence in the context of personal data or just handing over these complex challenges to a private sector company like Google. Each of them is legitimate in its way according to a set of values or principles. This notion of a design primarily concerned with the human and its values is something I will keep exploring in this thesis (see Ch. 3-2). To me, operating on this large-scale socio-technical level comes with vast responsibilities that require the reflected exploration of the broader context by '*[e]veryone who devises courses of action aimed at changing existing situations into preferred ones*' (Simon, 1996, Ch. 5).

(By creating a development process where trustworthy interactions are centered, we believe Aurora will succeed in delivering increased wellbeing to the people of Finland. Technology has throughout centuries served to propel national economies into growth, yet disparities have historically prevailed. With each successive technological advance, gaps have widened between those benefiting from new sources of privilege and wealth, and those left dealing with the unintended negative consequences of social alienation and environmental degradation. Finland is a world leader in social equality and institutional trust, and should strive to have its service structures reflect these foundations of Finnish society even as it embraces new technologies to do so....

We believe that a governmental focus on trust is the most effective means to empower people to meet the challenges of digitalization and massive change, - and set the stage for trustworthy AI in Finland and around the world. — Aintila et al., 2019, Conclusion

-3 Context, Objectives and Structure

The research context for this thesis was pre-set through my participation in the Design for Government (DfG) course at Aalto University in spring 2019. As described in Section 1-2, throughout this course, I had the chance to explore the AuroraAI programme together with three fellow students. Despite the thesis topic not been defined at this stage, there was an informal agreement between Ramia Mazé as head of the course in Aalto University, Aleksi Kopponen as the lead for AuroraAI from the Finnish Ministry of Finance and myself, that I would develop my thesis in the broader context of the course's prospects. After the course, I used the summer break to delve into a variety of tentative directions and decided that studying the very structures of collaboration in AuroraAI would be a viable and appropriate way to continue the work on trust and transparency executed in DfG. I started developing a research plan at the beginning of September and estimated a total of six months for research, analysis and documentation. Throughout this time, Ramia Mazé was my supervisor and Tatu Marttila, my second advisor. Aleksi Kopponen and Niko Ruostetsaari supported my research from within the ministry, being leading figures in the AuroraAI programme. The DfG course paid me a partial research grant to execute this work. Therefore, this thesis is, to some degree indirectly funded by the Ministry of Finance as they contributed to the funding resources of 'Design for Government' with their earlier involvement as a client. While the contracting for this happened directly between Aalto University and me, there were no formal or informal obligations regarding research means, targets or outcomes between neither the university, the ministry nor me. Nonetheless, I felt encouraged to design my research so that it contributes constructively to AuroraAI but still advances the criticism developed in DfG; as I think the programme has vast potential for positive change if done carefully and based on widespread societal participation.

My most immediate objective in this thesis is then the exploration of AuroraAI as a case of cross-sectoral collaboration, as I, therefore, hope to contribute critically but constructively to the development of the AuroraAI programme and its future perspective. By understanding its history, structures and plans, potential barriers and possibilities for advancement should be identified, and new perspectives rendered tangible. A literature review will herein provide the background to open up the means and support the theoretical **1** —— INTRODUCTION

criteria of this exploration. Concurrently, this theoretical dimension serves as a lever to ground the normativity that is immanent to the topic of sociopolitical and -technical sustainability originating from my background in design. At the same time, I acknowledge my limitations regarding theory and practice in governance, public administration and political theory as a designer. However, the design lens towards developing an understanding of cross-sector collaborations might help to reveal so-far hidden dynamics of engagement and agency in said collaborations. As a result, this thesis will take a wider perspective towards the preparations in AuroraAI, taking into account elements of adjacent fields that I will not be able to address thoroughly but sense to be valuable angles for the advancement of the programme. My resulting research questions are then, without implying any order of gravity, as following:

RQ1: What are the present barriers to the development of AuroraAI? RQ2: How does actor involvement and agency affect this development? RQ3: In which way could design contribute to advancing the programme?

The thesis is structured into five different main chapters out of which this section is the end of the first one. <u>Chapter 2</u> will describe my research paradigm and process, acknowledging its further limitations. <u>Chapter 3</u> is divided into the theoretical exploration of design in the expanded field; a view on AuroraAI in its context of digital futures; values and collaborations in public governance, finally followed by a preliminary conclusion. <u>Chapter 4</u> then describes the empirical results of my research and sets them into the theoretical context established before. Finally, <u>Chapter 5</u> will conclude this intersection of theory and practice and provide short discussions, respectively. The last chapter, <u>Chapter 6</u>, will hold the bibliography as well as all relevant appendices regarding my research process.

At this point, I would like to briefly outline the term agency and its relation to power and structure. As to comprehend and discuss those terms thoroughly would take at least one thesis on its own, I will shortcut extensively. According to Merriam-Webster, agency is defined as 'the capacity, condition, or state of acting or of exerting power' and 'a person or thing through which power is exerted or an end is achieved'. I will continue from here with an understanding, that agency is the capacity of a person or thing to act deliberately, which is to exert power, in a systemic context or environment. In cross-sector collaborations, I will see this context primarily as the collaborative space itself, where structures and processes have agency as much as individuals who participate, which I will illustrate later in my thesis. Actors, therefore, are the individuals and organisations that are currently involved in the development of AuroraAI as well as those, who are not involved. As an example herein, I consider the latter to have less agency as they are effectively omitted from participating actively in the programme.

2—*Research*

Throughout this second chapter, I will document under which principles and processes I developed the thesis. Commencing with the development of a preliminary research paradigm, the chapter will explain the research process sequentially in detail. The chapter then ends with considerations regarding the validity of my results, as well as, acknowledgements regarding the thesis' limitations.

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A Tentative Research Paradigm

2 -Research paradigms consist of a research ontology, epistemology, methodology and finally, methods. Ontology concerns reality and the question of what is; epistemology is the study of how to know about this reality. Together, they inform the methodology, that is, the strategy that describes which actual methods will be used to research, from data collection to analysis and presentation (Scotland, 2012). Necessarily, the choice of methods implied by the methodology and the commitment to a prevailing epistemology that informed this methodology is relative and would require both thorough self-reflection as well as careful consideration on the suitability of methods. I believe, my research paradigm is somewhere between pragmatism and critical theory, as to me, reality does not exist per se, but is constructed by each of us individually, yet in concert with 'the world'. At the same time, I believe that said realities must be changing ones if they concern each other. As a result, different realities would then be continuously (re-)constructed or negotiated in concert with other realities. The resulting realities, therefore, require critical interpretation in their respective context to derive meaning. Still, I will be only able to approach them from my reality and therefore constructed meaning is subjective. In return, my whole approach to research is subjective. Hence, I decide what serves it best according to my subjective definition of what my research should accomplish. Moreover, I do think that research should not only be concerned with studying something but with what these studies stimulate.

The underlying methodology of this thesis is then based on mixed methods research, as it combines a variety of different quantitative and qualitative approaches to data gathering and analyses. First, AuroraAI is a case study, and it should only be seen as a 'single unit for analysis' (Saldaña, 2011), meaning that the result of its study does not necessarily yield transferability or generalisability per se. I will look at who is involved, how they are involved and why they are involved in the current stage of the programme by primarily studying structures, processes and tools for engagement. As described above, AuroraAI was not precisely chosen deliberately but purposively for convenience as a result of the DfG course. The early stage of AuroraAI developments holds an aspect of timeliness as results would have more significant potential for actually creating change in the programme if presented early on in the development. This said I think that academic research can and should take

an active role in initiating or steering change. Concurrently, the thesis shows elements of ethnography, as I studied the emerging culture of collaboration within the AuroraAI programme by temporary embedding myself into its development context through interviews, surveys and observations. I will explain the application of each method in more detail below. However, as I was at least somehow actively involved in the programme development itself, this thesis partly falls into aspects of action research (Saldaña, 2011). The aformentioned might seem contradictory at first, but can be explained as follows: During the process of data gathering I aimed to keep the role of a neutral embedded researcher, but as I reported on my evolving results, I took some agency in the programme. This is especially true for 1) the presentation of preliminary survey results; 2) active discussions during events and interviews and 3) the co-writing of a research paper on AuroraAI developments.¹

Doing Research, Research Doing 2

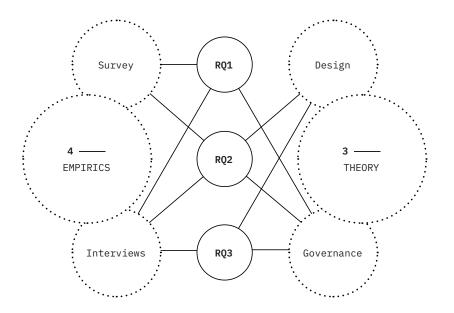
2 — Throughout the whole research process, I conducted an exploratory review on existing literature and theory in the fields relevant to this thesis. Starting from digitalisation in the public sector, I delved into respective literature on artificial intelligence and ethics, public sector innovation, cross-sector collaborations, metagovernance, participatory and co-design, design history, design in the public sector, transition research and -design, future studies and backcasting, as well as, general principles of quantitative and qualitative research. The narrated thematic summary of the review is mainly represented in Chapter 3 and significantly supported developing other research methods in this thesis (Snilstveit, Oliver, & Vojtkova, 2012).

¹ I acknowledge that what I have provided above is only a mere glimpse of meaning and use of what a research paradigm and the metaphysical complexity behind it comprise. Sufficient rigour would require a careful and thorough study and reflection, something that was unfortunately not considerably encouraged throughout my graduate studies. As a result, the planned and applied methods for the research described in the next chapter changed and developed along the course of the thesis under continuously evolving research questions. At the same time, this openness and flexibility helped me accommodating the swiftly opening and closing windows of opportunity for interaction with the Ministry of Finance, AuroraAI and the programme partners.

The following section will outline my research process and is therefore mainly based on personal experiences, discussions, notes, working documents, personal communication and audio recordings (Saldaña, 2011; Tracy, 2011), out of which some will be attached in <u>Chapter 6</u>.

Figure 2

Overview of Research Process



RQ1: What are the present barriers to the development of AuroraAI?
RQ2: How does actor involvement and agency affect this development?
RQ3: In which way could design contribute to advancing the programme?

2-2-1 September: Theory and a Survey

In late September, I learned about an official kick-off workshop for the AuroraAI developments during my first meeting with Aleksi Kopponen and Niko Ruostetsaari in the Ministry of Finance. As we were discussing possible directions for my research and synergies between aims and schedules, I proposed to develop an online survey (Sauro & Lewis, 2016) that would allow me to understand the very structures of the collaboration better and provide the ministry with insights on experiences and attitudes of partners in the programme. I drafted the first version including programme-specific questions, based on official AuroraAI documents (Kopponen & Ruostetsaari, 2019), and questions regarding the collaborative structures, loosely based on crosssector collaboration theory (Bryson, Crosby, & Stone, 2015; Emerson et al., 2012). This English draft was then refined in another meeting and translated into Finnish using an in-house governmental translation service. Finally, the questionnaire was split into four different sections asking for the participants' 1) organisational background, area and time of involvement in the programme and general attitude towards collaboration in the programme; 2) perceived importance and direction of pre-defined and self-stated goals as well as visions for the programme; 3) perception of collaborative dynamics, leadership and tensions in work executed during the preliminary phase of the programme; and 4) open feedback regarding the programme as well as my research.

Out of the total 54 questions and sub-questions, only the first three questions regarding organisational background, area of involvement and time of involvement were marked as mandatory to allow greater ease of use for the respondents while ensuring comparability of the responses. The final bi-lingual survey (see <u>Ch. 6</u> for the full survey) was programmed using Webropol and distributed via Slack together with the invitation to the workshop mentioned above in October. After a run-time of 14 days, the quantitative responses were analysed using Webropol and Excel (Sauro & Lewis, 2016). All qualitative responses in Finnish were extracted from the raw data and compiled in a separate document for translation. This was necessary to ensure that no potential connections between qualitative responses and those on, for example, the organisational background could be drawn by neither party. I will describe the processing of qualitative data in <u>Section 2-2-6</u>.

Structuring a theory-driven understanding of design helped me to identify early directions of how the discipline could contribute to the advancement of the programme. At the same time, the survey, based on collaboration theory, provided me with a range of criteria to identify actors, their engagement and potential barriers to their agency or the programme's advancement in general.

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2—**2**—**2** October: Results, Interviewees, Experiments

The quantitative results of the survey were presented at the public AuroraAI kick-off workshop on 24th of October in the ministry's premises and published on Slack afterwards. Actively participating in this event allowed me to introduce myself and my research to the people involved in the programme, thereby facilitating engagement in the following steps, such as approaching potential candidates for interviews and discussion. Together with suggestions for interview candidates provided by the ministry, I was able to compile a list of 18 people for individual interview sessions. Based on the survey results, I developed a guideline for semi-structured interviews (Clifford, French, & Valentine, 2010); probing into 1) background and involvement in AuroraAI; 2) perceived role of citizens in the programme; 3) processes and structures in the collaboration and 4) goals and outcomes of AuroraAI (see Ch. 6 for the full guide). The final set of participants included collaboration partners from the public (n=5), private (n=4) and third sector (n=1), as there was no direct participation from civic society at this point. Public sector interviewees were situated in different ministries or agencies, private partners in different companies, respectively. Without disclosing any further information, I consider them as 1) experts in their professional domain respectively and 2) trustworthy sources of experience in the developments of AuroraAI.

At the same time, I prototyped a web tool for conducting small interactive Delphi studies (Järvi, Tuominen, Tapio, & Varho, 2015) to deepen the previous survey results. In contrast to traditional Delphi studies, this method aimed for dissensus by encouraging participants to publicly, yet anonymously, share and discuss their opinion on the questionnaire items with their peers. This experiment intended to openly communicate different and potentially contested values, perspectives and aims between programme partners.² While the exercise aimed to prototype a long-term process of continuous deliberation - that could either invite the public for participation or at least be used as an outward-facing means of transparent and accountable documentation – I did not use in practice due to time and resources restrictions.

On one hand, analysing and presenting the survey results increased my understanding of the barriers and actors, as well as their agency in the programme. The explorative prototyping of new tools for inquiry on the other is a vivid example of design capabilities.

2-2-3 November: Interviews and Workshops

At the beginning of November, I sent out invitations to the list of 18 interview candidates and received feedback leading to a total of 10 interviews conducted with 11 people in person or via video chat. Before the conduction of interviews, the participants were thoroughly informed about the purpose of the study, the voluntary character of their participation, how and by whom data would be collected, stored, protected, shared and used in spirit with the General Data Protection Regulation. A consent form had to be signed prior the interview to ensure interviewees read and understood the privacy notice, had sufficient information about the research, were willing to participate in the study, gave permission for audio recording and understood how and where the content would be used. All interviews consented and expressed their willingness to publicly share the contents of the interview, including references to them as individuals and organisational background. I would like to highlight the exceptional openness and sincere effort towards transparency that is manifested in this waiver of anonymity. Nevertheless, I decided not to disclose any of this information to avoid unnecessarily imposing tensions on to the fragile structure of an emerging collaboration. I do belief pointing the finger at particular actors in the programme would even undermine the efforts taken in this thesis as its purpose is mainly to spark a constructive discussion in the programme to overcome structural flaws that facilitate conflicts.

Concurrently, I started drafting publicly-held workshop plans for engaging 'normal' citizens in formulating pathways for the programme together with Aino Salmi, communication trainee in the Ministry of Finance and AuroraAI. As we were discussing the currently mainly inward-facing communication strategy of AuroraAI that aims at engaging solely new public and private sector partners for the development, we tried to highlight the importance of early citizen engagement and appropriate dissemination of information on development efforts. This led to a workshop proposal to be held publicly in Tiedekulma,

² The main survey structure and management implementation use LimeSurvey, a free and opensource online statistical survey web app licensed under GNU GPL. The discussion function was manually integrated using HashOver, a free and open-source commenting system, licensed under GNU AGPL (see <u>Ch. 6</u> for prototype screenshots; contact me for temporary link).

Helsinki, that would focus on one exemplary application in AuroraAI, the transition phase after comprehensive school.³ The aim of the workshop was addressing a potential gap between the mindset, expectations and visions of invited participants. As this was something impossible to do in a single event, it was seen as a starting point to develop a series of similar events, learning and enhancing the format with each iteration. After drafting a proposal and preliminary schedule, it became clear that work on this particular life-event would not fall under the Ministry of Finance's competence and responsibility, and the proposal was abandoned. As Aino's work in the ministry would only continue for a few more weeks, we discontinued the joint efforts in pushing this trajectory.

The interviews are my main resource regarding the research questions on 1) barriers; and 2) actors and their agency in AuroraAI. Conceptualising a workshop format that aims for fair agency among more diverse participants than currently involved in the programme, is another example of potential design input to AuroraAI.

2—**2**—**4** December: Transcripts

As I caught influenza in late November, most of December, unfortunately, had to be used for recovery. I transcribed the recorded interviews to written text using oTranscribe, adjusting major language issues for improved readability and understanding.⁴ The final transcriptions were stored on local hard drives alongside the source audio files, signed privacy notes and consent forms for every interviewee.

Towards the middle of December, I attended one instance of a series of three workshops organised in the Ministry of Finance by multinational advisory organisation KPMG. The purpose of those workshops was the joint formulation of a development plan for the following three years, including focus areas, different teams, responsibilities and more. I followed this event as a passive spectator in one of the smaller groups, while Aino Salmi translated the discussions for me in real-time. This not being a scientific rigour setup for collecting data, I was still able to document a range of relevant observations from being emerged in the workshop and partial interactions with participants to clarify and discuss my work. I want to acknowledge that the programme developments continued throughout my research and partially already started negotiating some of the challenges addressed in this study.

Transcribing data, even though it is a time consuming and exhaustive process, gave me a better understanding of how to answer the two research questions that are directly engaged with the programme and the present actors.

2—2—5 January: Hybrid Codes and Publications

A personal lack of experience in scientifically analysing qualitative data led to multiple approaches in manoeuvring the material at hand. During my work as a design consultant, I would collaboratively apply methods that fall under thematic coding; where those themes would emerge from the raw data itself or an externally imposed structure such as a procedural timeline of actions. Subsequently to my literature review on cross-sector collaborations, it was impossible though to look at my data without relating it to categories discussed in the respective frameworks reviewed in Section 3-3-2 or my previous experiences. In consequence and to avoid initial bias, I decided to embark on an open coding approach (Chamaz as cited in Saldaña, 2013; Saldaña, 2013) using QDAS Atlas.ti, and starting with the relatively small amount of qualitative survey data (50+ codes) and then transferring these codes to the transcribed interviews. This led to the first set of over 400 individual codes describing the data. As I realised my approach was not only aiming to codify the aspects relevant for my thesis but generally aiming to describe the content of the interviews, I discarded the whole set and started over again with a nested structure of about 60 codes looking only at the collaboration as such. Concurrently, I processed the raw data using thematic summaries and content analysis (Snilstveit et al., 2012) to confine the amount of raw data and eliminate irrelevant content. I decided to do this, knowing that it would bring me further away from the raw data to facilitate the data processing and allow the refinement

³ Invitations were planned to be send out to AuroraAI partners across sectors as well as teachers belonging to the national DigiErko network (digital learning and teaching network), experts of the DigiOne project (integrated digital learning platform), Ohjaamo advisory service point employees (guidance for education, employment, etc.) and pupils from a comprehensive school in Vantaa.

⁴ Open-sourced under the MIT license, oTranscribe provides a client-based browser interface for transcribing, time-stamping and storing data locally without compromising neither the source audio file nor the transcribed text using purely client-sided rendering through HTML5.

of a final code set. Here, QDAS made sure that those thematic summaries could still be precisely linked back to their source transcription. The final set of codes is the result of a hybrid coding (Saldaña, 2013) approach that drew deductively from existing theory in cross-sector collaboration and inductively from the processing of gathered data. In light of what has been mentioned above, the final quotes extracted for use in my study have been stripped of elements that directly hint towards individuals or organisations to ensure anonymity, aiming to not alter the content of what has been expressed by interviewees.

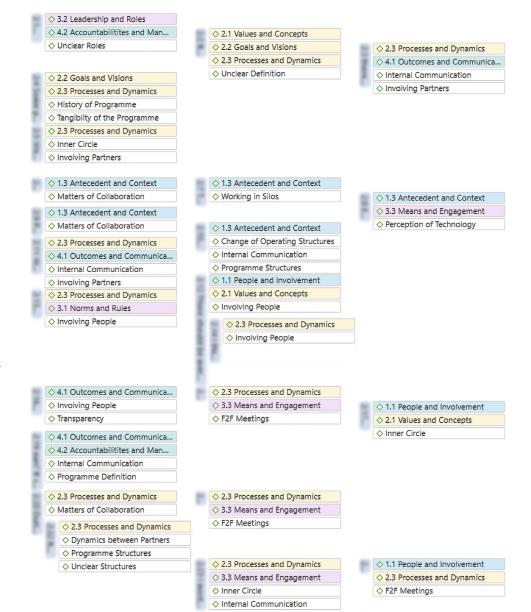
The final development of codes helped me to understand how the agency of actors is affected by the barriers found in the programme's development structures. Therefore, the codes also serve as structural guidance to present the findings and interpretations in <u>Chapter 4</u>.

At the same time, I was asked to co-write a paper for the 14th International Human Choice and Computers Conference together with Aleksi Kopponen and Niko Ruostetsaari from the Ministry of Finance, as well as, Niko Mäkitalo and Tommi Mikkonen from the University of Helsinki. The article, named 'AuroraAI: How did we get here? Precedents and lessons from the past', was submitted for publication at the beginning of February and explored the developments of the programme as outlined in <u>Section 3-1-1</u>. My main contribution was discussing the results of the survey conducted in October (Ruostetsaari, Wittka, Mäkitalo, & Mikkonen, 2020). Developing the article helped me significantly to start the overall writing process of my thesis, as I was encouraged to produce a timely and concise documentation and discussion of one of my research methods.

From February onwards, I used my time to revisit primary and secondary data and write this very document iteratively with the help of constructive feedback from peer students, supervisors and advisors.

Figure 3

Extract from a Coded and Transcribed Interview



Validity of the Research

3 2 -The concepts of reliability and validity have been initially established in realms of quantitative research and therefore required substantive adaption and reinterpretation to be applied in research that contends with subjective, interpretative and contextual data. Maxwell (1992) defined five different dimensions of validity in the qualitative paradigm: 1) descriptive validity: or credibility (Glaser & Strauss as cited in Thomson, 2011), accounts for the accurate reflection of what participants have said in the data itself and the reporting on this data; 2) interpretive validity: or justifiability (Auerbach & Silverstein as cited in Thomson, 2011), appropriate interpretation based on the inference of participant's speech and action; 3) theoretical validity: or coherence (Auerbach & Silverstein as cited in Thomson, 2011), evaluates the validity and coherence of concepts and relations derived from the data; 4) generalizability: or transferability (Walsh as cited in Thomson, 2011), which looks at how applicable derived theory is elsewhere either abstractly or concretely to a similar context; and finally the most difficult one 5) evaluative validity: an assessment of evaluations or conclusions drawn by the researcher. Auerbach and Silverstein (as cited in Thomson, 2011) further define a dimension of transparency, which is ultimately about how well the research process is described from ontology to methods to analysis to interpretation. Tracy (2010) proposes a set of eight criteria for excellence in qualitative research: '(a) worthy topic, (b) rich rigor, (c) sincerity, (d) credibility, (e) resonance, (f) significant contribution, (g) ethics, and (h) meaningful coherence'. Yet, executing research in coherence with those is not something that happens by studying best practices, guidelines or tools; it requires their active embodiment through application and practice (Tracy, 2010).

This said I tried to address transparency, 1) descriptive validity and 2) interpretative validity by thoroughly describing my research paradigm and process (see Sect. 2-1 - 2-4) and devising a strict filing system to ensure traceability; 3) theoretical validity can be best assessed through Section 3-4 and Chapter 4 while I aimed at triangulating between theory (see Ch. 3), quantitative data (i.e. survey) and qualitative data (i.e. interviews) as seen in Chapter 4; 4) generalizability is something challenging to achieve in a case study (see Sect. 2-1), yet I think this research shows results that can be transferred elsewhere on a more abstract level (see, e.g., <u>Sect. 3-4</u>) and in a more specific level (see, e.g., Ch. 5). The last one, 5) evaluative validity, is the most difficult to assess and my

evaluations are indeed drawn not only from the data gathered by the participants but from other theory (see Ch. 2) and myself. The normative aspect of many dimensions discussed in this aspect underlines this difficulty, yet I tried to ground this subjectivity in respective literature and theory (see, e.g., <u>Sect. 3-1-2</u>; Sect. 3-3-1; Ch. 3-2). Also, I consider this research to comprise a (a) worthy topic, that is relevant and of timely urgency, holding an exciting complexity (see, e.g., <u>Sect. 1-1</u>); (b) rich rigor in the careful and appropriate choice of theory, methods and data for the context; (c) sincerity in the way I report on my methodology and its shortcomings and reflect on my agency; (d) credibility through a variety of sources, methodological triangulation and thick descriptions of contents; (e) resonance through the adequate presentation of the process and at least partly transferable findings; can be seen as a (f) significant contribution practically and ethically to the development of AuroraAI; paid attention to (g) ethical implications in procedures, engagement and agency; and shows (h) meaningful coherence in the interconnection of secondary and primary data to achieve the research outcome. Of course, this perspective is subjective and its evaluation, therefore, relative. As this is my first attempt towards compiling academic research, I acknowledge that validity and excellence are limited.

I developed this thesis to the best of my knowledge and belief in spirit with the Aalto University Code of Academic Integrity and the Guidelines of the Finnish Advisory Board on Research Integrity.

Limitations of the Research 2-4

Next, I will highlight some of the more significant limitations found throughout this study. First, I conducted this thesis in a Finnish speaking environment without adequate skills in the target language, which led to a variety of accumulating limitations pointed out below. Finland is a place of exceptional trust, social security, ethical standards, general welfare, openness and transparency; reflected for example in the relation between citizens and the government, but also generally in service provision and design in the public sector (Aintila et al., 2019; Kopponen et al., 2020; Steering Group of the Artificial Intelligence Programme, 2019). This makes it challenging to assume a similar programme could develop elsewhere under similar conditions and driving forward similar values, which in return questions the transferability of the methodology applied in this research and its implications (see Sect. 2-3). As a

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limitation to the generalisability of this study, this concurrently distinguishes the role model character of Finland in the dimensions above.

Second, the literature review is broad. My academic background did not provide me with adequate knowledge on most of the topics discussed in <u>Chapter</u><u>3</u>; therefore, a variety of theories would require more rigour study and deeper comprehension. While acknowledging this limitation, I perceived the inherent connections between the topics discussed as too valuable to further limit my scope. This is especially relevant as I propose to see AuroraAI in a wider socio-technological context. Power is one of the main topics that would require a significantly more in-depth investigation to get applied here properly. Also, language barriers limited my access to documentation and communication means in AuroraAI, as most of this material is in Finnish.

Third, the survey was formulated based on a new and preliminary understanding of cross-sector collaboration theory due to respective windows of opportunities. Additionally, the back- and forth translation of question items and responses most likely did not increase the quality of the survey and the accuracy of results. Still, it can be seen that the qualitative data largely reaffirms the quantitative results. The figurative presentation of survey results during the kick-off workshop should be handled with care as it holds several risks. While capturing the general mood in the programme participants via a quantitative study is somewhat possible, the value is limited without understanding the reasons behind the answers. In short, these figures should only be seen as indicators to prioritise the further qualitative investigation and not as performance indicators per se.

Fourth, conducting interviews outside of one's mother tongue always comprises a range of mutual barriers, both cognitive and communicative. At the same time, the openness of the semi-structured interviews provided me with too much information on technology and programme content, thereby creating shortcomings towards data on my actual research questions.

Fifth, the complexity of dynamics in collaborations hindered a more granular structuration of the reported and discussed results in <u>Chapter 4</u>. The transferability of my results has been already discussed in <u>Section 2-3</u> and above.

Lastly, I would like to acknowledge that 1) my efforts in directly engaging the public in this research mostly failed and 2) a text-heavy work like this thesis is most likely not accessible enough to provide practical guidance.

3 - Theory

The following pages represent the theoretical exploration of the major topics the thesis is concerned with. I will start by presenting the history of AuroraAI and the complex nature of the problems the programme is addressing. Next, I discuss a concise yet hopefully manifold perspective on the nature of design and its inherent characteristics. The chapter is completed by a theoretical review of the literature on collaboration in the emerging perspectives of public governance. Preliminary conclusions recapitulate the above and already glimpse some of the interrelations.

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3—1 AuroraAI

3—**1**—**1** A Brief History of the Programme

AuroraAI can be traced back to the 74th Finnish governmental programme, led by Prime Minister Juha Sipilä mid-2015. Amongst others, parts of the immediate programme strategy asked for an increase in public service digitalisation, facilitation between public and private operations as well as a general 'culture of experimentation'. As a more extended, 10-year strategy, this approach was seen as a way to increase public- and private sector productivity through digitalisation and user-centricity while stimulating a shift towards trust-based, interactive and more experimental management practices. As a first result, nine distinct principles for digitalisation were formulated by the Finnish Ministry of Finance, the main governmental body concerned with information and communications technology in the public sector. Those principles ranged from 'We will cut unnecessary red tape.', to 'We will produce benefits for our customers quickly.', to 'We will provide open data, open access to information and open interfaces for businesses and citizens.' (Kopponen & Ruostetsaari, 2019). This led to the formation of D9, a cross-administrative initiative to support digital transformation and more agile development mechanisms in the government.

In spring 2017, the Finnish government announced the launch of a *national AI strategy* as the first country in Europe. The programme itself was developed using a networked approach that engaged more than a hundred of different actors across public and private organisations. Among the first eight areas of action to be formalised in this strategy towards the end of 2017 are found 'build the world's best public services', 'effective utilisation of data in all sectors' and 'establish new models for collaboration'. Three additional areas were added to the programme in a later version published in 2019. AI was seen as a viable enabler for citizens' seamless and more timely access to a web of interlinked public services. The 2017 report mentioned 'Aurora', a virtual assistant similar to the likes of Apple's Siri that would give citizens 24/7 access to these interconnected public services across administrations.

Table 1

11 Key Proposals for Action

Initial Key Proposals:

1. Enhance business competitiveness through the use of AI
2. Effectively utilise data in all sectors
3. Ensure that AI can be adopted more quickly and easily
4. Ensure top-level expertise and attract top experts
5. Make bold decisions and investments
6. Build the world's best public services
7. Establish new models for collaboration
8. Make Finland a forerunner in the age of artificial intelligence
Added in 2019:
9. Prepare for artificial intelligence to change the nature of work
10. Steer AI development into a trust-based, human-centric direction
11. Prepare for security challenges

Note. Adapted from Steering group and secretariat of the Artificial Intelligence Programme. (2019). Leading the way into the era of artificial intelligence. Final report of Finland's Artificial Intelligence Programme 2019. Ministry of Economic Affairs and Employment.

At the same time, *DigiNYT*, an advisory board consisting of private and public sector representatives, was set up to steer the higher-level development and coordination towards digitalisation and automation of the public sector. As head secretary, Aleksi Kopponen was setting the agenda of how the DigiNYT board formed, which would then guide the Finnish digitalisation strategy.

The term *human-centric* was chosen to overcome the fractured perspective between administrations towards the citizen as patient, tax-payer, client or customer. The *Stiglitz model* of multi-dimensional wellbeing was used as a lens towards the citizen that would allow measurement of individual wellbeing from personal data, which was seen as crucial for the development of public- and private services. As those services are manifold, the idea of *life-events* was adopted to allow more specific clustering of relevant service offers in respect

to a particular stage or situations in an individual's life such as moving to a different place, getting married, finding a new job and so forth. The life-event approach was also expected to bring about a cross-sectoral perspective on service requirements for the citizen. Concepts drawn from cyber-physical computing systems were used to introduce ideas of a holistic and proactive service delivery.

Based on this, DigiNYT suggested the government a set of life-event pilots and The Ecosystem Forum, a series of events held in fall 2017 discussing the importance of PPPp (Private Public People partnership) networks of service actors organised around those life-events. The pilots received a funding of one million euros and brought together over 50 organisations across sectors in spring 2018 to experiment with the aforementioned approaches in three different cases: 1) 'Moving to a different city for the purpose of studying there.' 2) 'New skill developments to prolong working life.' 3) 'Wellbeing of children and parents in changing family relations.' Based on the assumption that such changes would require a fundamental shift in information flows, organisational hierarchies and skills as well as regulation in general, the pilot phase concluded with a variety of learnings. First, it was seen that citizens' permission on data usage is the key driver for all operations. Second, technological means for data and service interoperability are required alongside platforms for information and value exchange. Third, the biggest challenge in this change is to be found in the culture of operation and management in partnering organisations. Fourth, if the public sector acknowledges private sector service offers as being legitimate replacements for its own services in some cases, new business opportunities are created. This lead to a set of future recommendations on the necessity of comanaging the complex challenges found in the live-events; using the live-event thinking as a new perspective for knowledge exchange; providing people with predictive information; and requirements for information management of people's wellbeing, service status and availability and a more comprehensive strategic structure of eco-systems (Kopponen et al., 2020).

During fall 2018, I first came in touch with AuroraAI through a course at Aalto University where I co-created a prototype for Vero, the Finnish tax administration. The platform was meant to serve as a hub for citizens to manage and aggregate their personal data across different public and private services.

Figure 4

Digitalisation, Experimentation and Deregulation

IN THE YEAR Finland has made a productivity leap in public services and in the private sector by harnessing the potential offered by digitalisation, dismantling unnecessary regulation and cutting 2025 red tape. The flexible regeneration of Finnish society is supported by amanagement culture based on trust, interaction and experimenting.

GOVERNMENT-TERM OBJECTIVES FOR THE PRIORITY AREA

User-based, one-stop-shop digital public services that improve productivity and efficiency have been developed with the help of determined management.	Public decision-making is innovative and has created a favourable operating environment in Finland for digital services, Industrial Internet applications and new business models.
People's everyday lives, business operations, agriculture, investments, construction, healthy competition and voluntary activities have been markedly facilitated by deregulation, the reduction of the administrative burden and improvements to permit processes.	Bold steps have been taken to reform management and implementation by strengthening knowledge-based decision-making and openness and by making use of experiments and methods that encourage civic participation.

Note. Adapted from Government Strategy Secretariat. (2018). Finland, a land of solutions: Government Action Plan 2018-2019. Prime Minister's Office.

As a government-based solution, it should then allow people to safely simulate changes in their life and how those changes would affect for example their social support eligibility or taxation level; or then to formulate concrete aims of enhancing their work-life balance via a set of customisable filters. This would allow people to estimate how, for example, reducing work hours to spend more time with the family would affect their overall financial situation based on the citizen's choice of variables from taxation to employer to supermarket expenses. Half a year later, in spring 2019, the Design for Government course took place as already laid out at the beginning of this thesis.

At the same time, the implementation plan for the actual AuroraAI programme development in 2019-2023 was presented as a result of the preliminary phase and argued for the joint transition of the Finnish public sector

towards AI in a safe and ethically sustainable way. This joint transition should include municipalities, provinces, the third sector, companies, agencies and ministries. Special attention was put on the value of cross-sector collaboration to achieve this goal; the establishment of new legislation, rules and guidelines for AI and programme implementations; the active role of the public sector in enabling digital transformations; the importance of information quality, availability and interoperability; and ethical use of data which is guaranteed to be secure and protected. The implementation plan acknowledges that this broader change to be brought about should be focused on humans, their wellbeing and actual service needs (Kopponen & Ruostetsaari, 2019). Based on the multidimensional understanding of wellbeing, a citizen data model should allow the computation of situational awareness concerning a person's life. A digital twin, which is a concept originating from industries like manufacturing or logistics, is a virtual replication of a physical thing. In AuroraAI, the derived counterpart called *DigiMe* is used to create a digital representation of one's personal data located in various databases across organisations. In there, citizens should be able to create such a DigiMe persona ad-hoc and manage the corresponding data that it reflects without establishing a direct link between service offers and source data (Kopponen et al., 2019). At the same time, the MyData principles should safeguard rights to self-determination regarding personal data usage.

During the second half of 2019, the 2020-2022 course of the programme was prepared during a *kick-off workshop* (see <u>Sect. 2-2-2</u>) in October, and a series of facilitated workshops in November and December held at the Ministry of Finance (see <u>Sect. 2-2-5</u>). Results of those workshops were discussed on the programme's public Slack channel, and a set of open documents stored on Google Drive. Those documents aimed to create an initial consensus about the aims and further decided a series of different streams that would work on specific topics of the programme in the future. Slack and Google Drive served as the main sites for communication and documentation throughout the programme. Social media channels and publications available via official websites or cross-referenced in online news outlets served as means for external communication of the programme. At the beginning of February 2020, the Finnish Ministry of Finance announced the official beginning of AuroraAI, aiming to release a first version of the operating model and beta version of its network to the public the same year. The *Digital and Population Data Services Agency*, the 2020 introduced quasisuccessor of the *Population Register Centre*, is seen as the anchor organisation for the upcoming AuroraAI network. It also operates the data interoperability platform currently found at yhteentoimiva.suomi.fi as well as the <u>suomi.fi</u> information and service platform.

Further information can be obtained via the Ministry of Finland's website <u>vm.fi/en/auroraai-en</u>. For a full list of actors involved in the collaboration, I suggest referring to Kopponen and Ruostetsaari (2019), as I will now continue to contextualise AuroraAI and the challenges it is facing in a broader perspective. Before proceeding, I would like to acknowledge that what I am looking at in this thesis is the preliminary phase of AuroraAI and its adjacent developments.

3-1-2 Techno-Futures, Uncertainties and the Government

There is no doubt that technology plays an increasingly dominant role in our everyday lives, which in return makes it important to ask questions on which principles and ideologies said technology functions. Besides being a strong driver in business and society, the importance of information and communications technology (ICT) is growing equally strong in the public sector and governments. Here, ICT's complex implications on ethical and legal issues are even more evident and become essential in defining trust in political institutions and the processes they govern (Vesnic-Alujevic, Stoermer, Rudkin, Scapolo, & Kimbell, 2019). Janssen, Rana, Slade and Dwivedi (2018) found a range of 19 different factors that influence the apprehended trustworthiness of digital government services ranging from perceived benevolence to transparency, to digital competence and even political attitude. Integrations of emerging technologies as artificial intelligence (AI) in decision-making processes pose us with issues of transparency, accountability, algorithmic bias and finally, the question of [w]here does improvement end and an Orwellian surveillance state begin' (Kaplan & Haenlein, 2019). As we look disturbed or even terrified at China's social crediting system - powered by massive amounts of citizen data and its automated analysis - we are surrounded by similar systems everywhere from advertisement to countless 'little helpers' that are supposed to make our lives easier and better. The question, though, is who defines easier and better and on which terms? Nonetheless, digital technologies also open up a variety of new ways to engage in co-creation across government agencies, the private and the third sector and

finally, citizens (Fung, 2015; Jarke, 2019). Mass collaboration through ICT is expected to fundamentally change participation, but also transparency and accountability in governance if applied carefully and concerning the necessary change of culture (Misuraca, Broster, & Centeno, 2012). However, I think we have to be aware that mere participation is not necessarily meaningful, and tech-enabled interconnectivity barely reflects fair power-balance and just agency (Sgueo, 2020).

I will briefly expand this context by scratching the surface on some of the broader implications behind the aforementioned, referring back to the beginning of this thesis (see Sect. 1-1). An integral aspect of our modern culture is the 'prison house of knowledge' (Beck as cited in White et al., 2016, Ch. 6) that leads us to think that with more excellent knowledge, it would be possible to reduce the uncertainties and risks surrounding us. Whereas on the contrary, the exploration of the unknown and the reflection of limits in knowledge and science artificially create even higher manufactured uncertainty; then leading to a significant number of risks we must take to proceed (Beck as cited in White et al., 2016, Ch. 6). In favour of more reasoning here, Beck suggests a more reflective modern society that engages with the decision-making behind the unaccountable mantle of science and industry that produces those risks. Democratic tools for open debate must allow a more diverse dialogue between the currently included and not yet included actors (the public) in dealing with those risks to create new standards of proof and agreements in science and governance, that favour and harm everyone as equal as possible. Becks' perception of organized irresponsibility illustrates well the structures and intertwinements we can see between industry, science and politics if we dare to look at them. The impact of research and development on us as humans as well as the eco-systems we are part of is nothing we can actively take part in as individuals in the status quo. It is something that is decided for us and therefore forces us to take risks we are not even aware of. Moreover, by doing so, it already projects a future pathway for our society, based on this risk perception. Because taking a risk, is not only causing an impact on the moment it is taken but in the respective time afterwards (Beck as cited in White et al., 2016, Ch. 6). While the following chapters herein mainly focus on governance and the state, these implications are of equal importance in the realm of science.

There are increasing efforts in grasping the futurity of changes while envisioning trajectories and values that are embedded in them. Digital Europe 2030 outlines four different scenarios for ICT in future governance, ranging from privatised governments to self-service governments (Misuraca et al., 2012). Along similar lines, the Future of Government 2030+ report, commissioned by the European Union in 2019, described a thoroughly participatory process of jointly envisioning what the future of governance and the role of people and technology could look like. The report was collaboratively crafted with the help of citizens, think tanks, representatives from all sectors and students as well as academic staff in six different EU member states. The four derived scenarios, 'DIY Democracy (characterised by decentralisation of power and self-organized communities), Private Algocracy (giant digital companies hold the power over citizens and governments), Super Collaborative Government (with high collaboration and co-creation between citizens, governments and other stakeholders) and Over Regulatocracy (characterised by over-protection by the government through the creation of too many regulations with the help of technology)', stress the important dialogue between people and institutions along with the requirements for new and more participatory cultures in the public sector. However, it also highlights the currently lacking but required literacy on futures and data or technology that is found equally among citizens and officials (Vesnic-Alujevic et al., 2019). The Finnish government has started addressing this digital future on multiple levels through a variety of initiatives out of which I will look at AuroraAI (Steering group and secretariat of the Artificial Intelligence Programme, 2019).

3-2 Design

3–2–1 The Many Faces of Design

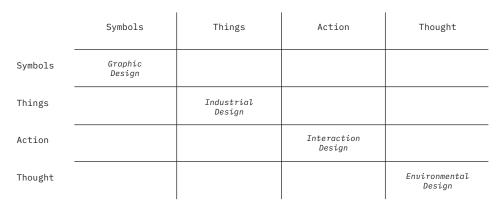
To enable a useful and concise review of design history, I will not look into individual professions, neither their inherent traditions nor origins. The complexity of this would significantly exceed the limitations and shift away from the focus of this thesis, making it less likely to contribute constructively to its objectives. Instead of focusing on, for example, the ideological implications of Bauhaus (which I probably should since I am German) or the role design played in shaping the Finnish national identity (which I probably should since I live in Finland), I will only outline some of the more general theoretical work to build up the required depth relevant to this thesis.

A tangible starting point, as it is comprehensive – yet concise – would then be the four areas or orders of design according to Buchanan (1992): The first of these orders is one of *symbolic and visual communications*: It is about communicating information, ideas or arguments through symbolic or visual (or audial) means and can be witnessed in for example signage, advertising, books but also on all sorts of digital screens and displays. The second order concerns the *material objects* as in household products, clothing or means of transportation. Here, the interaction between the human and the object becomes

(As an instrument of cultural life, design is the way we create all of the artifacts and communications that serve human beings, striving to meet their needs and desires and facilitating the exchange of information and ideas that is essential for civil and political life.... This is what leads us to say that the quality of communications, artifacts, interactions, and the environments within which all of these occur is the vivid expression of national and cultural values.... We are under no illusion that design is everything in human life, nor do we foolishly believe that individuals who specialize in one or another area of design are necessarily capable of carrying out successful work in other areas. What we do believe is that design offers a way of thinking about the world that is significant for addressing many of the problems that human beings face in contemporary culture. — Richard Buchanan (2001)

Table 2

Four Orders of Design



Note. Adapted from Buchanan, R. (2001). Design Research and the New Learning. Design Issues, 17(4), 3-23.

of higher importance and the design of the object has to take into account formal but also constructional aspects like manufacturing. The third order expands this even further into *activities and organised services*. This order seeks to design sequences of activities or services in a resource-efficient way; creating meaningful and satisfying experiences. Typically, logistics or public transportation are seen as striking and tangible examples. The fourth and last order deals with *complex systems or environments for living, working, playing and learning*. From architecture to systems engineering, this order is concerned with understanding complex wholes and their parts while exploring the role of humans within those surrounding environments. The sequence of orders does not imply increasing importance, relevance or value. To me, it describes a gradient of abstraction regarding the manifestation of *signs, things, actions* and *thoughts* while concurrently increasing in the complexity of their object of matter.

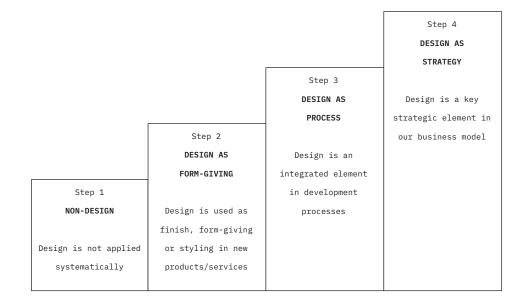
Richard Buchanan is a professor of design, management, and information systems, currently teaching at the Weatherhead School of Management at Case Western Reserve University. He was head of the Carnegie Mellon School of Design; edits Design Issues and was President of the Design Research Society. A highly relevant term for this thesis is the concept of *human-centricity* or Human-Centred Design. In his later article on human dignity and human rights, Buchanan (2001) describes the term by acknowledging the central element of all design: humans. Which then first and foremost means the affirmation of human dignity in design work, thereby turning design into a means to 'support and strengthen the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances.' This is an essential underlying understanding that allows distinguishing the idea from more practical approaches like user-centricity. Obviously, it also is valuable and relevant to understand humans as users and therefore study their specific psychosocial needs; still, it is not the full picture of a human being.

Design Thinking, which has become a widely (ab)used and ubiquitous buzzword, is arguably not design and differs vastly from, for example, the value notions expressed in Buchanan's work. To me, it is merely the idea of rendering specific tools, processes or structures used frequently by designers accessible to a non-designer audience. This should not be seen as an elitist approach towards who designs, but rather as a reminder that the mindset of the person carrying out the design activity matters. It is highly likely that using Design Thinking, or Human-Centred Design approaches are going to, for example, increase your sales and market share, yet these were never the intentions of those who developed the approaches. In consequence, this should not restrain the use of design thinking processes or even encourage designers to make their methods exclusive. Instead, I would rather argue for a general shift from performance and markets to values and meanings; from users to humans, which would then require designers to stay persistently open in communicating their attitude and thinking to make their actions less elusive (Buchanan, 2001).

After reviewing what design constitutes for, I will continue by presenting a simplified model that might help to understand different perceptions of design, and the role design played during the last decades. In 2001, the Dansk Design Centre presented a communicative model, that describes a spectrum of embracing the capabilities and values of design in four stages. This 'Design Ladder' was developed to describe the integration of design in business processes, yet it holds valuable information outside the socio-economic realm. The first stage, *Non-Design*, where design is absent from the whole development process, describes a scenario where said process and its result can be entirely derived from what the developing parties perceive as 'good'. *Design as Form*, the second stage, utilises

Figure 5

The Design Ladder



Note. Adapted from Dansk Design Centre (2001). Retrieved from https://danskdesigncenter.dk/en/design-ladder-four-steps-design-use

design capacity to shape the final result of the development without integrating it into the process as such; meaning design communicates what is internally perceived as 'good'. In the third stage, *Design as Process*, elements of the aforementioned human-centricity come into play, and the process becomes much about understanding the problem and the target group, thereby granting them agency in defining 'good'. Finally, *Design as Strategy*, fundamentally questions the business concept, the future vision and thereby its underlying values. This is essentially the idea of reconfiguring the 'good' of the very structures that allow the other stages to happen. The Danish Design Centre encourages the transition towards higher steps of the ladder by claiming that the internalisation of design thinking will yield higher financial benefits for the company (DDC, 2001). I instead find it more valuable to briefly compare the connotations of design sketched out in this ladder to get an idea of what design does.

3—**2**—**1**—**1** Changing Existing Situations into Preferred Ones

Using Buchanan (1992, 2001), I tried to highlight the complexity of how and in which context design can manifest itself while stressing the importance of sincere human-centricity. As a working method, this human-centricity becomes reflected in a non-designerly context, only starting with the stage of *Design as Process*. The earlier stages might yield results similar to the ones described in Buchanan's *signs* and *actions*, but lacking the dedicated human focality. I can therefore derive, that design is, as Buchanan already said, concerned with the human. At the same time, it obviously differs from, for example, humanities in the way it directly aims to stimulate some sort of tangible process or result. This makes it necessarily normative in the way it does prefigure a 'good' result through the human-centric understanding of the matter or problem it is concerned with, and it requires the inquiry into the 'human', that is ethnography. *Design as Strategy* then describes a fundamental shift which therefore needs not only to reconfigure outward-facing processes but the whole institutional logic that is giving the context to definitions of 'good'.⁵

This brings me to the probably most common definition of design, formulated by Herbert Simon (1996, Ch. 5) in the context of creating artificial things: '[E]veryone designs who devises courses of action aimed at changing existing situations into preferred ones.' In its simplicity, it perfectly embraces the myriad of approaches and definitions that can be found in the field of design. Combined with the aforementioned discussion of Buchanan, I can say that preferred situations, or the 'good', are those which 'support and strengthen the dignity of human beings'. While referring to an earlier version of Simon's The Sciences of the Artificial (1968:86), Buchanan (1992) acknowledges that the 'problem for designers is to conceive and plan what does not yet exist, and this occurs in the context of the indeterminacy of wicked problems before the final result is known'. What becomes interesting is the fact that designers prefigure things that do not exist yet while they actually do not know the nature of the final result. This pre-stage of conceiving and planning the unknown is thereby an integral part of design. And it does not imply the finite deduction of the final result since the context remains indeterminate. As Marenko and Brassett (2015) put it, design 'is a process by which future possibilities tend to coalesce in/as the present, no matter the singular form this coalescence might take.'

To illustrate the above, I assume my task is to design a chair, an object quite popular in the field of design. Most obviously, I would first look at different materials and ways of assembling them to serve the purpose of a chair and formal aspects that are preferably ergonomic and perceived as visually appealing. I could also start looking into manufacturing processes or go even one step further and take into account how this chair will be transported from the factory to a store as for example early bentwood chairs by Thonet. If I arrive here, maybe I will not even be designing a chair anymore but a self-assembly kit for a chair such as Ikea furniture. The complexity of the problem I was looking at has been increasing, opening up space for finding solutions. Now I assume that I do not actually see my task as designing a chair but rather to design an object that would support healthy human body posture, something chairs arguably do. Suddenly I might come up with a powered exoskeleton for heavy-lifting duties in the factory that produces the chairs and self-assembly kits mentioned above. Or height-adjustable tables for the people in the back office, as hours of sitting at a desk, designing chairs, is not good for your back. I will take away the object now and address only the problem by offering free yoga sessions to all employees of the factory. Or why not rethink the idea and future of work in general? Obviously, the point is not to infinitely increase the complexity but that with different framings of a problem and its understanding, I create space for different types of solutions. Moreover, the more I keep exploring and reframing the problem space, the better I understand its complexity. From the ergonomic requirements of a chair I started with, I went to wellbeing at the workplace, to questions on the future of work just by looking at the problem itself, while suitable solutions become revealed respectively.

Creating satisfying solutions for complex contexts, therefore, is less likely by deep-diving into one single pathway but instead carefully exploring the vastness through testing and iterating diverse approaches to solutions. This iterative exploration, already introduced by Rittel (1972), is required as with increasing complexity of the problem and increasing openness towards the pathways

⁵ Other authors have extended this ladder to even broader socio-political realms in Design as Systemic Change and Design as Culture (Hoedemaeckers, 2016) or Design as Organisational Transformation and Design as National Competitive Strategy (Doherty et al., 2015). Those extensions add little to the general idea of the model as they only broaden the scope of how the aforementioned aspects can be applied to larger and more complex systems.

for solutions, the number of discrete alternatives becomes overwhelming; the problem cannot be fully formalised. In theory, this would describe an infinite loop of development; in practice, the external conditions of reality render it finite due to limited resources on many different levels.⁶ I, therefore, say design is explorative, and it requires taking procedural decisions.

(4 [F]or no problem (so to speak) is there an absolute solution. Reason: the possibilities cannot be delimited absolutely. There is always a group of solutions, one of which is the best under certain conditions. To describe the problem is part of the solution. This implies: not to make creative decisions as prompted by feeling but by intellectual criteria. The more exact and complete these criteria are, the more creative the work becomes. The creative process is to be reduced to an act of selection. Designing means: to pick out determining elements and combine them. Seen in these terms, designing calls for method. — Karl Gerstner (1964)

I now established an understanding about the different realms in which design manifests itself (*signs, things, actions* and *thoughts*); design is concerned with changing existing situations into preferred ones, where the latter are those addressing the human in a way that strengthens his dignity; this notion of change necessarily implies an orientation towards the future; human focality is essential in framing the object of matter; in addressing the complexity thereof, it prefigures a yet unknown result; design as an act is about the continuous inquiry into the 'human' to sustain the human-centricity; design works explorative and iterative towards a solution since it acknowledges the indeterminacy of results; design is not an outcome but rather a process of determination. To me, in short, design aims to prefigure desirable futures and fathoms diverse pathways that could lead towards them.

This said, design should not be seen as the one magic solution to everything but rather as a different angle, that can contribute constructively to a range of topics. Looking at it from the outside, design seems to be not much more than common sense and empathy, yet those two tend to get lost if not explicitly sought after. At the same time, design has vastly contributed to producing the multiplicity of contemporary crises, as outlined in <u>Chapter 1</u>.⁷

3-2-1-2 Framing The 'May Be' To Inform the Present

As already outlined but not further investigated, design consists of a plethora of disciplines, schools, traditions and practices. While all of these create their own 'Thousand Tiny Definitions of Design' (Marenko & Brassett, 2015), there are inherently connecting properties between them as described in the previous chapter. However, trained designers started to emigrate from this fractured field into altogether different disciplines. Dorst (2015a) looks at this phenomenon by analysing how design capabilities are brought into other fields and what value they therein provide. As a professor in the faculty of Transdisciplinary Innovation at TU Delft, Dorst distinguishes two separate approaches: adopting and *adapting*. The first one describes the idea of using proven practices, as in techniques or methods, and applying them in a different context without rethinking their matter. Adopting, therefore, adds little new to the first field. Adapting, on the other hand, is necessary if the new field requires a deeper understanding of the underlying principles, that lead to the development of the practices under consideration. These principles then get adapted to the new field, stimulating new thought herein as well as in its original field of design. Going back to what has been discussed earlier, my critic on design thinking and humancentricity is then grounded in the fact that those often get only adopted by their new fields.

The reason why both, the adopting and adapting of design capabilities in other fields proves to be useful can again be found in the connotation of wicked, or complex and networked problems (Dorst, 2015b, Foreword). The complexity of topics under consideration in a vast range of professional field has increased drastically over the last decades due to an amplification of global intertwinements and networks. As a result, those networked and changing problems asked for

⁶ For a more tangible illustration of this, see Ulrich (2006).

⁷ We should, from my point of view, therefore, keep asking questions not only on the application of the principles mentioned above but also on those principles themselves. Maybe 'human-centricity' will always imply environmental degradation or exploitation? Maybe ethnography as inquiry will always produce biased perception? Maybe envisioning the future today will never allow for radical change to unfold?

different approaches in addressing them, moving away from individual problemsolving capacity and into more collective problem-solving processes (Dorst, 2015a). An exciting matter that explains how design is making this complexity less elusive can be found in the logical inference of *abductive reasoning*: a complementary method of logical reasoning. Despite dating far back in the history of logic, it only got reintroduced to the scientific discourse by Charles Sanders Peirce in the late 19th century:

66 Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea; for induction does nothing but determine a value, and deduction merely evolves the necessary consequences of a pure hypothesis. Deduction proves that something must be; Induction shows that something actually is operative; Abduction merely suggests that something may be. — Charles Sanders Peirce (1903)

Figure 6

Logical Inference and Framing

(elements) (pattern		n of relationship)		(observed phenomenon)	
Deduction	WHAT	+	НОМ	leads to	???
Induction	WHAT	+	???	leads to	OUTCOME
Abduction	???	+	HOW	leads to	OUTCOME
Design Abd	uction ???	+	???	leads to	OUTCOME
				- frame -	

Note. Adapted from Dorst, K. (2015b). Frame innovation: Create new thinking by design. The MIT Press.

Instead of only falling back to verification or falsification, Peirce perceives knowledge not necessarily as a static thing but as a process without an absolute certainty or truth. Knowledge-making becomes a process of exploring the tentative and a spectrum of 'may be' (Burks, 1946). This gets especially relevant while dealing with 'new' things in knowledge-making, where traditional ways of deducing or inducing existing facts or patterns are not sufficient. This explorative aspect of a 'may be' that renders abductive reasoning into a relevant and probably even inherent quality of design. Design uses the outcome as a starting point; it starts by projecting the desired state and the values that define this state into the future and only then starts thinking backwards about the plurality of ways to get there (Dorst, 2015a). Design uses an abductive approach to create room for multiple pathways of change, thereby allowing the complexity found in wicked problems to unfold instead of hindering the development. Dorst (2015a, 2015b) further situates this abduction process in design in the deliberate act of *framing*, which is primarily about forging a new angle towards the topic under consideration. This new angle is defined not so much by closed definitions but instead by a more vibrant and more diverse contextual approach. From a systems point of view, the boundaries are getting expanded or potentially even re-drawn: the issue at hand is redefined. The intention is not to solve a given problem of which we already know it cannot be solved but to reevaluate, for example, what is constituting for it, who is affected by it, what the underlying values are.

After the general introduction of design in the previous chapter, I now highlighted what can be seen as an inherent property in the different disciplines within the field of design: (re)framing. The example above of the chair already laid out the practical implication of this framing, which I can now understand through the notion of abductive reasoning. Next, I will outline areas of design – or areas permeated by design – that are of relevance to this thesis and express the applied notions of design introduced above.

3—**2**—**2** How Design Entered the Government

3—2—2—1 The Democratic in Design

Participatory, or *co-(operative)*, *design* can be dated back to the 1970s and '80s when it emerged in Scandinavia to address the absence of fair and responsible work ethics. As such, they did not necessarily hold deliberate

methods but were the result of a social movement and therefore expressed a political message: societal values (Gregory, 2003). In practice, this would mean involving those people in the design of, for example, work processes or environments, which were directly affected by them (Holmlid, 2009). Gregory (2003) defines three distinctive principles that underpin the Scandinavian approaches to participatory design: '1) deep commitment to democracy and democratisation; 2) discussions of values in design and imagined futures; and 3) how conflicts and contradictions are regarded as resources in design.' At the same time, Elinor Ostrom introduced the concept of co-production as the result of studying the centralised delivery of public services. Lamenting on their inefficiency, Ostrom critiqued how and by whom services were informed, produced and implemented; leaving the consumers to be merely passive users of them (Ostrom as cited in ENLARGE, 2018). This turn towards the engagement of people is also found in the nowadays prominent discipline of service design (Holmlid, 2009), it is to be questioned though if in here, people are necessarily seen as equal partners or just as consumers or users. More recently, Salmi and Mattelmäki (2019) defined co-designing as based on the principle that people 'should contribute to topics that are of relevance to them'. The article focusing on organisational change suggests that the thorough engagement of all stakeholders will increase the implementation agency and ensure the relevance of both: problem and solution. Facilitated communicative processes are

highlighted explicitly by the authors to spur this change. Despite the relatively long and fruitful history of the concept, there is still a prevailing perception of user participation, limiting the success of a development. However, Holmlid (2009) reminds that these limitations are not necessarily the consequence of participation as such but rather of poorly executed processes of participatory engagement.

Relating to the notion of 'trust', mainly discussed in the previous study of the Design for Government course, Elisabeth Tunstall (2007) refers to Michel Foucault's concept of *governmentality*. She suggests that trust between people and the government is at risk when the former loses the means to influence the 'conduct of conduct', which is represented in the government. Maintaining or even improving this trust does thereby require meaningful ways of influencing governance, that is participating in it, which Tunstall asserts in three simple principles: '(1) policy is designed and thus open to designing by people, (2) national design policies (formal or informal) should support the role of design in public sector governance, and (3) when design functions as a way of making governance tangible to everyday people, it makes governance open to the participatory redesigns by those people.' (Tunstall, 2007)⁸

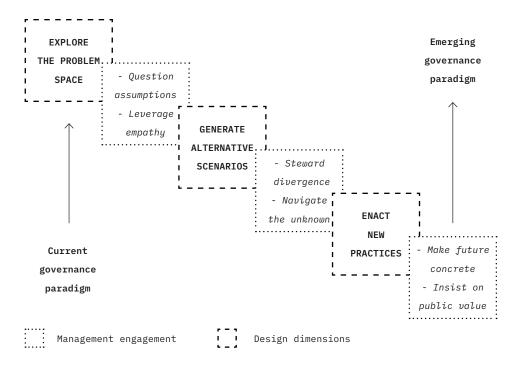
3—**2**—**2**—**2** Relational and Reflective Governance

The use of design in the public sector has been rapidly accelerating in the last decades. As outlined above, the design disciplines of Participatory- or Co-Design and Service Design are among the most prominent origin of methods in the public sector to help improving service delivery, but also to develop new strategies and policies (Kimbell, 2016). In her article Kimbell specifically looks into 'policy labs', dedicated arenas for experimental, design-driven work in the public context. At the same time, designers started to introduce a culture of more collaborative and participatory experimentation within governments and the public (Kimbell & Bailey, 2017). Lucy Kimbell is the director of the Social Design Institute and professor of Contemporary Design Practices at University of the Arts London. Between 2014 and 2015, she was a research fellow in Policy Lab in the Cabinet Office, UK. Both authors investigate prototyping in policymaking and identify the following central values: allowing the tangible inquiry into complex (or wicked) problems and contexts, understanding and testing of the human perspective, and the potential for generating new ideas. In short, said prototyping could prove a viable way to bridge the gap between policy intent and outcome once perceived as a legitimate tool for production. Detailed explanations of prototyping and other approaches to 'making' in design can be found in Sanders, Steppers (2014). The authors also acknowledge often limited understanding of deeper structures, cultures and practices within the government among designers (Kimbell & Bailey, 2017).

⁸ As it will exceed the boundaries of this thesis and deserves a more thorough and reflexive investigation, the ambiguity of how participation in processes is designed will not be discussed in detail. The most critical aspects within this facilitation are the notions of power and its mediation as well as inclusivity and diversity of actors and beliefs represented or reproduced. For a concise discussion on the politics of facilitation in design, I suggest referring to Villaman (2020).

Figure 7

Conceptual Framework for Possible Contribution of Design to Governance Paradigm



Note. Adapted from Bason, C., Copenhagen Business School. CBS, Department of Management, P. and Philosophy. M., Institut for Ledelse, P. og Filosofi. L., & Doctoral School of Organisation and Management Studies. OMS. (2017). Leading Public Design: How Managers Engage with Design to Transform Public Governance.thinking by design. The MIT Press.

Bason (2017) finds design in the public sector taking either one or multiple of the following shapes: '1) Exploring the problem space, which involves a range of ethnographically-inspired design approaches, including field work and visualization of user processes; 2) Generating alternative scenarios, in which graphical design approaches and creativity inducing methods are used to enable collaborative ideation and concept development; and, 3) Enacting new practices, which involves the use of prototyping and user testing to render possible solutions more tangible, and also various ways of envisioning idealized (future) situations.' He further concludes, design renders the governance it affects more 1) relational, in the way it addresses the 'human'; 2) networked, in the way it involves a broader pool of actors; 3) *interactive*, in the way it creates mediation; and 4) reflective, in the way it understands its own potential for change (Bason, 2017). He suggests that internal government units, 'policy labs' as Kimbell calls them, can be seen as the new locus for public innovation. While explicitly looking into the Danish MindLab, he outlines the process of it taking form and evolve as of process, strategy and organisational structure (Bason, 2012). In this context, it is worth noting that the Finnish equivalent Helsinki Design Lab, funded by The Finnish Innovation Fund Sitra, stopped running in 2013. Instead, Finland shows a variety of initiatives from Sitra to more targeted labs looking into traffic, digitalisation or experimentation in general, as each of them is showing a different degree of 'design' being part of their strategy.

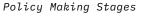
Besides these positive and more profound connotations of design in the public sector, the prevailing picture is about design being involved with service provision and used as a tool for more 'agile' development of strategy and policy. Just like in the private sector, design in governance has to be aware of its role in for example preserving existing power-balances and market-structures, or enabling positive change and pushing for real societal improvement (Bailey & Lloyd, 2016). Drawing similar conclusions, Junginger (2013) asks for a deeper understanding of the relation between policymaking and design and critiques the way it is still seen as an isolated or alien practice within the public sector. Enhancement of design capabilities in the public sector, which means also increasing tacit design knowledge in public personnel, is seen as a critical factor for the future of governments (Junginger, 2018). Designers need to acknowledge that they are aiming to bring along a variety of changes and that this requires carefully inviting others to join this transition instead of expecting them to be there already. I think it is possible to say that the majority of laypersons, civil workers and even the public sector perceive design to be mainly concerned with Buchannan's first and second order of design as well as with the first two rungs of the Design Ladder.

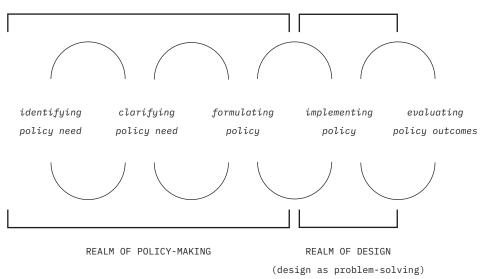
As being introduced previously, co-creation and civic participation have recently become more prominent in the global public domain, yet they have a long history in Scandinavia. Since involving people is an inherent quality of design, co-creative activities in the public sector are often, but not exclusively, found close to those of design. The connotation, adoption or adaption of design in the public context depends on a variety of factors further investigated elsewhere. Participatory policy design can help to maintain societal trust. Design as such can be seen both as a way of making tangible policy and government, as well as creating the processes that shape policy and government. If the purpose of a policy is to guide a system towards a particular direction, it is similar to design in the way it aims to change 'existing situations into preferred ones' (Simon, 1996). The complexity of policy problems and the diversity of voices invited through more open governance is a valuable design resource for framing the issue under consideration. Explorative ways in design give space for experimentation and testing of policy matters in an uncertain environment. Next, I will continue by looking into even more deliberate approaches to futures in design.

3—2—3 Why Design Enters the Future 3—2—3—1 Transitioning to Preferred Futures

Moving from one stage to another, or from one situation to a preferred one, requires a phase of transition. In her paper, Irwin (2015) summarises many of the aspects mentioned in the previous chapters as she claims design experienced fundamental changes due to a) its methods spilling over into other disciplines; b) increasing global awareness and accumulation of wicked problems; and c) recognised value of design in addressing them. This gave rise to *Design for Service* and *Design for Social Innovation*, which shall now be complemented by a third direction: *Transition Design*. As the most mature discipline of those three, service design is focused on the systematic design of meaningful experiences within our socio-political and socio-economical paradigms. The still-developing Design for Social Innovation discipline goes one step further and reflects the emergence of new paradigms by creating solutions that lead to social change. Transition Design then challenges these paradigms more profoundly; creating alternatives while aiming for a more radical positive socio-environmental change. Irwin defines this as a continuum of increasing 'scale of time, depth

Figure 8





Note. Adapted from Junginger, S. (2013). Design and innovation in the public sector: Matters of design in policy-making and policy implementation. Annual Review of Policy Design, 1(1), 1-11.

of engagement and context expand to include societal and environmental concerns' (Irwin, 2015). Terry Irwin is the director of the Transition Design Institute at Carnegie Mellon University and from served as head of the school for ten years until 2019. She works closely together with Gideon Kossoff and Cameron Tonkinwise, with whom she developed the idea of Transition Design. The underlying model of Transition Design comprises four dedicated yet interconnected dimensions that rely on each other and shape each other: 1) vision: sustainable visions of future societies and lifestyles that give space for humans and eco-systems alike; 2) theories of change: the multi-disciplinary informed and field-spanning theory that investigates socio-ecological dynamics; 3) mindset/posture: inevitable change requires open, reflexive and collaborative mindsets to embrace transitions; and 4) new ways of designing: design and ways of designing must transition in concert with the other dimensions while advancing them (Irwin et al., 2015). It is worth noting that the connections between these dimensions are to be seen as bi-directional and circular instead of linear or layered.

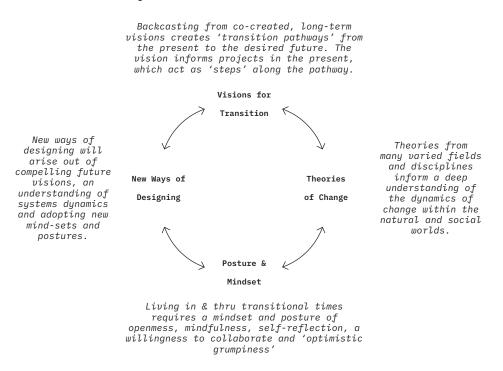
A simplified approach towards the application of Transition Design is outlined in three phases: 1) *reframing*: Re-evaluating the present to grasp the problem and then reframing the future collaboratively; 2) *designing interventions*: Anchor problem and vision in their context and thereby understand their causes and consequences before carrying out activities; 3) *waiting & observing*: Monitor and reflect on the activities and responses in the system (Irwin, 2018).

Going one step further, Transition Design recognises the diversity of stakeholders and their relations as the 'connective tissue' in wicked problems. Alternatively, in other words, wicked problems are only wicked because of the vastness of stakeholders involved, where a stakeholder is every entity that has a stake in the said problem. Therefore, looking at the problem only from a single lens is unlikely to leverage any resolution over involving the multifaceted view of a diverse stakeholder network (Irwin, 2018). Visions of the future are seen as a crucial means to not only assess currently prevailing paradigms but also to assess the outcomes of Transition Design actions. The desired state of the future provides the measure to evaluate the pathways leading there. At the same time, they give access to futures by providing tangible preconceptions that allow their discussion (Irwin et al., 2015). Transition Design and its agenda can be considered fundamentally political in the way they approach futures in a normative way towards making change. At the same time, Transition Design is critical towards itself by questioning how design either reinforces or realigns matters of social injustice (Boehnert et al., 2019). The importance of the 'mindset' is prevailing and includes terms such as 'humility', 'welfare of natural world and future generations', 'urgency and patience', 'transdisciplinary knowledge and collaboration' or 'generosity and sharing' (Irwin, 2015).

Transition design can be situated in the broader context of Sustainability Transitions, an expanding field of research manoeuvring the complex topic of sustainability from multiple angles and backgrounds. The Transitions Research Network investigates amongst others themes like power and agency; governance; society and culture; business and industries or ethical aspects and methodologies of transitions. A profound belief about the interconnectedness between social and environmental problems is the main driver for research in the network (Köhler et

Figure 9

The Transition Design Framework



Note. Adapted from Irwin, T. (2018). The Emerging Transition Design Approach.

al., 2019). By arguing that nature does not exist to serve us and that therefore environmental problems do not exist per se, I can say that environmental problems become in fact socio-environmental problems as the result of social constructs (White et al. 2016, Introduction). Therefore, prevailing patterns of consumption and production on a variety of levels are seen as crucial contributors towards unsustainable futures; requiring radical change instead of technological fixes. This radical change should be brought about transitions that embrace a long-term perspective as well as the vast uncertainty and openness required for getting there. Similar to aspects described in how design approaches the future, sustainability transitions are based on value choices and deliberation of contested values, making them normative by design. The Transition Research Network acknowledges the multi-dimensional extent of their topic as well as the required diversity of actors that play a role in it. Pondering the dynamic relation between stability and change, Sustainability Transitions research aims to understand which socio-technical systems to change to influence path dependency towards the future (Köhler et al., 2019).

Among many dedicated disciplines within Sustainability Transitions research, I will briefly introduce Transition Management (TM), one of the foundational frameworks underpinning the field of studies. Loorbach (2010) established it as an approach towards governance in sustainable development, where he defines the latter as 'persistent problems in (Western industrialized) societies that can only be dealt with on the very long term (decades or more) through specific types of network and decision-making processes' (Loorbach, 2010, Abstract). In principle, it consists of a cyclical relationship between the four phases that are 1) strategic: an exploration of the problem frame, deriving a long-term vision and building up the transition arena to address it; 2) tactical: create tangible images of desired futures and derive an agenda as well as the respective paths towards them; 3) operational: plan and execute experiments according to the agenda while mobilising the required actors; and 4) reflexive: evaluate the monitored results of the experiments and adjust visions, pathways, actors according to the learnings. At the beginning of the process, Frontrunner stakeholders are invited to collaboratively build a joint vision based on deliberated challenges, where then pathways towards that future are constructed in a transition arena. Loorbach stresses that top-down approaches and neoliberal principles towards governance do not represent the full picture required for societal change and that steering said change is a 'reflexive process of searching, learning and experimenting.' (Loorbach, 2010). Hyysalo et al. (2019a) recognise the importance of mid-range pathways as complementary to the rather broad-scale horizon of Transition Management. Bridging this gap also increases the legitimacy of the process as existing structures of governance can be included in the process more efficiently. The authors designed and tested a transition pathway formation tool that encourages participant freedom to deliberate and express but also to create and take ownership of the process outcomes (Hyysalo et al., 2019c). Said tool facilitated a tangible and engaged process in the formulation of concrete pathways for a sustainable energy sector in Finland.

Table 3

Transition Management Types and Their Focus

Transition Management				Level of
Types	Focus	Problem Scope	Time Scale	Activities
Strategic	Culture	Abstract / societal system	Long term (30 years)	System
Tactical	Structures	Institutions / regime	Mid term (5- 15 years)	Subsystem
Operational	Practices	Concrete / project	Short term (0-5 years)	Concrete

The reflexive type is constant and spans the other three types.

Note. Adapted from Loorbach, D. (2010). Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework. Governance, 23(1), 161-183.

The importance of actor inclusivity and value deliberation in transition arenas requires careful consideration and engagement of the steering actors. Again here, civil society participation is found to be a viable tool to overcome unidimensional involvement or skewed power balances (Hyysalo et al., 2019c).⁹

⁹ As another example of how designed tools can help inform policy, I would like to refer to the EU Policy Lab's board game FuturGov that aims to immersive engage with policy and power relations of the future.

3—**2**—**3**—**2** *Participatory Futures*

As I presented, the importance of value negotiations and choices about the future we want to live in as well as the envisioning of those futures is relevant in a variety of different fields in- and outside of design. In this context, I find it necessary to at least touch upon the perceptions of futures in design. Against the conventional notion of the future being something unknown, we as humans instead already project our ideas, wishes and anxieties into it. Which is then in return influencing our thinking and behaviour of the present (Mazé, 2016) again bringing me to questions about with what and how we want to pre-populate the future; questions on the values we want the future to represent; about who is asking those questions and who is going to answer them¹⁰. Design plays an increasingly important role in shaping scenarios for the public sector, while underlying assumptions that affect future configurations are not always explicit. However, every discipline concerned with the future is prone to reproducing the configurations of the present by not looking into what should be different in the produced future (Mazé, 2019). The often-hidden politics of future visions must also be considered in policy planning, bringing me back to the public domain. In the field of future studies or foresight, backcasting is a standard methodology to construct conceptions of the future and evaluate them against a set of chosen criteria. This makes it a valuable topic to look into since it shows similarities to earlier described mechanisms in design while at the same time providing the space for participatory transition thinking.

As a scenario development method, backcasting is a common approach in policy planning to manage the future. Starting from a formulated longer-term vision, backcasting is normative, and goal-fulfilling as said vision will be the focality from which possible pathways leading there are imagined. This focus on the far future allows the developer to break mental barriers derived from present problems and their path-dependent implications (Wangel, 2011b). On a more general level, Hebinck et al. (2018) state that normative tools of participatory foresight allow the joint exploration and conceptualisation of desired futures. They offer ways of creating new networks of actors to spur change and give tangible strategies to put this change into practice. The authors acknowledge the distinctive role and influence of those leading the process and those facilitating it (Hebinck et al., 2018). In 'Scenario Content, Outcome and Process' (2011), Wangel and Gustafsson describe a threefold approach to scenario development that asks 1) 'what could change'; 2) 'what should be the outcome'; 3) 'how the changes could be achieved'. The authors further propose a 'collection of nodes' or network of elements in the scenario instead of a linear pathway as the result of the method. In the earlier mentioned study, Wangel (2011b) highlights the prevailing absence of actors and governance in backcasting and explains different means of overcoming this shortcoming. She criticises the 'two magic wands of economic incentives and informational campaigns' that are seen as common motivators to drive social change. Instead, Wangel argues that people define their behaviour in a reflexive negotiation of their activities and those seen in the socio-technical web around them (Wangel, 2011a). Järvi et al. (2015) thoroughly describe a method of involving diverse stakeholders into a visioning and backcasting process to inform policy packages that aim at reducing CO2 emissions in Finland. In their paper, they describe a dissensus-based Delphi study that aims for diversity and critical engagement of participants. Wangel et al. (2019) further discuss the dimensions of consumption and lifestyles in their work. Their article describes the process of transforming a policy-focused scenario for the future of energy in Sweden towards a practice-oriented one. The speculative design result, an illustrated book, communicates matters of living and consuming that unfold in the gap between the present and the anticipated sustainable energy future of the year 2050. A similar example of tangible designed futures can be found in the EU Policy Lab's 'The Future of Government 2030+' report, the result of participatory foresight processes illustrating various future scenarios of governance.

¹⁰ A thorough discussion on what design produces and what it embeds through participation and facilitation can be found in Keshavarz & Mazé (2013).

3—**3** Governance

3—**3**—**1** Shifting Perspectives in Governance

Expanding the contested term governance to more than only the mere act of governing, I would like to present the three different perspectives used in Emerson et al. (2012): 1) Ostrom: 'a dimension of jointly determined norms and rules designed to regulate individual and group behavior'; 2) O 'Leary, Bingham, and Gerard: 'means to steer the process that influences decisions and actions within the private, public, and civic sectors.'; and 3) Bryson, Crosby, and Stone: '"a set of coordinating and monitoring activities" that enables the survival of the collaborative partnership or institution'.¹¹

According to Osborne (2006), the history of Public Administration and Management (PAM) theory is split into three different phases: 1) public administration (PA); 2) new public management (NPM); and 3) new public governance (NPG). PA, the dominant mode of administration throughout the 20th century, can be depicted as the 'bureaucratic' state, emphasising the rule of law and an abundance of administrative guidelines and processes. Politics as such were decoupled from their administration, and the delivery of public services was predominantly defined by state professionals. A vivid example of this is the early welfare state, expected to be the single institution for the satisfaction of all citizens' needs. While this monolithic approach proved to be inappropriate and inefficient, the private sector developed principles of efficiency management, that would get adopted via public sector reforms under the term of NPM around the 1980s. With NPM, neoliberal principles such as market mechanisms, management and control of performance and internal competition entered governmental working modes. The implementation of policy was situated further away from where it was made, while service delivery itself got restructured around financial resource management. NPM, therefore, focused mainly on intra-organisational processes and their management, fostering independent and competing governmental units; steered by public managers competing for financial resource allocation (Bryson, Crosby, & Bloomberg, 2014; Osborne,

2006, 2010).¹² While NPM was arguably more dominant elsewhere in the world (Osborne, 2010, Introduction), repercussions of it can be equally found in the Finish government.¹³

Seeking to overcome the shortcomings of NPM, NPG promotes a pluralistic and inter-organisational approach towards the governance of public good since the beginning of the 21st century. The emerging and not yet concisely defined paradigm emphasises the negotiation of values, meanings and relationships over NPM's focus on management, performance and markets (Osborne, 2010, Introduction). The term public value is contested and has been defined in a variety of different ways and from different perspectives, as seen in Bryson et al., 2017. NPG aims to produce public value by acknowledging that the government while being obliged with providing public value, is by far not the only institution capable of providing it (Bryson et al., 2014). This, in turn, shifts governance towards a networked perspective or as Bryson et al. (2014) quote Boyte: 'self-organized, sustained efforts by a mix of people who solve common problems and create things, material or symbolic, of lasting civic value'. What is in return, creating a shift towards inter- and intra-organisational collaboration where there was competition before; simultaneously providing the potential to bridge gaps in the policymaking and delivery cycle. Networked approaches to governance are perceived as increasingly necessary tools for addressing wicked problems in policymaking and strengthening overall democratic values in society (Sørensen & Torfing, 2011), due to broader actor engagement. Design theorist Horst Rittel (1972) coined the term wicked problems as a 'class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing'.¹⁴

¹⁴ For more detailed explanations, see Rittel (1972), Buchanan (1992) or Conklin (2006).

¹¹ References to the mentioned authors' original work can be found in Emerson et al., 2012.

¹² I suggest referring to Torfing, Sørensen and Røiseland (2019) for a more profound critique on the failures of NPM.

¹³ For a thorough discussion on this, see Tiili (2007) and Yliaska (2015) as for this thesis, the two relevant ramifications are 1) the fractured nature of policymaking, implementation and resulting delivery and 2) a competing logic between independent ministries, units, agencies.

Table 4

Role Perceptions in Three Different Public Administration Paradigms

The public sector	A legal authority	A service	An arena of co-creation
sector	authority	provider	co-creation
Elected	Making decisions,	Defining overall	Exercising
politicians	rules	goals,	political
should be	and laws	standards, and	leadership of
concerned with …		budget	the political
		frames	community
Public managers	Making sure that	Effective and	Leading inter-
are good at …	rules	efficient	organizational and
	and laws are	management	cross-sector
	observed		collaboration
Frontline	Doing what is	Serving the wants	Mobilizing
personnel are	correct	and needs	available
preoccupied	and just	of the citizens	resources in
with …			the pursuit of
			joint solutions
Citizens perceive	Subjects of the	Customers with	Active citizens
themselves as …	law and	exit and	with rights and
	clients in public	voice options	obligations vis-à-
	welfare		vis the social
	systems		and political
			community
Private non- or	Lobbyists aiming	Service providers	Partners in
for-profit	to	competing	public-private
organizations see	influence public	for public	collaboration
themselves as …	decisions	contracts	

Note. Adapted from Torfing, J., Sørensen, E., & Røiseland, A. (2019). Transforming the Public Sector Into an Arena for Co-Creation: Barriers, Drivers, Benefits, and Ways Forward. Administration & Society, 51(5), 795-825.

NPG, therefore, can be seen as an emerging shift in public sector operation and structures that aim to place the citizen and the creation of public good in the centre of its work through collaborative efforts. In concert with NPG, public sector innovation increasingly relies on co-creation or co-production to address wicked policy problems. While being 'an inspiring concept but at the same time [...] weakly conceptualized due to the dominance of grey, policyoriented literature', Voorberg, Bekkers and Tummers (2015) define co-creation as 'the creation of long-lasting outcomes that aim to address societal needs by fundamentally changing the relationships, positions and rules between the involved stakeholders, through an open process of participation, exchange and collaboration with relevant stakeholders, including end-users, thereby crossing organizational boundaries and jurisdictions'.¹⁵ The involvement of either citizens directly or for example third sector organisations can be structured on multiple levels according to the extent of participation or influence ranging from design to implementation and monitoring (Pestoff, Osborne, & Brandsen, 2006; Voorberg et al., 2015). Fundamentally, this shift requires 'citizens [to be] recognised as experts in their own life', which would then transform the public sector into 'arenas for co-creation' (Ferlie, Pegan, Pluchinotta, & Shaw, 2019). I would like to highlight that involving 'end-users' is again a concept borrowed from the private sector where it is heavily used to achieve competitive advantage (Voorberg et al., 2015). The intention behind said user involvement, therefore, becomes important if the pitfalls of NPM are sought to be overcome instead of reproduced in NPG and citizens will be perceived as experts and partners or as users and clients.

3—**3**—**1**—**1** Emerging Paradigms of Democratic Participation

There is a growing body of research being conducted on co-creative and participatory public sector governance worth referring to. The *EU Horizon 2020* Research and Innovation Programme, for example, funded the following relevant studies: *CITADEL*: public sector transformations towards more efficient, inclusive and citizen-centric services and service delivery (citadel-h2020.eu).

¹⁵ Discussions on the merits of co-created innovation over market-competition and generally innovation in the public sector can be found in Hartley, Sørensen and Torfing (2013) or De Vries, Bekkers and Tummers (2016).

Co-VAL: co-creation of values as a means to transform public administration services and processes (<u>co-val.eu</u>). *COGOV*: the transformation of public administration into open and collaborative spaces for innovation (<u>cogov.eu</u>). *ENLARGE*: participatory governance through dialogue and communication between sectors (<u>enlarge-project.eu</u>). All of those research projects provide valuable input for practitioners through public papers and deliverables, ranging from literature reviews to strategic frameworks to working prototypes.

Participatory forms of governance are seen to increase not only the effectiveness of said governance but also to, for example, strengthen legitimacy and social justice (Fung. 2015). Digital technology can open up new ways of increasing participation in various governance processes (Fung, 2015; Linders, 2012). A variety of different ways of enabling wider participation can be found, for example, in the *democracy cube*. It is important to mention that participation is not 'good' per se but requires to be impactful and meaningful. This said, public participation asks for deliberate and holistic approaches that enable it. Systemic leadership, places of participation and mandate of participatory efforts are among the biggest present obstacles in the field (Fung, 2015). In public sector organisations, civil involvement is often perceived as hard to control and not necessarily reliable. At the same time, willingness to participate in public sector co-creation on the citizen side is equally contested, and in general, mechanisms for communicating and coordinating such participation is inappropriate (Voorberg et al., 2015). Bryson, Quick, Slotterback, & Crosby (2013) provide a variety of tangible practical and normative reasons for public participation: 'meeting legal requirements; embodying the ideals of democratic participation and inclusion; advancing social justice; informing the public; enhancing public problem understanding, exploring and generating potential solutions; producing policies, plans and projects of higher quality; generating supporting for decisions and implementation; managing uncertainty; and creating and sustaining adaptive capacity for ongoing problem solving and resilience.' The article continues by providing careful consideration regarding the design of respective processes as well as potential means for the evaluation of their success.

There is an emerging shift in the public sector towards facing the citizen which holds opportunities for strengthening values of, for example, citizen involvement or democratic participation but also governmental accountability and legitimacy. Yet, civic participation in governmental action requires careful

Table 5

The Cycle of Public Participation Process Design and Redesign

Assess and design for context and purpose

- 1. Assess and fit the design to the context and the problem
- 2. Identify purposes and design to achieve them

Enlist resources and manage the participation

- 3. Analyze and appropriately involve stakeholders
- 4. Work with stakeholders to establish the legitimacy of the process
- 5. Foster effective leadership
- 6. Seek resources for and through participation
- 7. Create appropriate rules and structures to guide the process
- 8. Use inclusive processes to engage diversity productively
- 9. Manage power dynamics
- 10. Use technologies of various kinds to achieve participation purposes

Evaluate and redesign continuously

- 11. Develop and use evaluation measures
- 12. Design and redesign

Note: These are interrelated, iterative tasks, not a step-by-step template.

Note. Adapted from Bryson, J. M., Quick, K. S., Slotterback, C. S., & Crosby, B. C. (2013). Designing Public Participation Processes. Public Administration Review, 73(1), 23-34.

planning and execution and should not be seen as a 'magic word' to solve all problems (Voorberg et al., 2015). As this is a potentially profound shift in the relation between people and the government, it will require careful reconsideration of different roles and responsibilities performed by all the parties involved (Linders, 2012).

This shift in governance does not only include actors from civil society or the third sector. As Sørensen and Torfing (2019) put it, cross-organisational, cross-sectoral or even cross-governmental collaborations are increasingly becoming the tool of choice to address more complex problems in policymaking (Sørensen & Torfing, 2019). Eva Sørensen works as a professor of Public Administration and Democracy and Jacob Torfing as research director of the School of Governance

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at Roskilde Universitet, Denmark. According to the authors, collaborations have to comprise all affected actors from across public, private, and the third sector as well as citizens; self-organised in networks to accommodate horizontal interactions. Herein, the actions of involved actors have to be assessable by whom they are representing, while decisions made in the collaboration must be accountable to affected citizens and concurrently open for contestation (Sørensen & Torfing, 2009). Since those networks give space for pluralistic negotiations among a more inclusive selection of involved actors, they require a different set of values and skills shared among them. Mutual trust and co-developed rules on how to engage with each other but also on how to deliver process outcomes, help to increase network stability and ensure transparency (Sørensen & Torfing, 2009). In the same article, Sørensen and Torfing also discuss the potential pitfalls of collaborations as they can induce conflict between involved partners or create opaque environments, where no one can be held accountable. Even though perceived as important and often even required, cross-sector collaborations are not at all an easy thing to accomplish. As I will show below, they form under complex and difficult conditions; require a variety of different initial drivers; depend on the social, interpersonal behaviour of participants; rely on structural configurations to function and have to be governed themselves carefully (Emerson & Nabatchi, 2015a, Conclusion).

3—**3**—**2** Collaborating Across Sectors in Governance

Governing complex issues in society require the joint effort of many, including the development of appropriate theoretical foundations. Kirk Emerson is a professor of Practice in Collaborative Governance at the University of Arizona, School of Government and Public Policy; Tina Nabatchi is professor of Public Administration and International Affairs, as well as a research associate at the Program for the Advancement of Research on Conflict and Collaboration at the School of Citizenship and Public Affairs at the Syracuse University. Together, they defined collaborative governance (CG) as 'the processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished' (2015a). Bryson, Crosby and Stone (2006), on the other hand, define cross-sector collaborations as 'the linking or sharing of information, resources, activities, and capabilities by organizations in two or more sectors to achieve jointly an outcome that could not be achieved by organizations in one sector separately'. John Bryson is professor of Planning and Public Affairs at the Hubert H. Humphrey School of Public Affairs at the University of Minnesota. Barbara C. Crosby is associate professor emerita at the same institute and former academic co-director of the Center for Integrative Leadership. Together, Bryson and Crosby developed a range of academic work, including well critiqued 'Leadership for the Common Good: Tackling Public Problems in a Shared-Power World' (2d. ed. 2005). Both definitions emphasise the joint achievement of an outcome, that would not have been possible without the collaboration. The definition in Bryson, Crosby and Stone (2006) highlights 'what' (information, resources, ...) is shared and linked, while Emerson and Nabatchi (2015a) highlight 'who' (public, private and civic ...) is taking part and 'how' (processes, structures, ...) they collaborate in the context of 'public policy'. An earlier, more restrictive definition of collaborative governance is found in Ansell and Gash (2008): 'A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets.' As all these authors cross-reference each other heavily throughout their work, I will proceed drawing from them simultaneously as I do not find their theory mutually exclusive and think that CG can be seen as a distinctive form of cross-sector collaborations.

3—**3**—**2**—**1** Dynamics, Structures and Processes

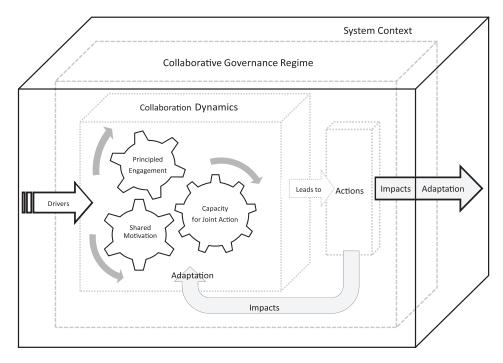
Emerson et al. (2012) provide an extensive framework for CG as *collaborative* governance regimes (CGR) worth exploring in detail. The CGR itself is embedded in a wider system context of for example resource conditions, legal frameworks, prior history of the issue at hand but also existing levels of trust and socioeconomic diversity, as well as political dynamics and power relations. A set of initial drivers is identified, out of which one or more must be present for a CGR to form. *leadership*, for example, is seen as essential to set up the starting conditions and resources for the CGR. At the same time, the authors highlight the importance of partners recognising that their actions and intentions are interdependent and that they are working on a wicked (i.e. uncertain) problem.

The CGR itself consists of collaborative dynamics and produces collaborative actions. Collaborative dynamics are split into three subsections that influence each other iteratively. The first one, principled engagement, is the realm of communication and deliberation between a balanced pool of partners. Inclusivity of involved partners here is not only serving a normative purpose: multiple perspectives allow more thoughtful development and positively affect collective courses of action. As such, it is seen as a learning phase in collaboration on four steps: 1) *discovery* of individual and shared values, interests, issues and information; 2) definition of a shared understanding and collective objective; 3) deliberation of opposing perspectives, concerns and disputes and 4) determination of decisions regarding future CGR developments or formal agreements in earlier steps. The quality of this cycle has a profound impact on the success of the CGR as it builds to the level of *shared motivation*. This second sub-section of *collaborative dynamics* represents the 'meta' results of principled engagement in 1) mutual trust: the essential value in all collaborations, enabling 2) mutual understanding, that is, understanding and respecting other perspectives than the own. These two then lead to 3) internal legitimacy, as a form of interpersonal validation and expected trustworthy actions, which build-up 4) shared commitment. The new bonds between people from different backgrounds or organisations create commitment towards the shared path of development. As a CGR is oriented towards the purpose of jointly achieving an outcome (see above), they must create new *capacity for joint action*. The capacity herein can take the form of 1) procedural/institutional arrangements of process and organisational structures that facilitate the in- and external interactions of the CGR; 2) *leadership* as an outgrowth of the CGR and in different roles; 3) knowledge that is now shared with and contested by others for the creation of new knowledge and lastly 4) resources in for example funding, time, technology or humans that can are shared and leveraged collectively and fair among partners. Only now, the CGR will be able to perform actual collective action as an output, which could be taking form as for example enactment of policy or law, new deployment of staff, the introduction of new management principles or the monitoring and implementation of a solution.

All of this will result in intended or unintended *impacts* outside of the CGR that create change. Whether this change is the desired one or not depends highly on a CGR's theory of action. The impact can be '*physical*, *environmental*, *social*,

Figure 10

The Integrative Framework for Collaborative Governance



Note. Adapted from Emerson, K., Nabatchi, T., & Balogh, S. (2012). An Integrative Framework for Collaborative Governance. Journal of Public Administration Research and Theory, 22(1), 1–29.

economic, *and/or political*' and therefore has the potential for *adaption*, changes in the wider system context or elements of the CGR itself. In fact, the reason why CG is seen as a viable tool to address wicked problems lies partly in the range of its impacts that can transform a systemic context.

The authors provide ten different propositions on the inter-relation of the elements described above. For a practical application of the framework, I therefore highly recommend referring to the original study of Emerson et al. (2012) or the later ramifications in Emerson and Nabatchi (2015a, 2015b).

As already mentioned, the framework in Figure 10 extensively draws from

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other authors, including Bryson, Crosby and Stone (2006). In return, the article published by the mentioned authors in 2015 describes an aggregated framework drawing from various scholars including Emerson et al. (2012), Ansell and Gash (2008) and Koschmann, Kuhn, and Pfarrer (2012). Bryson et al. (2015) highlight a specific focus each, not found elsewhere in reviewed frameworks such as face-to-face dialogue and remedying of power balances in Ansell and Gash (2008); governance structures and persistent tensions in Provan and Kenis (2008); or the development of *authoritative texts* and their implications in Koschman et al. (2012). Without going too much into detail on this combined framework, I would like to highlight a few critical dimensions besides the ones outlined above: First, Bryson et al. (2015) acknowledge the requirement of addressing a public issue as a general antecedent condition which in return allows them to direct the assessment of results and accountability towards the production of public value. Second, the authors stress the importance of agreements on initial aims and the importance of their formalisation, which leads to third, the expressed importance of developing norms and rules of practices and engagement in the collaboration. Already in their original study, Bryson et al. (2006) emphasise structures where Emerson et al. (2012) emphasise processes. Fourth, besides the elements of tension drawn from Provan and Kenis (2008), Bryson et al. (2015) mind the multiplicity of institutional logics between partners. Finally, they present a three-fold approach to tangible and intangible outcomes while acknowledging their required formal and informal accountabilities.

In the context of the 'magic word' co-creation, it is important to perceive collaborations, not as a tool to bring people together for the sake of networking but to create collective agency, that is, the capability to act and exert power beyond the level of what each individual actor could accomplish alone (Koschmann et al., 2012). As already introduced above, the authors emphasise the importance of what they call *authoritative texts* and communicative processes to stimulate said agency. Those texts can be seen as the 'higher-order' outcome of internal processes and actor input towards formalised declarations. As of content, they can range from a distinctive identity, mission and narrative of the collaboration, to framings of the topic or issue under consideration, to internal and external justifications for the existence of the collaboration (Bryson et al., 2015; Koschmann et al., 2012).

3-3-2-2 Levels of Power and Leadership

Crosby and Bryson (2005) further introduce an approach to view public action in relation to Giddens' theory of three kinds of human practices and Lukes' theory of three dimensions of power.¹⁶ According to this triple three-dimensional view of power, public action is structured into formal and informal settings for: dialogue and deliberation (forums), decision-making (arenas) and resolution of disputes (courts). Power within each of them is exerted on the three different levels of: 1) visible human actions; 2) ideas, rules, modes, media and method that shape the first level; and 3) deeper social structures of meaning and belief that motivate the other levels. Bryson, Crosby and Seo (2019) discuss the implications of this approach and the relations between these three dimensions in further detail. As a consequence, the institutional design of forums, arenas and courts that gives space to the exertion of power has to be planned carefully.¹⁷ Torfing (2019) in this context asks questions on with whom, where, when and how to participate and how institutional rules, norms, procedures, routines determine this participation but also the collaborative mandate, legitimacy and accountability. The triple three-dimensional view of power further signifies the impact of leadership in all three categories of action and their inherent power exercises. Osborne (2010, Ch. 12) argues that visionary leaders stress the importance of forums, political leaders the importance of arenas and ethical leaders the importance of courts.

The significance of leadership in collaborations has already been mentioned above. However, Torfing (2019) further outlines three different roles of leadership in this context: *convener*, bringing actors together to enable trustbased interactions between them; *facilitator*, managing differences and powerbalances between actors in a constructive way; and *catalysts*, challenging process and thought of actors towards the dissemination of new and bold results. Incentive-based leadership that follows the logic of performance measurement and management is seen to be counter-productive as collaborations require adaptive and horizontal leading, acknowledging the self-regulatory capacity

¹⁶ For a detailed explanation of Giddens' and Lukes' work, please refer to their original publications as discussed in Crosby and Bryson (2005, Resource D).

¹⁷ As already mentioned in Section 3-2.2.1, I suggest referring to Villaman (2020) for discussions on power and politics in facilitation.

Figure 11 The Triple Three-Dimensional View Of Power

	The Use of Forums	The Use of Arenas	The Use of Courts
Human Action	Creation and	Policy making and	Management of
1st dimension	communication of	implementation	residual conflict
of power	meaning		and enforcement of
			underlying norms
	······		
Ideas, Rules,	-Communicative	-Policy making	-Conflict
Modes, Media	capability	and implementation	management and
and Methods	-Interpretative	capabilities	sanctioning
2nd dimension	schemes	-Domain	capabilities
of power	-Relevance	-Agenda	-Norms
	-Norms of pragmatic	-Planning,	-Jurisdiction
	communication	budgeting, decision	-Conflict
	-Modes of argument	making, and	management methods
	-Access rules	implementation	-Access rules
		methods	
		-Access rules	
	······		
Deep Structure	Principles of	Principles of	Principles of
3rd dimension	signification	domination	legitimation
of power	\uparrow		\uparrow

Social, Political, Economic, and Natural Environments

Note. Adapted from Crosby, B. C., & Bryson, J. M. (2005). Leadership for the common good: Tackling public problems in a shared-power world (Vol. 264). John Wiley & Sons. p. 409 among partners (Torfing, 2019). A strategic approach to *metagovernance* of those networks is seen to be crucial in balancing risks and opportunities (Sørensen & Torfing, 2009). Furthermore, Sørensen (2014) argues that the *metagovernance* of a government network significantly influences the given network's potential for innovation. I, therefore, find it necessary to stress that cross-sector collaborations require both dynamic internal leadership roles as well as mechanisms of a more distanced metagovernance.

Even though the theory on cross-sector collaboration is extensive and diverse, it seems difficult to derive practical guidance from it. Bryson et al. (2015) state that research can best offer design guidance and mechanisms for reflection. However, said guidance and mechanism remain abstract and intangible in the literature discussed above as every form of collaboration seems to be unique, requiring a distinctive new approach. Advice such as 'View collaborations as complex, dynamic, multilevel systems.' (Bryson et al., 2015, Practitioner Points) is surely reasonable and adequate from a research and theory perspective but in my point of view unlikely to spark tangible action in practice. At the same time, there is a difficulty in research studying collaborative practice from the outside and 'as is', instead of being able to step in for faster validation and experimentation of its theories. As the aforementioned wicked problems, which often are the root cause for the formation of collaborations, are unique by nature, the collaborations addressing them must be unique as well. Combined with the aspect of temporality in collaborations, it might be productive to blend research and practice and even step away from heavy theory building and generalisation towards thick descriptions and best practices for more immediate guidance. Alternatively, then existing theory could become more tangible, where examples for this can be found in some of the EU Horizon 2020 projects mentioned in Section 3-3-1-1.

Preliminary Conclusion

3 — **4** The purpose of this second section of the thesis was to 1) develop an understanding of design that provides a lens through which to look at the public sector as well as to sustainable futures; 2) explain shifting perspectives in governance towards public value, co-creation and cross-sectoral collaboration; 3) reintroduce the broad context of digitalisation in the government and the position of AuroraAI in it. I did so by looking at relevant literature in the corresponding fields (except for <u>Sect. 3-1-1</u>), as I will introduce empirical data in the upcoming chapters. The following conclusions are, therefore, preliminary and only take into account what has been discussed until now in respect to my research questions.

First, I tried to convey a picture of design that engages with the world on different levels from material objects to complex systems. If design is about supporting and strengthening the dignity of human beings as they act out their lives, it requires incorporating empathic ethnography to inform a posture of honest 'human-centricity' of the proposed design (see Sect. 3-2-1). It is about engaging with possible visions of the future and thereby profoundly engaging with the values projected into them (see Sect. 3-2-1-1; Sect. 3-2-3-2). It creates room for exploring what and how something could be by abductively framing a preferred situation within a complex problem. This makes design normative and at the same time work explorative while iterative towards a solution since it acknowledges the indeterminacy of results, that is, futures (see, e.g., Sect. 3-2-1-3). Said qualities enabled the adoption of design into the public sector throughout the last decades. Here, it is found to make the processes and outcomes it affects more relational, networked, interactive and reflective (see Sect. 3-2-2-2). Concurrently, a variety of design approaches such as design thinking or user-centricity are increasingly borrowed by other fields however simultaneously neglecting the earlier mentioned actual human-centric focality and thereby becoming mere tools for market-led growth. Transition design stresses the importance of interdisciplinarity and collaboration in times of contested and intertwined use of knowledge alongside a mindful posture of the designer. It focuses on the deliberation of values in transitioning to desired and sustainable futures, which makes it a normative approach to futures themselves (see Sect. 3-2-3-1). Finally, design shows a variety of meaningful and collaborative approaches for the inquiry into these futures through, for example,

backcasting and scenarios as well as their communication (see <u>Sect. 3-2-3-2</u>). Besides this all-embracing picture of design I drew here, it is important to stress again that design is by no means the solution to everything as I instead see it as an approach or angle towards doing things differently (see <u>Sect. 3-2-1-1</u>). Therefore, the above already provides various starting points that answer my research question on how design could contribute in advancing AuroraAI.

Second, the public sector shows signs of shifting away from market- and performance-focused governance towards open and collaborative approaches to negotiating increasingly complex problems in society instead. At the current time speaking, this very shift is only recently emerging, and we can still see the residual effects of the past in for example competing units and perceived barriers to collaboration (see Sect. 3-3-1). Inviting wider actor-networks of citizens, private- and third-sector organisations in processes such as policymaking are seen as positive towards governance efficiency but also beneficial for strengthening legitimacy, social justice and democratic participation. In fact, such cross-sector collaborations even demand the joint involvement of all affected actors to achieve an outcome that could not be achieved through their individual engagement (see Sect. 3-3-1-1). The theory presented on cross-sector collaborations provides a variety of tools to examine, understand and advance the AuroraAI programme carefully in the realms of forums, arenas and courts. Moreover, it theoretically grounds many of the challenges in AuroraAI described above. For example, issues in the currently shared *motivation* are found in the earlier shortcomings of *principled engagement*; moreover, many of the communication-related challenges outlined previously could be thoroughly addressed in, for example, *authoritative texts*. Since the theory focuses heavily on processes and structures, it holds valuable input on how to manage the collaboration in the future (see Sect. 3-3-2). This brings me to another important point discussed in the literature, which is about roles, responsibilities and leadership and the different forms it can take in cross-sector collaborations, as leadership and metagovernance require distinct skills and attitudes (see Sect. 3-3-2-2), and navigate in a complex environment of power and agency. Unfortunately, most of the reviewed theory is scarce in terms of concrete suggestions on how to implement this, yet I think it can be valuable for informing the future development of the programme. I will keep using the theoretical background developed in Section 3-3-2 for the structure and

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argumentation of more empirical data in the following chapters. As such, this theoretical lens provides answers to the research questions on potential barriers in the programme and already outlines some hints towards the complexity of actor involvement and relations to agency.

Third, the increasing digitalisation of governance holds fundamental threats to our societies on ethical and legal dimensions while at the same time promising new mechanisms for democratic participation, transparency and accountability. How this duality will manifest is thus far widely uncertain, yet we can see increasing exploration through future scenarios on a local and global scale (see Sect. 3-1-2). The Finnish Government started addressing this topic with a variety of short- and long-term strategies and initiatives over the last years. AuroraAI is one of them and can be seen as a direct result of a variety of different streams in the government. Even though recent developments in the programme are positive and promising, I would like to outline some of the challenges. As AuroraAI tries to combine a plurality of different efforts, it becomes unclear and hazy as it does not comprise a concrete aim or longterm strategy, which in return leads to inevitably absorbing new difficulties along the way. The strategy and structures have been growing around a set of recurring topics, people and organisations, making it difficult to find clarity on who contributed what, where, when and under which premises (see Sect. 3-1-1). Especially the choice of techno-centric concepts that underlie the AuroraAI ideology is questionable regarding the pressing need for honest and sincere ethical principles in artificial intelligence (see Sect. 3-1-2). These are not accusations or insinuations of questionable practices but rather a reminder on the importance of transparency and accountability and how easily they fade out of attention in everyday practice. Programme contents, that is, technologies or approaches, have been so far in focus, showing a lack of coherent structure and strategy of the very collaboration itself. This is equally visible in the little efforts put into means for internal deliberation and the practically absent external communications. Openness and transparency imply that things are actually accessible to people, but for now, most of the working documents are only circulated within quasi-open environments that are difficult to find from the outside and do not engage with the public (see Sect. 3-1-2; Sect. 3-2-2). As the topic and how it is approached are already evidently hazy for people within the programme, meaningful external communication to the public becomes

even more critical. Their public, being no less than Finnish society, has so far been unfortunately excluded from the developments (see <u>Sect. 3-1-1</u>; <u>Sect.</u> <u>3-2-2</u>). Bridging the aforementioned theoretical lenses with an early view on the programme itself provides me with more concrete answers to the research questions on development barriers and how the development is principled by involved and not involved actors. It is possible to see that agency in shaping the programme is not only limited to human actors but can be also found in, for example, the use of language or how access to information is facilitated.

Fourth, there is a variety of intersections between the topics discussed above. Cross-sector collaborations represent an explicit means to address complex or wicked problems; hence aspects of framing found in design could help to orientate in an environment of uncertainty and haziness on the underlying issues, the concrete goals and the pathways of getting there. AuroraAI is not an exception as it tries to combine a variety of different goals and interdependencies between those while lacking the wider socio-technical vision that could help to align the different streams. As an example, a longer-term vision of a Finnish mature information society could, for example, give space to exploring a variety of different techno-centric principles within human-centric boundaries. The programme is equally about people, both those working in the collaborative environment and people who are affected by the outcomes of said environment. Designerly ways of inquiring into people can, therefore, become useful in understanding and advancing collaborative dynamics as well as providing the required means to engage with the broader public. Especially with an eye on the Scandinavian traditions of participatory and co-design, there is already fertile ground for enabling a society to shape its own future trajectories, which is then both about direct participation in as well as outwardfacing communication of AuroraAI. The latter is effectually called 'branding' in design and would help to find as well as formulate and transport the core values of AuroraAI, its progress, its structures to make it less elusive, transparent and thereby accountable to the public. The changes under consideration in AuroraAI are deeply dependent on value choices and deliberation of contested values, something Transition Design and Management is trying to account for on a larger scale. The inherent mechanisms of access and power that facilitate or hinder collaboration in AuroraAI are designed; whether those are the technical means for communication, the practical arrangements for face-to-face

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meetings, the protocols for decision-making and reporting or defined roles and responsibilities. In short, forums, arenas and courts are all designed, either consciously or unconsciously and thereby reflect and reinforce the values held by the collaboration. They are hence making it important to perceive them not only as a tool to get the job done but as the very thing that already prefigures the quality of the respective job that will get done. Looking at collaborations through the lens of power shows interesting correlations between power's different levels and collaborative dynamics in terms of, for example, how the creation of shared meaning helps to shape the structures of a collaboration; further defining the real actions in the collaboration.

For the future, it would be beneficial to expand the view presented here to other social- or science and technology studies such as organisational or actornetwork theory to develop a better understanding of the underlying patterns. For example, AuroraAI is yet about to form its own organisational culture, so it would be beneficial to study how organisational structures manifest and how they shape culture and management of said culture alongside individual and shared values and assumptions, that then in return shape the wider strategy and social interaction in the programme. Looking back to my earlier criticism on too little practical advice provided in PAM theory, I find myself in a similar position now. Partly, this is because I tried delving into a broad range of unfamiliar topics and therefore lack the necessary depth and partly because throughout my research it became clear that my attempt here should not be only providing prefabricated solutions. So, what I want to say then is that this thesis should not try to fix potential flaws or challenges from the outside, but that the programme development would benefit from embodying aspects of the concepts, mindsets and attitudes discussed above. However, I do acknowledge that bringing about this change of culture is widely perceived as what design is all about. Which could then again be a prefabricated solution or it would require appropriate means for adaption, something unlikely to happen through a medium as text-heavy thus inaccessible as this thesis - puzzling me with questions on the value and accessibility of research in general and potential pathways towards the increased agency of research in catalysing change.

4 - Empirics

In this chapter, I will present a contextualised selection of clustered empirical findings regarding barriers in the early developments of AuroraAI and how these are affected by actors and agency to start pointing out avenues for addressing them. For each of the clusters, titled as spheres, I will first offer a concise overview of the preliminary results and then present the underlying data and argumentation in the respective sub-sections. Qualitative data, in the form of verbatim quotes based on survey and interviews, is supplemented with quantitative data from the survey and further situated in the theoretical prospects introduced in <u>Chapter 3</u>. Some of the dimensions discussed would benefit from a more nuanced view, as they are currently presented in 'black and white' to capture more attention. The structure of this chapter is derived from the hybrid coding process described in <u>Chapter 2</u>, which can provide further information on the underlying methodology. Throughout the following pages, I offer technological examples as inspiration to consider when facing the articulated critique in the respective conclusion preceding every section.

The preliminary categorisation applied below is not an attempt toward theory building, but a means to structure the empirical findings of my research. Hence, the dimensions discussed in some of the sections do overlap as the structure is only meant to increase the accessibility of topics. Thus far, the first sphere describes dimensions of predetermined agency in the collaboration; the second sphere outlines dimensions of immediately visible exertion of power in the programme; the third sphere reveals dimensions that primarily affect the agency of the second sphere, and the meta-sphere depicts those dimensions of agency, which are situated between AuroraAI and its surrounding context.

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First Sphere of Agency

4—**1** This first sphere of agency primarily concerns the elements that hold a predetermined agency in AuroraAI, including people, organisations and sectors, their respective drivers and incentives to participate as well as the antecedent of the programme development and the context of the Finnish government it operates in.

The current early stage of the programme development renders elusive who and what exactly AuroraAI is, making it challenging to depict agency and engagement in the programme as well as to distinguish the origins of concepts and values. The reason is a shortcoming of communication and accessibility, as the required information is scattered around plenty and hard to find places. Nevertheless, there is a gap in the levels of engagement and commitment between partners as well as in their agency, something I will discuss further in the next chapters. In fact, people (societal actors) and municipalities show largely omitted d or even withheld, merely passive agency, as their perspective is only assumed, and there is no direct involvement. As an exception to this prevailing absence, few partners addressed the public as a service user but not yet as a partner (see Sect. 3-2-2-2; Sect. 3-3-1) during the developments. From my point of view, apparent reasons for practical hurdles in involving every person in Finland then demand meaningful mechanisms for participation, potentially even technology-enabled and more direct ones. Nevertheless, it is also the view of 'a public as lay-person' versus 'the experts in the collaboration' that can be seen as contributing to this absence of actors (see Sect. 3-3-1). Pointing back to issues of digital education and literacy discussed earlier in the thesis, I would like to stress that those can only be overcome through education and direct engagement of the public with digital futures, thereby creating a meaningful contribution (see Sect. 1-2). As AuroraAI comprises much more than just technology, and since it profoundly rethinks public service provision and everything that relates to it, I would like to argue that the public has a fundamental right to engage with the definition of terms and values that define its very own future (see Sect. 3-1-2). Rethinking public, and private, service provision is, therefore, not limited to service delivery but can equally present promising venues of co-creating better services prior to delivery. The technological developments resulting from the programme will inevitably reflect a certain mindset and set of values (see Sect. 3-4), hence augmenting that

participation is not a sole matter of principle but a means to create a legitimate collective agency through a richer perspective.

Example 1

Presenting complex information in an uncomplicated way allows people to contribute meaningfully to topics they are not experts on: <u>dot.legal/en/work</u>

The expected value of collaborating is perceived as positive and valuable among the survey participants. Nevertheless, there are different perceptions of interdependence, the consequences deriving from collaborating and the implications of digitalisation between the public- and the private sector; together hinting towards a different understanding of issues, goals and drivers. The drivers are generally either socially or economically motivated, where the latter seems to be mostly fostered by the parent organisation of partners rather than the individual partaking in AuroraAI. Yet, as those individuals represent and reflect their organisational origin, their mandate and agency are bound to the organisational motivation to collaborate (see <u>Sect. 3-3-2</u>). I will discuss those goals more detailed in the following chapter. However, already here, there is a clear technology-oriented engagement visible in the programme.

Example 2

The ENLARGE Gamebook guides participants through the complex policy problem under consideration while iteratively acquiring feedback and direct engagement: <u>enlarge-project.eu</u>

Silo thinking and separation are the reported dominant modes of action in the Finnish public sector, diminishing collaborative and co-creative efforts in- and across sectors. This principle barrier for the programme has been challenged by dedicated individuals that spurred and pre-shaped AuroraAI through various trajectories. The underlying values and goals along the way will be presented in detail in the next chapter, yet it was possible to see that the changing nature of AuroraAI had significant internal and external implications. Timely pressure and lack of general structures appear to be the main reason for antecedent conflicts until today. Technically, the kick-off workshop in October 2019 and the

official commissioning in February 2020 demark the starting point of AuroraAI. Nonetheless, the collected data suggests that the antecedent, the partners, their mindsets and the processes that shaped the development until today, all already largely prefigure the nature of the programme and thereby the collective agency it holds. I, therefore, acknowledge, that the following chapters address a space between preparation and implementation of the AuroraAI programme, that is not unambiguously to be distinguished as the former outlines the latter.

Example 3

Direct participation can happen uncomplicated and targeted without sacrificing efficiency or innovation: liqd.net/en/software

Taking a more abstract view on this first sphere of agency in the collaboration, I will loosely link its elements back to the triple three-dimensional view of power (see Sect. 3-3-2-2), or more specifically, the three faces of power this view comprises. First, Section 4-1-1 describes the most prominent and public form of power exertion through actions performed by people currently involved in the programme. Second, the underlying drivers and incentives of those people, or their home organisations, add a layer of hidden power to the observable form described above. Third, both of those layers are primarily influenced by the antecedent and general context of the programme. In other words, the elements of Section 4-1-3 have predominant agency in consciously and unconsciously shaping observable and hidden drivers and incentives, which in return principle the involvement of people and their actions. This agency does seem to be an unconsciously evolving one, that has not been actively designed or shaped. It has to be noted that depending on the focality, the dimensions mentioned above can also exert power on multiple levels. Therefore, I suggest understanding the above as a means to open up a nuanced perspective on potentially mundane everyday aspects of agency in collaborations.

4—1—1 People and Involvement

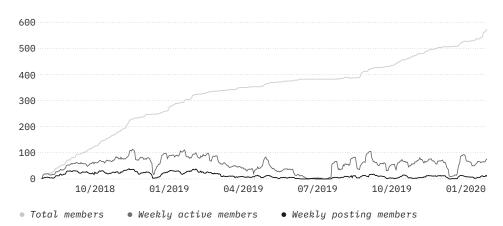
At the time of writing, the public AuroraAI Slack instance consists of over 650 members out of which on average 81 (February 2020) are active weekly and 17 post messages every week. A member is considered active if they viewed at least one public channel in the given timeframe. There is no official, direct communication of who is participating, since when they are participating or how they are participating. More detailed information can be obtained from relevant sources that have been published over the last years, respectively. However, I do not aggregate the disperse information on participation here to already hint toward some documentation and communication challenges that I will further elaborate in Section 4-4.

Figure 12 shows the development of total members, weekly active members and those who posted on a per-week basis since the beginning of August 2018, when the Slack instance was initiated. While it is possible to see a constant growth of registered members, the number of active members and those posting messages has been relatively steady, hinting towards little fluctuation in those who engage via the Slack platform. The vast gap between registered members and those actively participating might be an indicator for different levels of engagement in the programme.

The online survey (see Ch. 2 for methodology) had been opened by 190 potential respondents, out of which 54 started answering it, and a total of N=44 (81% of started answers) submitted their responses. Twenty-seven respondents (61%) stated their background of involvement as being situated mainly in the public sector, 14 respondents (32%) in the private sector, three respondents (7%) in the third sector and zero respondents in civil society. Half the respondents across sectors stated their involvement with the programme dating back to the beginning of 2018 and before. Third sector and civil society respondents are not utilised for quantitative comparison due to their small sample size but are still counted towards the total responses in the following sections. The overall distribution of participants among sectors in this study reflects the current absence of societal and third sector stakeholders in the programme. Fortunately, the majority of survey respondents and interviewees acknowledged this shortcoming. Interestingly, the prevailing absence was nothing they had communicated on their own but in most cases, only started pondering on after being asked about the role of citizens in the programme during the interviews.

Figure 12

Active Membership and Participation on Slack



66 It has to be more than only Aleksi, and I don't even know who are the main members of the project. But there should be stakeholders from all over the government and other public sectors and citizens. ______Interview:19

(6 Some parties are investing a lot, and some don't invest anything, [yet] they expect to be treated like equals. Some people don't do anything; some people do a lot. — Interview:38

(6 From my opinion, there should be normal or average citizens. Otherwise, there is a big risk that we are talking about those "normal" people. And this is actually something we talked about a lot in the kickoff workshop, and I think it is not really the same. Some people said we are the normal Finnish people, but we are not, we are inside this work and system, and we work inside the government. It is just so different if you take some random people walking in the street. They should definitely be involved. — Interview:19

44 In my view, it should be citizen-centric, which means you should have tools and methods to involve citizens right from the beginning. _________Interview:61

Through those interviews, it became evident that a small group of societal actors had been involved as potential users in the preliminary phase through individual service design processes in private sector partner organisations. The currently only minor involvement from academia and research, perceived as essential contributors in the literature (see Sect. 3-3-2), was verbalised by one interviewee as well. More unexpectedly to me was the fact that some interviewees highlighted the absence of cities and municipalities in AuroraAI. At the moment, only major Finnish cities, in terms of population, participated in parts of the development, while smaller cities or municipalities were not involved. This is especially important as municipalities play a significant role in, for example, adult education and have relatively high autonomy in Finland. Even though the three most populated cities of Helsinki (incl. Espoo/Vantaa), Tampere and Turku home about one-third of Finns, the rest of the population is spread out over the country in municipalities that range from 10.000 to less than 100 inhabitants. Addressing those municipalities has been perceived by some interviewees not only as a question of equality but one of factual necessity as a range of parameters, for example, access to financing or means for outreach and provision, highly depends on the local context.

The majority of survey respondents stated among their top three areas of involvement 'preparation and planning' of the programme (75%), followed by 'core technologies' (27%). Participation in other work packages was responded to as follows: the combined value of work packages regarding the life-events (34%); 'coordination and management' (16%); 'monitoring and reporting' (9%); 'ethical code' (5%) and 'token economy' (5%). Each respondent was allowed up to three answers for this question; the percentages, therefore, only indicate a general distribution of involvement. The distribution between the different work packages indicates a general tendency among participants towards focussing on administrative tasks and technological aspects.

I do not want to claim that the parties mentioned above are not taken into account in AuroraAI, but that they are not directly engaged and therefore, their perspective appears to be only assumed by some partners. The preliminary findings suggest that citizens, or municipalities, are not seen as equal partners, but as users (citizens) or providers (municipalities), which might be valid for the final delivery of services resulting from the programme but not for what those services and the process of developing them stand for (see Sect. 3-2-2-1).

66 The best way of human-centric is actually to let people build it. If there is someone else who builds it, public entity or bad corporate or whatever, it is not human-centric. I would love a system, where people themselves are able to build services.... Right now, it is going into a way that the government is doing something and some private companies, and that's it. — Interview:38

(I think that citizens decide which services they need and I think that there is [a] very strong level of participation when we talk about humancentred society.... I think that in the future there should be service users as co-creators with us. For example, NGOs can bring service users to ... meetings. Or we can have, for example, [a] board [of] service users. — Interview:20

((So, we have like ministries and this kind of let's say national organisations that are running [AuroraAI]. It is too far from the front lines of where the services take place.... Because the local services are local services and the local actors are local actors and the local people are local there.... Each life-event in my mind is a very special case, and we need to bring in those people who are relevant in those kinds of special cases. And they must be brought in locally. — Interview:78

66 The technological thing has been more visible. It is lot's about marketing and getting public and private companies [to] join, and the technological view is more attractive to people. But, in my view, the whole is not about technology; it is about transforming society into the service level. — Interview:38 municipalities.

In the same context, some interviewees highlighted a general tension between a centralised or then more localised development of the programme and its implications, relating to questions of resource access or provisioning in smaller

4—1—2 Drivers and Incentives

Articulated drivers and incentives for contributing to AuroraAI can be split into two categories: social and economical. For the first category, the mentioned drivers in the survey and throughout the interviews are, for example, personal interest in the topics relevant to the programme (e.g. AI or data privacy), or the perceived urgency to take actions in the field due to external influences or streams that are undesirable. One example worth mentioning here is the perceived dominance of private sector ecosystems in technology and the way they treat matters of privacy and ethics.

This cross-sectoral nature brings in the communicated motivations of some interviewees to develop something useful or good for society; which is going beyond personal interest or stake in the topic towards contributing to the public good or -value. This public-sector-led societal focus can then be understood as a counterpart to the private sector dominance mentioned before and is further considered a core element of the theory in NPG (see Sect. 3-3-1)

The latter category of economic benefits includes aspects of financial gain, immaterial property rights or public visibility, which act as equally strong drivers for participating in AuroraAI. Concrete financial benefits, according to one interview participant, are perceived to be especially crucial for smaller-sized partners, where more intangible values like visibility and intellectual property drive the larger-sized ones. Other motivators mentioned are, for example, the wish to create more trustworthy and user-friendly services, alongside new opportunities for service creation and delivery, as well as business models in general. Some interviewees highlighted the joint approach toward the creation and coordination of services in AuroraAI as yielding a potentially higher share of benefits for all the contributing partners.

A similar logic was stated for some partner organisations issuing personnel or other resources for the programme, only in case tangible benefits would be foreseeable. In contrast to the visibility gain mentioned above, one interviewee suggested that some other partners avoid public association with the programme 66 I would put it like this: Sometimes we have to pretend we are Steve Jobs and that we actually know better than the citizens. Because in certain areas, citizens very rarely think about how could public services be better. — Interview:61

66 The challenge is [that the] administration-focused way of organising emphasises these national-level actors and they've been too dominant in directing how things should be handled in the local level. And that's why they never integrate together because each of these silos makes their separate decisions. But the point is that they have to be part of that life-event that takes place [on the] local level.... — Interview:78

66 For example, Facebook and Google have been doing great work and been successful, but they have also become a problem for many societies. This kind of development is not healthy; we have to do something about it. And for me, having [an] understanding from software business of about 30 years, I am responsible for doing something. — Interview:73

(I am a bit worried about how society at the moment is developing, and currently, all of our efforts go to maintaining the current stage and not developing our society further so much. And, what Aurora is doing, it is an example of how to develop something new for our society. That is the reason why I am personally interested in Aurora. We are a governmental project, and we really try to build something and change the way this public and private services are given to citizens. — Interview:22

66 And in our experience, if you want to get the smaller actors like start-ups and small-scale players involved, you need to have some financing.... With the bigger players, they might come along if they get the immaterial property rights and the visibility aspects because they are big companies. But, you might make it more attractive if you are able to somehow connect with the different funding instruments.

— Interview:50

developments. Third sector partners seem to have fewer tangible incentives to participate, as they are unable to benefit financially from the collaboration. Interestingly, many interviewees indicated stronger economic drivers from their organisational point of view and more social motivations from their point of view as individuals. However, I think it is safe to say that those are inevitably entangled.

Table 6

Survey Results Regarding Collaborative Drivers in AuroraAI

N = total responses; μ = total arithmetic mean; CI = confidence interval with confidence level of 95%; σ = standard deviation; n_x = sample size of group x, x_r = arithmetic mean of group x

					Pub.	b. Sec. F		Sec.
Question	N	μ	CI	ď	n _a	X _a	n _a	x
1: Strongly disagree - 5: Strongly agree								
 AuroraAI will allow the joint achievement of an outcome, that could not be achieved by its involved partners separately. 	42	4.31	4.06 4.56	0.84	27	4.30	14	4.29
5. The collective interests of partners involved in AuroraAI are interdependent.	42	3.93	3.64 4.22	0.95	27	4.15	14	3.57
6. Partaking in the development of AuroraAI holds consequential incentives for me or the organisation I am working for.	41	3.37	3.04 3.69	1.07	26	3.19	14	3.64
7. Future developments in artificial intelligence and digitalisation will bring cross- sectoral uncertainties.	42	3.40	3.03 3.78	1.23	27	3.22	14	3.86
8. There has been positive cooperation between my organisation and other involved partner organisations in the past.	41	3.56	3.26 3.86	0.98	26	3.73	14	3.21

Table 6 shows the conveyed agreement towards question items in the online survey derived from cross-sector collaboration theory (see <u>Sect. 3-3-2</u>). It is possible to see an overall consensus regarding collaboration in the context of

66 We end up throwing money too much on individual development activities instead of developing the true platform to kind of help then societies different players build their services on top of that. — Interview:78

(One problem here is to get the mandate to actually participate ... if it is not in the foreseeable future [that,] it will bring some benefits to our organisation. If we can't show [our] stake in these model lifeevents here, why would our general director say "Sure you can go and do some work for two years there!"? — Interview:17

66 I know that I have been working too long in the same agency. So, I know that extracting my real me from [my organisation], that is always really tough. In that sense, even if you try to be objective, I would think how would that benefit [my organisation] and not so much the citizen perspective. — Interview:61

66 And the AI narrative came quite a lot into the picture because of the government, to be honest, because [of] this kind of hype around AI. It's not all AI-related, it's a lot about the data and how to analyse it and in some cases, machine learning and AI come into the picture.

— Interview:50

66 [W]hy would you spend one month to do something if you are not sure if it will be used or not. — Interview:22

AuroraAI perceived as valuable, which is one of the most critical factors when initiating collaborations. However, there are asserted differences regarding partner interdependence between the public- and the private sector, which hints towards different motivations and goals across sectors. A similar discrepancy is visible in the next question item which shows that the perceived consequences of collaborating on matters of AuroraAI are not equally salient. The uncertainties on the horizon in the field of artificial intelligence are also not seen as equally vast among the two groups, pointing towards different understandings on the topic and its implications between, for example, tech-focused private companies and administration-focused public agencies. I will discuss the last question item of **Table 6** in the next section. Generally, interviewees stated that in order to spark motivation, contributions to the developments have to be meaningful, and their benefits have to be clearly articulated, which will be discussed more in detail in Section 4-2-2.

4—1—3 Antecedent and Context

As already introduced in <u>Section 3-3-1</u>, work in the Finnish government is divided into independent and siloed structures, something expressed by almost every interviewee and equally profoundly communicated through the online survey. AuroraAI, therefore, has to operate in an environment largely unfamiliar to collaboration in terms of sharing knowledge or resources and deliberating potentially contesting perspectives towards joint achievements. While the particular issues derived from those silos are mutually perceived among most of the participants, lacking awareness at the management and decision-making level of organisations was seen as the main barrier towards pursuing the desired, yet cumbersome, change in this matter.

Concurrently, the individual experiences of interviewees in collaborative working environments varied between the different sectors; workshops and similar co-creative approaches were seen as poorly designed and executed in the public realm by some interviewees. Hence, some participants would perceive this working mode as meaningless and rarely productive due to negative experiences outside of AuroraAI.

As the current form of AuroraAI was not designed from scratch but evolved through a variety of stages over time (see <u>Sect. 3-1-1</u>), it is possible to see recurring groups of people and organisations that have been involved in the

66 We have to get out of those silos. It is just the question of how and on which terms and for what purposes. And what's the role of an individual citizen in all of this. — Interview:87

66 We are trying to influence the decision-makers. But, the real decision-makers they don't have time for this, they have their troubles, their limited budgets; they try to keep the silo going. — Interview:61

(6 Even though you would think of course we do workshops and we work together, and we co-create and use co-design tools. But the reality is, it is really difficult for many people who are working in the government to participate or actually do their work in a co-creative way. Because they work in silos and even inside one silo, most civil servants work quite independently.... There have been lots of workshops in the government where lots of people come together, and they randomly put some post-it notes to the wall, and that's about it. Most of [the] people think it is a waste of time because they don't really see that something happens after that. — Interview:19

66 The same key players have been there since the beginning from the first Aurora meeting that I participated in almost two years ago. And that inner circle has not really expanded. — Interview:87

programme for most of the course. Starting with the DigiNYT advisory group or D9, it is possible to see connections between different endeavours that pre-shaped the direction of the programme by influencing the governmental course and narrative in digitalisation and the engagement with citizens. These intertwinements do not only apply to individual people, ministries and public agencies but also private companies involved through various trajectories from the Ecosystem Forum, to the preliminary phase of AuroraAI, to the present situation. However, new partners entering the programme brought in everchanging ideas and respective understandings that would broaden the perspective and scope of the programme. As one interviewee revealed, this in return led to the first formalisation of the initial AuroraAI programme by a small group of partners during a trip to a cottage.

Through the interviews, it was possible to discover that further adjustments on the programme aims had to be made according to changes in governmental programmes and agendas to sustain ongoing financial and political support. As aims and foci alternated, some of the partners reportedly left the collaboration as they would not be concerned with the new topic at hand anymore or simply lacked the mandate to keep working on it. In another case, involved partners stated that they had to start developing similar ideas to AuroraAI in parallel, as their home organisation would not support the shift from one life-event to another in the programme. Again here, the drivers for abandoning the collaboration due to changes to its prospects appear to derive either from organisational or individual motives.

Table 6 (see <u>Sect. 4-1-2</u>) shows the general antecedent of collaboration between partners prior to AuroraAI rated as more positive in the public sector and rather neutral on the private sector side. Minor conflicts in the antecedent include the handling and sharing of intellectual property between partners and compensation models perceived as unclear to some interviewees. Parts of AuroraAI are reported to be in direct competition with other public- and private sector projects, as they are aiming to achieve similar results. As underlying reasons for the criticism revealed above, timely pressure, urgency to deliver results, as well as reactions to external influences were mentioned by some interviewees. {{ [T]his is not going forward because we are just getting new people on board all the time, and we are starting from scratch. So, all the learnings we had during the couple of years, we were kind of losing because always we got new people and they started to bring their new ideas and the same ideas that already had been invented. So, it was not progressing, and we saw that same challenge about a month ago in that kick-off meeting as well. — Interview:78

66 So, the people who have been there all the time have been quite frustrated about that there isn't anything concrete still. There is always coming some new people, and you always have to start from zero to talk about what is this. — Interview:19

66 Which goal are we playing to now? ... One person I know in the Ministry of Finance said that some of them, not all of them, have a saying that it's a different Aurora every day. We never know what kind of Aurora there is. — Interview:87

66 You need to be smarter in building the whole and incentivising the other actors to collaborate simply. So that was because hurry, not because people would be mean or willing something bad.... This just illustrates the difficulties [of] such collaborations and the importance [of] trying to find incentives for different parties to collaborate.... They [the leadership] just went head-on.... There was quite few win-win thinking and encouragement of sharing ideas. So that simply in the memory of organisations, there is certain trust issues due to this.

Second Sphere of Agency

4 – 2 The second sphere of agency primarily concerns the visible exertion of power in AuroraAI through processes of collaboration reflecting the values and concepts that steer and manifest the joint goals and visions of the programme, as well as involved partners' individual ones.

AuroraAI operates in an environment of exceptional trust and high ethical standards. Nevertheless, I suggest those values are prone to become diminished if not consciously and deliberately sought-after. The current technocentric orientation appears to draw from a range of values and concepts that might prove to be questionable regarding the ethical application of artificial intelligence, digitalisation and public good (see <u>Sect. 3-1-2</u>). Values and approaches in the programme seem to be, from the data collected thus far, partly prefigured through AuroraAI's antecedent. As ingredients to a more robust efficacy of the programme, these could benefit from a continuous reflective deliberation among all concerned partners (see Sect. 3-3-1). Especially here, the selection of influential partners could show to be too homogenous and confined to sufficiently represent the multifaceted society of this country. Thus, from my point of view, the potential danger of using ill-defined buzzwords for the sake of advancing development lies in omitting fundamental questions of human dignity and democratic participation in AuroraAI's wider context (see Sect. 3-2-2). The ethical principles in question therefore concern how work in the programme is executed, as well as how the resulting work is going to operate in terms (e.g. data collection and processing). I think it is safe to say, that pre-populating the space for collaborative outcomes with existing concepts and technologies bears the risk of obstructing something 'new' from happening.

Example 4

The Future of Government 2030+ is a vital example of how shared visions can be crafted and communicated mindfully: <u>Section 3-2-3-2</u>

The programme preparation places a vast range of goals next to each other that have been attached to a growing body of digitalisation-related questions in the public sector. Hence, the purpose of AuroraAI has, thus far, not been designed as a coherent strategy or narrative towards a framed problem as it did grow over time (see <u>Sect. 3-2-1-2</u>). This can lead to different perceptions

of what constitutes a goal, its dependencies and their priorities, and what types of value questions, therefore, have to be considered. The approaches in working towards these goals are further spurred by individual professional background and therefore by potentially colliding values and motivations (see <u>Sect. 3-3-2-1</u>). Goals under consideration in AuroraAI appear to be deeply dependent on value choices and the deliberation of contested values, as the programme does not only have to take decisions on applied technologies but the dynamics and roles between citizens and the government. Hence, I find it essential to acknowledge that even unconsciously taken value-decisions bear high risks of reproducing hidden, and therefore, overlooked, politics in both human and technologic configurations. Understanding the wider complex problems, the programme is addressing could substantially help in reframing a more coherent strategy.

Example 5

Futures are reached by pathways and scenarios, which can be equally depicted participatory among involved partners to satisfy the complexity of path dependencies: <u>Hyysalo et al. 2019</u>

There are, until now, fewer efforts taken in developing processes that enhance the collaborative environment itself, as foci primarily orientate towards questions of content. Collaborations are seen as continuously emerging and changing endeavours that require deliberative facilitation and adaption of inclusive structures and processes in the literature (see Sect. 3-3-2-1). In AuroraAI, the very quality of working in collaboration is under threat, as the lack of dedicated structures, norms and rules poses risk to the transparency of actions as well as the agency of partners. Access to collaborative processes is, as nuanced by some interviewees, not actively facilitated; demanding to ask questions on ownership and the means that facilitate public criticism. This question of ownership and the role it plays in nurturing the collaboration is further underlined by the number of thoughts, ideologies, concepts and solutions that are prefigured through AuroraAI's antecedent. The theory presented on cross-sector collaborations provides a variety of tools to examine, understand and advance the AuroraAI programme carefully in the realms of forums, arenas and courts. This simplified three-fold approach to basic principles of human interaction allows establishing an initial understanding of what type of processes take place where and when

and by whom to provide starting points in designing them accordingly.

Example 6

Democratic and transparent processes are a matter of choice and can be very well embedded into underlying technology: <u>democracy.earth</u>

Currently, it seems that AuroraAI does not actively advocate all normative dimensions inherent to the problems the programme is aiming to challenge. A dedicated focus on technology and content, to me, bears the risk to produce an understanding of the programme that is deliberatively technocentric and therefore, pseudo-neutral in advancing society (see <u>Sect. 3-1-2</u>). I ought to argue that every aspect of the programme intrinsically holds power and reflects value decisions taken; therefore, reproducing and reinforcing them for future societies (see ibid.; <u>Sect. 3-3-2-2</u>). Goodwill is then only the first step while facing complex challenges, and assumptions; visions and values have to be meaningfully debated, communicated and consequently embodied throughout the lifespan of the programme (see <u>Sect. 3-4</u>). In return, they will help to build consistency, understanding, legitimacy and finally capacity for action.

Example 7

A whole database of tools for participation might spark further ideas on how to develop AuroraAI and its processes: <u>participatedb.com</u>

Similar to what could be seen in <u>Section 4-1</u>, there are multiple power levels represented in what has been described above. First, what is the visible form of exertion, are the processes and partly their principled dynamics in the collaboration. However, they are profoundly motivated by collective and individual goals, aims or visions for the general programme in general or particular trajectories in more detail. Going one level further, these are then spurred by concepts and the intrinsic values herein. In return, the latter has a considerable agency that might or might not have been deliberately structured in the programme. In both cases, these ideas from the Stiglitz model to the digital twin do advance a particular ideological agenda, that should, therefore, be wellconsidered and reasoned.

4-2-1 Values and Concepts

The level of trust between people but also towards the government is considered exceptionally high in Finland and the Nordics. It is, therefore, no surprise, that high standards on, for example, data privacy and ownership, but also transparency and openness are taken almost for granted in the programme. MyData, as an example, is a strong advocate for self-determination regarding personal data in digitalisation processes involved in AuroraAI since the beginning. The comprehensive collection of citizen data is the essential prerequisite for the whole programme as AuroraAI's future operation fundamentally depends on the processing of data. Hence, trust between people and the government is the very aspect fuelling the programme developments which has to be actively acknowledged and safeguarded (see Sect. 1-2).

Operating in a mode that takes the aforementioned values for granted might bear the risk of neglecting their fragile quality. The corresponding ethics track in AuroraAI has been reported to be only added to the programme in a later stage through the efforts of some engaged individuals. A similar tendency towards technology and business is to be found in the Finnish AI strategy, which only amended the human focus on trust in a later iteration of advocated critical factors in AI developments (see <u>Sect. 3-1-1-1</u>).

I see a considerabe risk in threats towards sincere ethical trajectories to become overlooked or assumed in others where they should be actively deliberated and communicated. From my point of view, openness and transparency in this regard also require understanding the hidden values and politics brought into the programme through the various concepts and ideas that are currently part of its narrative. The techno-centricity of AuroraAI seems to stem mostly from the technology background of its members and development antecedent, thereby potentially marginalising concerns that do not fall into their expertise, as they are not actively sought after or might even become supplanted if fast progress remains to be the focus. **66** My understanding is that Nordic countries stand pretty much alone in having this comprehensive and up to date and legally mandated Population Registers with personal data because other countries have been much more suspicious and doubtful.... It is almost tiresome that people bring up the same arguments, there is clearly a consensus, a common understanding, of the basics of this [digital trust]. — Interview:87

66 Finland is kind of advanced digitally but at the same time, in some things, we're not as keen as we should be. And I think we've been living so safe for so long in this stable and nice society where things like misuse of data and that kind of things, that are directed to people's privacy and autonomy have not really come up.... If this were the United States or the UK, I don't know about Germany but, probably we would be more alert. — Interview:87

(If we think about the future, where everything is digitalised and everything is automated and what kind of citizens we have then and what are their rights. Those things are really important. This is also important in regard to MyData. Citizens should be the owner of their data, and that's it. — Interview:73

66 I think Aleksi is an engineer after all, so it is an engineer's perspective for the project. — Interview:19

(I would say first, that every discussion without AI in that AuroraAI context has been beneficial.... They have identified – no, we have identified – there have been maybe 100 people finishing that work [the preliminary phase]. I think that helps [the] government to think in a different way about things. You don't need that AI angle in that.... We have to do much before AI comes into play. — Interview:17

The first concept to mention here is then the use and notion of artificial intelligence in general. Previous chapters already described how the AI rhetoric was introduced to the programme by the public sector in response to the general 'hype' around the topic. However, interviewees do not necessarily perceive the application of AI as required or even beneficial to the developments of AuroraAI. As an example, the aim to collaborate across sectors is not related to technology, but changes in operating practices. Therefore, I think primarily advancing a technology agenda holds the potential to diminish investments in developing open processes of collaboration. Similar conflicts between goals, especially as these goals are fundamental drivers that mandate the participation of organisations will be discussed below. Furthermore, the use of buzzwords brings me to questions on the thorough and joint understanding of technologies and concepts in the programme and the partner organisations.

The term 'situational awareness', for example, has been brought into AuroraAI by a private sector partner, originating from the development of market projections facilitating business portfolio management decisions. 'Ecosystems' were introduced similarly as a means to reframe and thereby reorganise service provision around platforms to build a 'proactive' service delivery to 'customer segments', a term borrowed from the marketing sector. 'Digital twins' were initially developed as a means of managing and operating physical objects such as production facilitates and large factories in the industrial sector. In AuroraAI, the culmination of these terms is supposed to bring about the ethical application of advanced digital technology in dialogue with human beings.

Another striking example is the 'Stiglitz Model', which is expected to provide a holistic representation of human wellbeing factors as an alternative indicator of economic measures such as GDP. As reflected in an interview with the project lead, the model was chosen randomly and in lack of a better alternative. In this regard, I would like to argue that the very characteristics that should represent the complex aspects of psychosocial wellbeing of individuals and society in a technological system deserve a more reflexive consideration. If not, these characteristics might fall under the risk of becoming a mere means for publicity. **66** There are so many people [in the] ICT- and digital- and AI world, who should be first asked [to do] an AI driver's license test in order to actually understand, what they are doing. — Interview:87

6. How many people would be willing to join Aurora stage 1? And what does that even mean? That is the second thing we have to ask citizens. How would you like to use the Aurora network? Would you like to have an app? Would you like it to be proactive?... Is there a danger the government maps your life?... If the Aurora system is going to predict what we need, we may step into the puddle of that particular dilemma. In some cases, proactive services are well-argued for.... You have a baby coming, and the Estonian services inform you that here, here are you baby benefits or whatever.... How can it handle, let's say delicate situations? "Do you know that you are in real danger of getting lung cancer? Or some other disease? Please consult your doctor."... Lots of public services are there because people's life has an unpleasant event in them.... The nice services, there is very few of them. If you need a service, it is usually a complicated situation. — Interview:87

(My concern regarding this digital twin is that we are now having a solution without understanding why we are having it. I definitely understand that it is needed and that's very handy part when you are developing and running a factory.... I think we are now jumping too early; we are having this technical fantasy too early. My saying is let's understand this development and the evolution of digitalisation of society in such a way where we can add value without losing trust and losing control of things and creating ethical challenges that we are not ready to face yet.... And I think that some of the aspects in Aurora should be carefully thought through, what are the battles we want to take forward. — Interview:78

I already outlined my design perspective to human-centricity in <u>Section 3-2-1</u> and explained how in AuroraAI, the term was instead chosen as rhetoric to allow for an all-embracing perspective towards the, bridging the fractured view on, for example, patients, clients, users or citizens. I believe this can support a more general claim that the gap between these two perspectives on human-centricity suggests a skewed view towards society in the programme, likewise experienced by most interviewees.

The considerations above suggest the impression of technology- and businessdriven ideologies instead of a reorientation towards producing public good. Values of co-creation and participation are missing, and people are perceived as customers instead of partners (see <u>Sect. 3-2-2</u>), something already revealed in the juxtaposition of tech-expert and the lay-public in <u>Section 4-1</u>. Subsequently, values advocated for in AuroraAI have been partly perceived as empty or specious by some interviewees; neither sincerely embraced or understood, nor actively applied in everyday processes.

Content-wise and in parallel to the above, there are also technologies brought in by partners being utilised in or adapted to AuroraAI. This includes approaches towards the technical architecture, but also concrete services or service interfaces. Bringing those in as-is raises questions on how joint ownership of solutions can be achieved if ready-made pieces are merely puzzled together. I think it is safe to say that a variety of aspects, from values to concepts to solutions, are already brought into the collaboration without questioning instead of being jointly deliberated.

The last important set of values concerns the collaborative attitude in the programme as such. As this links directly to processes of collaboration, I will discuss more details in <u>Section 4-2-2</u>. AuroraAI is situated in a context of organisations that are not used to cooperating beyond the boundary of their units (see <u>Sect. 4-1-3</u>). As a result, working together and not in competition, either based on informal norms of mutual respect and understanding or forced by formal rules, is something that has to be learned by organisations and individuals alike. For now, working together is reportedly expected to happen by default while effectively, the very structures enabling people to learn how to collaborate are lacking as I will show in <u>Section 4-3</u>.

((They want] artificial intelligence to improve people's holistic wellbeing and make people aware of their own wellbeing.... And that is where my red line is: I know where my state of wellbeing is.... You come to the questions of dignity and human autonomy and the categorical right of a person to define their own state in life... But I wouldn't go as far as to say that a system that connects services would provide any kind of ... human understanding. — Interview:87

And then we come to actually collaborating with end-user or citizens. That may be so far has not been so well organised or has not happened so much. That is [a] clear improvement area when going forward. How to get the citizens to be part of [the] planning of these things and be there form the beginning. In the kick-off, I would have hoped to see some citizen groups already. Now it was only the developers and the process people but not yet the target group. — Interview:22

66 There is a lack of understanding in the government.... It is easy to say that this is human-centric, but what does it actually mean? I haven't seen anything about it. — Interview:19

(6 There is an underlying assumption there, that people are not in control of their life; or [that] they experience that they are not.... We are one of the happiest countries in the world, we have forgotten how good we have it.... So, what is it that AuroraAI in this respect is going to try to fix? Is it trying to boost productivity and save costs in service production? — Interview:87

44 You need first very vast citizen engagement, an entire project of citizen engagement here. That would be one thing. First, the Aurora people would have to listen to the people. People speak first. — Interview:87 As with other aspects mentioned above, I do not claim that the developments in AuroraAI are unethical or authoritarian per se. What I would like to draw attention to is how and by whom conscious and unconscious value decisions are made and reflected internally and externally. This is not only relevant for the operations in Finland but even more for the frontrunner role that AuroraAI could take; as what makes the programme unique is not so much the technical perspective but how it can safeguard and promote Finnish values such as trust, participation and autonomy in the way how technology synergises with humanity. As I will keep highlighting in the following chapter, the transparent communication of deliberated values and narratives is, according to my preliminary findings, one of the main unmet challenges in AuroraAI.

4–2–2 Goals and Visions

The survey questioned the perceived importance of 16 goals derived from official documents and interviews with the AuroraAI lead. In descending order, the five goals rated as most important were: 'Increase the efficiency of service provision' (4.53); 'Create a human-centric society' (4.47); 'Enable citizens to manage their personal data' (4.44); 'Increase trust in digitalisation and AI' (4.37); 'Develop new business opportunities and service offers' (4.37). The ones rated least important were: 'Establish new organisational structures across multiple sectors' (2.79); 'Build incentive models by establishing a token economy' (3.14); 'Increase digital competencies in partner organisations' (4.02); 'Engage new partners from different sectors' (4.02); 'Build up digitalisation knowledge for citizens' (4.05).

The respondents state to agree (4.19) that AuroraAI should follow a tangible vision that allows working towards immediate actions. A more abstract vision that would allow wider socio-technical transformations is instead considered rather neutral (3.07). The latter question shows the highest standard deviation of 1.30 in the whole survey, an indicator of dissensus amongst participants. Respondents involved since 2017 or 2018, rated the importance of the tangible vision higher (+0.6) and that of an abstract vision lower (-0.4) than those who have been involved since 2019. This gap suggests that either with a long time of involvement the focus tends to shift towards more immediate results, or that those partners who are involved since 2019 envision a broader perspective towards the potential outcomes of the programme. Generally, participants

66 We had a concrete and already existing service that was close to the actual Aurora target and we had the pilots and learning which will now be probably used in the official Aurora programme. — Interview:22

66 We have to learn to play collaboratively together. — Interview:73

(6 If you think about Aurora as a house, there are rooms that are very difficult to build and not every one of them is about tech. The Finnish Public Administration is notoriously bad in cooperating.... Different organisations have dug themselves into their holes.... We have to get out of those. It is just the question of how and on which terms and for what purposes. — Interview:87

66 I don't have total visibility on what they were discussing because we were kind of on competitor sides and this is one of the spices of the whole collaboration. That you have at someplace competitors who could at the same time be collaborators. — Interview:50

(The challenges in Aurora are not technical; these things are something we can already do; nothing requires super new things. We can use current technologies. The challenges are making the organisational structures, project management, legislation, incentives, how to make people build the network, and things like that. — Interview:38

66 To understand and justify how human-oriented service planning and guidance save public administration costs when focusing on work that produces customer value. — Survey:Q30

perceived the present vision of AuroraAI as focused on society (86%) rather than economy or technology, and stated that this societal focus should be sustained in the future.

Two free-form questions asked for 1) other programme goals that were important to the respondent, and 2) what else was crucial towards the individual programme vision. The topic discussed by far the most was the importance of establishing new operating practices to overcome 'siloed' working structures in the public sector to facilitate cross-organisational and cross-sectoral collaboration. 'Human-centricity' and a general appreciation for a socially orientated vision was formulated almost equally heavily. Other dimensions stated range from tangibility in terms of structures and outputs, to AuroraAI as an international 'frontrunner' in ethical AI. As of concrete goals, the open and transparent development of cross-sectoral services was of similar importance. An open feedback form mainly collected insights on the importance of structural change in operating practices in and between sectors, as well as the need for tangible programme results. Some individual stakeholders restated goals or wishes from the perspective inherent to their organisational background, their field of profession or respective role.

AuroraAI appears to be a complex and multi-layered programme, that grew and changed over time. This is then necessarily reflected in the goals and their individually perceived importance. A different organisational background affects the perception of priorities but also of goal dependencies. Where for some the efficient delivery of new services is important, someone else might see the development of new cross-organisational structures as the primary goal. The different perceptions of what constitutes a programme goal and what not, is, for example, reflected in the item 'Establish new organisational structures across multiple sectors' being rated as least important and simultaneously discussed most frequently in the free-form answers. In general, divergent understanding of goals, as well as unaligned conceptions of prerequisites and dependencies, are a major challenge in the current state of development, which is especially relevant concerning the previous chapter in which I tried to outline the direct relation between goals and values. 66 I think there is so many perspectives to it. In the end, it is about empowering people with data, part of it is them having it but it is distributed to get more proactive support and part of that data they create by chatting with a bot and they start going through the pathways. But empowering them to take care of themselves better in a more holistic way. — Interview:50

66 To launch the utilisation of AI so that concrete solutions can be brought to the market at an accelerating pace. — Survey:Q30

66 Aleksi constantly has to remind people that it [AuroraAI] is not a service. It's a way of cooperating and technologically it is just a platform for service information to interact with other service information. Or segment information. That is all it is, no new service is created within Aurora. — Interview:87

((Aurora looks like a mess to me. I know they have lots to do ... It's a project that aims to define the ethics and also the rules of how we are going to use it [technology] in the public sector. Or something like that. I don't know, that is a really difficult question.... When we had this workshop at Mariankatu [Ministry of Finance], no one was really able to define what is Aurora. — Interview:19

In summary, this suggests that the purpose or the goals of AuroraAI - and therefore the challenges to face - are not at all perceived in the same way among the group of survey respondents and interviewees. The complexity of addressing potential change in society, changes in operational structures between sectors, the real technological challenges that come with building new infrastructures and the broader ideological implications and ethical concerns of advanced digitalisation are hard to grasp, even for the people who are directly involved in the programme.

This appears to lead to unevenly distributed priorities as currently there is no overarching narrative or structure of goal dependencies. Approaching these challenges through the lens of life-events seems to render it even more difficult as the characteristics of a respective life-event motivate questions of competence and jurisdiction. As an example, the life-event 'Moving to a different city for the purpose of studying there' won't nurture the organisational mandate of a collaborating partner, whose home organisation is primarily concerned with topics that are not part of said life-event (see, e.g., <u>Sect. 4-1-3</u>).

4—**2**—**3** *Processes and Dynamics*

Looking at the survey results (see Table 7), it is possible to see that respondents expressed an increasing disagreement with the processes of *discovery, definition, deliberation* and *decision* (i.e. *principled engagement;* see <u>Sect. 3-3-2</u>) having been collaborative in the AuroraAI developments. The perceptions towards these learning processes vary between the public and the private sector, with the latter rating the collaborative discovery of issues and concerns, as well as the definition of objectives and problems significantly lower. This could indicate that not all processes in the programme are perceived to be equally open for participation, hence limiting the agency of those who would want to participate. The throughout higher rating of collaborative dynamics from public sector respondents could be explained by different expectations of how a 'good' collaboration should look like between the two sectors. **66** Joint goal setting among partners is very important! ... For example, in preserving a life of dignity, progress can be made towards concrete measures, which will then be different for different actors, more strategic for some, tactical for others, and also operational for the implementers. — Survey:Q54

(If you seek for success, you might not be able to focus on your work well enough. You have to hurry to get successful and that is the wrong goal setting. Success comes from good work results. And if you focus on your work you will deliver good results and will be successful. The goal setting is important. — Interview:73

(I would say that AuroraAI to me is having the commonalities of customer's understanding, the mechanisms to provide holistic services to customer needs, to have the common data and interactive technologies, to having the common infrastructures ... and then having the common governance across the different parties. — Interview:78

(I have worked in the ICT industry in various managerial positions for 20 years and now in the education sector for a few years.... To achieve results, the working methods, processes, attitudes of service organisations, in fact, everything will change. For that reason, special attention should be paid to change management and the development of processes. - Survey:Q54

66 The disagreement begins and the level of scepticism begins on the questions of how and on whose terms basically. — Interview:87

66 And lots of people were worried about or there was lots of discussion about what people should actually learn and what they should know about Aurora. And what is the difference between the different stakeholders and target groups. — Interview:19

66 [It] was the basic principle, that everyone is responsible for getting things done. — Interview:61

Table 7

Survey Results Regarding Collaborative Processes in AuroraAI

					Pub.	Sec.	Prv.	Sec.
Question	N	μ	CI	ď	n _a	X _a	n _a	x _b
1: Strongly disagree - 5: Strongly agree								
31. Individual or shared interests and values are collaboratively discovered.	41	4.51	4.32 4.71	0.64	26	4.58	14	4.43
32. Individual or shared issues and concerns are collaboratively discovered.	41	4.34	4.09 4.59	0.82	26	4.50	14	4.07
 Programme objectives and problems are collaboratively defined. 	41	4.02	3.73 4.32	0.96	26	4.12	14	3.86
34. Programme expectations and responsibilities are collaboratively defined.	41	3.95	3.65 4.25	0.97	26	3.96	14	3.93
35. There is continuous meaningful communication on developed perspectives.	41	3.90	3.59 4.21	1.02	26	4.00	14	3.79
 There is continuous reasoned deliberation on conflicting perspectives. 	41	3.78	3.44 4.12	1.11	26	3.85	14	3.64
37. There is a joint determination of decisions	41	3.66	3.37 3.95	0.94	26	3.81	14	3.36

During my involvement with the developments in AuroraAI, I found it difficult to distinguish dedicated processes that, to name a few, aimed for building trust, commitment or enhanced legitimacy between the partners (see <u>Sect. 2-2</u>). I acknowledge that my perspective regarding this is limited as I only participated in the kick-off workshop and one formal planning meeting in December. Further restrictions are in language barriers (e.g. documents or discussions in Finnish). Despite these limitations, <u>Section 4-3</u> will provide further evidence through the perceived agreement among survey respondents with aspects that support my perspective above.

Besides these perceived differences in agency between partners, the attitude revealed during the interviews was throughout open, engaged and motivated towards sharing and deliberating different viewpoints and perspectives. The criticism I present in this chapter should, therefore, only be seen as constructive feedback for improvement, as for now, partners show a sincere motivation to

66 [I]t reflects that they believe that the entire concept has this magical pull that everybody will just collaborate. — Interview:87

66 When I was participating in the Skype meeting before the workshops where there were facilitators involved, it felt that nobody was knowing what is going on. But after the lunch, when we went through different groups and shared our experiences, the atmosphere was quite open. People really trust each other because they share the frustration and that they only do if they trust each other and don't have to be afraid to share that. — Interview:19

66 Kick-off was implemented really well. The facilitation [inspired] innovative thinking and there was really good discussion in the groups. That is the environment I love to work in. — Interview:73

(It was very interesting and it was innovative. Every time while we are speaking with those people who come from the other perspective, we are [learning]. We are mostly collaborating with the social and health care services, but there are also those who understand digital world and technical things. I think that it was great to have that kind of discussions. — Interview:20

overcome those obstacles and develop a functioning, collaborative working environment. I would like to point out the importance of this openness towards collaboration while stressing that it is something that, according to the literature, has to be nurtured throughout the lifespan of a collaboration (see Sect. 3-3-2-1).

Access to either participation in processes or resulting information and documentation (see <u>Sect. 4-4</u>) however, is perceived by some interviewees as not actively facilitated. In addition to the omitted agency discussed in <u>Section 4-1</u>, all groups of partners should have adequate means to access the physical and digital processes within AuroraAI. This issue will be further explored in <u>Section 4-4</u>, but what should be already highlighted here, is a potential gap between the declared openness of the programme and the attitude towards actively inviting participation; essentially a question of communication, both in- and outside of AuroraAI.

Table 7 further suggests reduced joint determination of decisions made in the programme experienced by the survey participants, something that could be related to questions of visible and transparent documentation. As an example here, the revisions on Google Drive documents show mostly the same group of contributors, while access to these documents is scattered throughout the Slack channel. At the same time, some interviewees disclosed to be unsure about how to get updated on developments in, for example, decision making or involvement in general. As I will discuss further in <u>Section 4-3</u>, it is mainly the lack of dedicated structures, norms and roles that seems to create this environment of uncertainty and thereby limited agency of collaborative partners. Linking back to what has been said above, this might be further amplified by prefigured aspects resulting from the preliminary phase and how these manifest a perceived lack of contribution and ownership among partners.

Lastly, and in consensus with the literature, all collaborative dynamics tend to be affected by tensions between the perspectives of involved partners. Table 8 highlights the different attitudes of partners between the two respective poles per question item. It should be noted that these questions naturally show a high standard deviation as they aim to capture dissensus, that is, tension. These tensions then should not be considered as negative per se, as suitable mechanisms for their deliberation and resolution can prove valuable to a collaboration (see Sect. 3-3-2-1). **66** There are many interesting topics I could contribute, but I don't know how. I don't know how to get involved more strongly and contribute, and also, I don't know how to get business there. — Interview:73

66 He said that: "This is an open network; we don't invite anyone. We don't send out invitations." — Interview:87

66 But I think we should join the Slack. But it was new information, and probably 90% of the people there [during the kick-off workshop] were questioning: What is this? Is there some Slack channel? What is the main communication channel? ... If it is Slack, you should send out invitations to the participants because most of the participants were not in that Slack channel. — Interview:19

 ${\it GG}$ I think it was more informal planning meetings where decisions were made. — Interview:22

(There was one a bit alarming signal throughout the autumn, that has been the that that if someone has not criticised but asked: Hey, why are these the chosen topics now so limited. Then the answer has been okay; it's because we found them in the governmental program. They went through with a comb and found these. And secondly, we want to get something done now. It sounds like if you have a good suggestion for a life-event, we would still consider it. We don't want to deal with you now because too much work.... I think that is a problem here. — Interview:61

Table 8

Survey Results Regarding Tensions in AuroraAI

					Pub.	Sec.	Prv.	Sec.
Question	N	μ	CI	ď	n _a	Xa	n _a	x,
The structures and rules for planning, administration, and decision making in AuroraAI are mainly:	38	2.92	2.56 3.28	1.12	25	3.16	12	2.50
1: Informal - 5: Formal								
During my working experience for AuroraAI, I faced organisational barriers.	36	3.44	3.13 3.76	0.97	24	3.50	12	3.33
1: Intra-organisational - 5: Inter-organisational		•	•	•	•	••••••		•
The working structures of AuroraAI should be based on:	38	2.37	1.98 2.76	1.22	24	2.50	13	2.08
1: Flexibility - 5: Stability				•	•			
The selection of involved partners for AuroraAI should be made towards:	39	2.92	2.55 3.29	1.18	25	2.80	13	3.15
1: Inclusivity - 5: Efficiency	•							
The values of the AuroraAI programme should reflect:	39	3.74	3.42 4.07	1.04	25	3.76	13	3.77
1: Unity - 5: Diversity								
Partners and working groups in AuroraAI should act in:	39	2.97	2.63 3.32	1.09	25	3.12	13	2.69

1: Autonomy - 5: Interdependence

Third Sphere of Agency

4—**3** The third sphere of Agency The third sphere of agency primarily concerns the very structures that enhance or restrain agency in the previous ones. Reciprocity between norms and rules, roles and responsibilities, as well as the means of engagement are effectively facilitating the overall collaboration; hence affect the agency therein.

The preparations of AuroraAI appear to be not focused on establishing formal and informal structures facilitating the development of roles and responsibilities as well as processes of mutual engagement. As already pointed out before, the very core aspect of collaborating, working together, seems to be expected to happen by default, as there are no norms or rules that nurture it more carefully. In an environment that bears a long history of independent and siloed structures, this imposes new threats as questions of contracting, procurement or sharing of information are thus far ill-defined, in return diminishing potential steps out of these silos. The theory stresses the importance of agreements on initial aims and their formalisation, highlighting the necessity of developing norms and rules of practices and engagement in the collaboration (see Sect. 3-3-2). All structures can be designed, or planned, either consciously or unconsciously, and thereby reflect and reinforce value choices taken prior their implementation. In my preliminary findings, the structural limitations, as evidenced in several accounts above, have a restraining effect on agency and participation in the programme; that is, their limitations have an agency on other's agency.

Example 8

GitLab, one of the largest continuous open collaborations transparently display structures, contracting, benefits and values: <u>about.gitlab.com/handbook/</u>

Leadership roles are primarily situated in the public sector, namely in the Ministry of Finance. Collaborations rely on being self-governed by nature, meaning they require structures and processes to co-develop joint leadership roles and respective responsibilities internally. Leading in collaborations implies significant differences to conventional top-down approaches that are still dominant in the public sector, as it has to be far more value-sensitive and requires distinctive skills of meaningful and just facilitation. In this context, the governance, or meta-governance, of a collaboration is essentially about mediating power structures on a variety of different levels to ensure joint ownership of processes and outcomes alike (see <u>Sect. 3-2-3</u>; <u>Sect. 3-3-2-2</u>). This brings in further questions on the institutional location of said leadership roles and how these, therefore, affect questions of agency, legitimacy and mandate. Since the beginning of 2020, there have been increased efforts in developing more defined roles and responsibilities in AuroraAI, as the implementation of the programme officially commenced.

Example 9

Collaboration is a change in mindset and requires thoughtful reconsideration of processes and structures. Enspiral's mission is to create communities of collaboration through guidance and tools: handbook.enspiral.com

The programme primarily uses digital means of engagement, such as Slack or Google Drive. These tools do not facilitate collaborative working by default but require continuous careful management to nurture environments of meaningful communication and deliberation. In comparison to face-toface meetings, virtual engagement increasingly relies on a common ground of language and terminology, as non-textual means of communication are unavailable. Mere participation is not necessarily meaningful, and tech-enabled interconnectivity does not guarantee just and fair agency. Mechanisms that facilitate human interaction hold power on a variety of different levels and therefore require careful choice and implementation (see Sect. 3-4). Location choices for face-to-face meetings have an impact on agency and engagement as much as assumptions on skills to navigate, for example, digital discussion or documentation tools. Access to the mechanisms and platforms that facilitate collaborative processes therefore equally rely on jointly defined norms and structures. Technology's role in collaborations implies questions on which principles and ideologies said technology operates, especially if the collaboration is concerned with exploring questions of ethics in digital technologies.

Example 10

The Swedish consultancy crisp published a formal document on internal principles and collaborative working structures: <u>dna.crisp.se</u>

Overall, the structural shortcomings described above paint the picture of AuroraAI as a group of organisations cooperating and loosely aligning their actions according to potentially adjacent goals. This opens up questions on contracting between partners in and across sectors, as well as their formal relation in general. From the data collected thus far, the primary focus of AuroraAI appears to be the review of content questions instead of jointly developing a new operation mode based on collaborative values. These preliminary findings point to the demonstrably negative effects of limited structures to the dimensions described in <u>Section 4-1</u> and <u>Section 4-2</u>. However, structures also widely affect the tangibility, actionability and communication towards the wider systemic context, as I will show in <u>Section 4-4</u>.

Example 11

Continuous and active participation in deliberation can be held transparent, accountable and open: <u>www.kialo-edu.com</u>

The elements of this section can be equally attributed to different power levels and their interrelation. Looking at them as structures, and not as what those structures produce, they are part of Lukes' second dimension of power. However, separately digging into them reveals multiple levels each again. For example, and as already mentioned, mere communication on Slack would be on the first level of power, yet the action as such is affected by the other levels. The technology platform Slack is what mediates the exertion of power as it facilitates communication; it is, therefore situated on the second level. The way Slack functions is thereby shaped by those who created it, which is the third level in respect to communication on Slack in AuroraAI. The procedural structures of a collaboration, or designs, exert power that affects the agency of people throughout multiple levels of power, opening up our understanding to design better mechanisms to balance this agency.

4—3—1 Norms and Rules

The reason behind much of the criticism outlined above lies mostly in the so far less advanced collaborative structures. These structures can either take shape as norms, in which case they are more interpersonal and informal or as dedicated and formal rules. Effectively, they are what shape a collaboration through leadership, roles, processes and so forth. **Table 9** shows the perception of survey respondents regarding values that are built and nurtured through structures facilitating respective processes (see <u>Sect. 3-3-2-1</u>). A constantly declining rating, significantly lower than in the questions shown in previous chapters, indicates that there are either no structures in place to, for example, create a mutual understanding of partners, or that the existing ones are not yet yielding optimal results.

Table 9

					Pub. Sec.		Prv.	Sec.
Question	N	μ	CI	ď	n _a	X _a	n _a	x,
1: Strongly disagree - 5: Strongly agree								
38. There is a high level of mutual trust between involved partners.	39	3.69	3.41 3.97	0.89	25	3.84	13	3.46
39. There is a face-to-face dialogue between the involved partners.	39	3.77	3.47 4.07	0.96	25	3.92	13	3.46
40. There is a high level of mutual understanding of other partners' perspectives.	38	3.42	3.09 3.75	1.03	25	3.60	12	3.08
41. All partners show a clear commitment to the project and process.	39	3.23	2.91 3.56	1.04	25	3.40	13	2.92
43. AuroraAI partners are building new knowledge on top of each other.	38	3.66	3.40 3.92	0.81	24	3.63	13	3.69
44. Created knowledge is shared effectively between partners.	39	3.23	2.90 3.56	1.06	25	3.32	13	3.08
45. Financial resources are shared and leveraged collaboratively among partners.	39	3.00	2.66 3.34	1.08	25	3.00	13	3.00
46. Human resources are shared and leveraged collaboratively among partners.	38	2.87	2.50 3.23	1.14	25	2.84	12	2.92

Survey Results Regarding Collaborative Structures in AuroraAI

(The problem with the co-creation I see here, ... [is] actually putting enough effort into how to organise this layer over here. [T]hey just think that: Yeah, we have to be enthusiastic and things will just happen. Because of this word co-creation and we have the PPPp model, and everyone participates, and everyone can do everything. — Interview:17

66 And so, if you put all those players together just in the same lunch bag and you shake them like McDonald's and try to get the thing going, that is not going to happen. So, it's about building up the leadership, and the management of the platform eco-system is key how to make that happen, and I think that the governance part is missing. That structure part is missing. — Interview:78

66 It is not really working out properly, there is obstacles. It is quite a lot dependent on people now and the legal framework for sharing is not clear. Like what happens to immaterial property rights and so on.... There needs to be clear rules and structures on that.... These influences how openly different actors can manoeuvre and what they can reveal and how they can also move away from the process. If you have unclarity of the immaterial property rights and the roles and responsibilities. — Interview:50

66 When the rules are not clear, the operating mode is not clear. The operating mode is open because there were no rules been set but in a way that keeps thing open.... How we decided it, we do things and then we tell the larger group. If no one says anything, we just do it. It is not that we wait until someone provides us feedback or do something before, we proceed. — Interview:38

Building trust among partners can be considered a process. However, the very system or design that enables and deliberately spurs this process to continuously take place is then considered a structure. For a more detailed explanation of how the elements in Table 9 and Section 4-2 correlate and affect each other see Section 3-3-2. In short, collaborative norms derived from shared commitment are what shapes processes of engagement and vice versa, explaining why the shortcomings in engagement negatively affect the structures described here. Indicated by some of the interviews conducted, AuroraAI reproduced the siloed operation mode of the public sector, a circumstance I perceive as directly linked to a lack of structure but also very much a lack of aligned objectives and too many different goals to facilitate the desired mode of collaboration.

While rules and norms are part of informal and formal structures that nurture meaningful collaboration, they are also what constitutes for contracting and agreements. Interviewees and survey respondents conveyed the perceived lack of those in the programme, leading to different levels of engagement through, for example, imbalanced procurement, and therefore to potential dissent. The collaborative sharing and leverage of resources – human, timely, financial – is not only a crucial aspect for healthy relations between partners but also among the significant potentials of collaborating in general. Here, formal rules can help to mediate the tensions that are created by the disproportional distribution of capacities and compensate for respective shortcomings through sharing between partners.

Besides the more evident processes that require to be structured - from working together, to acquiring feedback, to making decisions, to solving disputes - the means of access and communication, as outlined earlier, have to be thoroughly laid out and planned as well. I will address this aspect of, mainly, external communication in more detail in <u>Chapter 4-4-1</u>.

((*H***]***ow to utilise all the learnings from the first phase, to really make the Aurora happen. This is the challenge that people are feeling. If you have not been with those packages and understand where the big picture is, it is very difficult: the different bits and pieces. And we now see several different teams being built, but people don't see their relations to each other.* — **Interview:78**

66 And then going towards the 3rd year, it should be more that the readiness of the eco-system to take in new services and service providers. So, in the third year there would be clear guidance and criteria, clear interfaces so that some new service providers could be taken in. — Interview:22

66 One problematic issue maybe which I noticed with the ways of working in the preliminary phase was that once we got the private sector interested and there started to be those AI start-up things. Then it's a bit complicated about what can you actually share. Of course, everything had to be as open as possible so that no one could claim anyone is favoured or anything like that. But then once there was some money involved that you bought some services from some companies and did some research with them then I just felt it became a bit tricky.

— Interview:61

66 Of course, those organisations who had some kind of contract with Aurora were really committed and did the promised work. But if you don't have an official contract and you are just building your case outside that core team, I don't know; maybe I didn't see that many contributions from that in the pre-study phase. In the collaboration it is more like questions and bringing some information and light level contribution. _______Interview:22

(I just told them hey let's keep in the process. It was simply an investment of time for the common sense. Most organisations were seeing it in that way. Some organisations were more just getting the fast money which was pissing of the others. — Interview:50

4—3—2 Leadership and Roles

In the survey responses present leadership functions were perceived as being mainly located in the public sector (95%). For the future of the programme, respondents stated leadership functions should be more distributed between the public sector (78%); private sector (12%) and civil society (10%). It was visible that respondents favour more leadership functions within their 'own' sector, while generally asking for equal distribution of it; in this case, moving out of the current public sector dominance. Participants who dated the beginning of their involvement to 2019 expressed a more diverse view of the future distribution of leadership roles across sectors compared to their peers. I find it necessary to acknowledge the novelty of such cross-sectoral collaboration in the Finnish context and therefore, the difficulties that come with this new experience for every partner. However, as hinted by the survey results, private sector partners might already show higher familiarity with more horizontal hierarchies and less defined roles in the workplace than the public sector partners. The former experiences could prove to be increasingly valuable as an input to the overall structures in the collaboration if considered carefully. Both, the expectation and the impression that the public sector sets the tone and leads the programme currently impede the potential for self-governance or formation of internal leadership roles. Therefore, if this self-governance is beneficial for the efficacy of the programme, which is suggested by the literature (see Sect. 3-3-2-2), processes that can lead to its development have to be designed.

Since cross-sector collaborations are considered to benefit from being selfgoverning, their external 'leadership' should effectively become facilitation or take form as meta-governance. In contrast to a more traditional authoritarian and top-down approach, this requires public managers to exert an entirely new set of skills such as the rectification of power-imbalances or ensuring inclusive processes and diverse actor involvement. In short, leading collaborations is far more sensitive than leading top-down and requires paying attention to the very processes, structures and dynamics that take place and shape the collaboration. Instead of decisively taking part in content discussions, leaders could advance the programme by taking a mediative role as their power in, for example, decisionmaking is usually unequally weighted. **66** So, if you are a key contributor or something and you would get some reward for this commitment. Of course, some people are contributing a lot, even totally outside of the core team.... Like in many other collaboration systems, you get some points when you are active and contribute. Then it is visible who has been spending time and putting effort. — Interview:22

66 Also, one important thing is to define what is the government's role. That is not clear for me, and I don't think for anyone else. The roles, in general, are not clear at all. That is also something that came out of the last workshop. I think 99% of the people I talked to mentioned the same, that the roles are really unclear, who is doing what in what role and what responsibilities and what are the expectations. — Interview:19

66 This kind of PPPp things, it is very difficult because there is lots of different stakeholders, so if you are not able to decouple those stakeholders from each other, it is pretty impossible to do this approach. — Interview:38

66 I am still wondering why the Ministry of Finance, who is our steering organisation and who is ... maturing the AuroraAI concepts. The Ministry of Finance is sort of the umbrella organisation, and they have done nothing, zero seconds of work, to synchronize or integrate [our] and AuroraAI's operations. — Interview:87

66 It is difficult to lead this. Very difficult because you have to give room for people to contribute and there are many opinions. But also, there must be progress; we cannot stop for something forever. What we can learn from this project is something that we can deliver and distribute as an example to many areas. — Interview:73

This would then require establishing formal roles of leadership in the network and the design of 'meta-leadership' functions outside the network. However, there are no formal structures that facilitate the development of those functions or the management and documentation of individual roles and responsibilities for now. I will elaborate more on the latter in Section 4-4. What should be pointed out already here is that the governance of a collaboration, or rather where this governance is institutionally located, plays a significant role in the overall mandate and legitimacy of the collaboration. Therefore, questions of leadership go hand in hand with power relations, roles and responsibilities and inevitably create hierarchies and dependencies. As I described in Chapter 3-3-2-2, leadership can take many different roles and forms that can run in parallel. Nevertheless, these roles have to be structured to ensure consistency, accountability and adequate transparency on all different power levels. According to the literature discussed earlier in this thesis, they should be established collaboratively instead of being forced upon externally, if they are meant to nurture trust and ownership throughout their respective agency in forums, arenas and courts.

Regarding the content of the programme, there are also requirements for establishing roles and responsibilities in the development of service dependencies. I find it valuable to stress that hierarchies that are part of the final service delivery are not necessarily the ones created during the collaborative development of said services or the underlying technology. Nevertheless, their preconception does seem to already prefigure current hierarchies in AuororaAI, as it might be difficult for partners to omit the dependencies outside of the programme while collaborating.

Thoroughly expressed by one interviewee, the individual aim of a partner to take part in the final service delivery network requires an equally thoroughly formulated governance including defined roles and dependencies. It has to be noted that since the beginning of 2020, more processes and efforts towards developing and defining roles and teams in AuroraAI were initiated with the beginning of the implementation. Those have been documented on Google Drive, defining actions and responsibilities in the topics of, for example, technology, research, legislation, network or vision. Unfortunately, I am not able to provide any further information about how those were formed or are planned to get further developed, as I focused on the developments before 2020.

((Those guys [Demos Helsinki] have done all kinds of living labs and citizen collaboration for years. What I would do is, I would hire them or somebody like them to do that [to lead]. The Ministry doesn't have the capacity, and they do need to because it is not their job. But, they would be a very experienced and very strict organisation to facilitate the entire thing in different parts of Finland. — Interview:87

66 There is a need for some organisation that will operate the Aurora network, and that will build the platform. Then there are the users and the service providers. Those are then divided into the public service providers like taxation or immigration organisation, and then there will be the private service providers. And, what I am worried about, is that this development might reflect quite a lot of the governmental units and organisations. — Interview:22

66 He seems to be envisioning a world where there is an Aurora platform and all the service-producing organisations just group up around specified life events and start to cooperate. And I don't see that happening without a forceful direction and steering from somebody. But he keeps saying that there is this anchor organisation, which is just one among equals, that takes the role of the captain of the team. But how that would happen, is in a fog for me. — Interview:87

66 There is lots of things which are not technical like business
or legislation. Those are not specified good enough and no persons
responsible for those things. — Interview:38

66 Some structure like that is needed. Unfortunately, that means that there will be some hierarchy in the project management because this is already growing so large, not a single person can handle everything.
— Interview:22

4 —— EMPIRICS

4-3-3 Means and Engagement

AuroraAI heavily relies on digital tools that facilitate cross-sectoral communication among partners and the exchange of information. Especially in the context of public sector governance, this is commonly recognised among interviewees as a favourable decision taken by the Ministry of Finance. Nevertheless, running collaborative online platforms such as Slack or Google Drive does not stimulate collaboration per se. It requires distinctive skills to manage and facilitate the communicative processes that take place herein to not only allow fruitful discussions to unfold but also to ensure equal agency and voice. This then again requires ensuring adequate access to these means as well as ensuring that partners are appropriately familiar with using them to take part in the communication, which by some partners is currently experienced to be not the case. Nurturing open and honest discussion is something that equally relies on trust and mutual understanding, as already mentioned above, and is more likely to happen in an environment that actively safeguards these values yet ensures sufficient transparency. As described by some interviewees, communication that is not taking place face-to-face relies on mutual understanding and reciprocal choice of words and underlying meanings.

74% of all messages sent on Slack were delivered through direct messaging, meaning they were not accessible to the public audience. This should not indicate opaque communication as it is unclear what sort of information was exchanged via direct messaging. For the total views of messages sent either in public or via direct messaging, 76% of all views took place in public channels.

Figure 13

Distribution of Sent Messages on Slack



(So, the driver for this kind of public eco-systems is the wellbeing of people. And, I think that sometimes we get mixed with private eco-systems to public ones. Because the private companies are making money for their shareholders and there is a different business model for that. But the business model for public eco-systems is to run the wellbeing of all the actors, and it's a different game. The governance and the leadership and the management and the targets etc., those should be designed accordingly. — Interview:78

(6 Genuinely, it was a great experience. The actual collaboration and co-working online, for instance, in these open weekly meetings and Slack and Google Docs. Everything was open and accessible for everyone, that was really something. You very rarely see this in the public sector; most things happen in closed projects. This was great, in my opinion. If you just took the effort, that was the basic principle that everyone is responsible for getting things done. — Interview:61

66 But it's difficult somehow in Slack-type of things. It might be too linear.... It is sometimes difficult to communicate in, for example, social media. Sometimes you mean a good thing but the wording is bad ______Interview:73



Besides those digital means, AuroraAI's planning efforts during my involvement have been taking place in physical meetings and workshops, primarily organised by the Ministry of Finance or through a third party (see <u>Sect. 2-2</u>) on the Ministry's premises. It was possible to see that different partners prefer different types of media for communication and engagement, asking for either a mechanism that allows for both or then structures that facilitate in-between. Examining the structure of these face-to-face meetings revealed a primarily unilateral communication instead of environments that foster critical dialogue or facilitated deliberation. I acknowledge that this was most likely due to the fact of the early stage of some of the aspects of the programme, as well as the introduction to potential new partners. However, the chosen location, layout of the room, the arrangement of tables, choice of moderator and so on do affect the agency and participation of participants and partners, which is further evidenced in the literature section (see Sect. 3-3-2)

66 There is now a barrier to talk so freely because there is whole
Finland watching your words. Maybe in certain things, a bit smaller
channels work better than the one for the whole project. — Interview:22

66 Of course, we don't have so many times to look at for example your webpage, so I think in the future it will be good to have that kind of kick-offs or collaborative meetings. — Interview:20

(6 There were too many speeches in the beginning. I think one would have been enough. I would have preferred if there had been some material that you could go through before. Because always when we have this time together, we should use it really wisely and try to co-create something more than we could do ourselves. — Interview:19

4 — EMPIRICS

Meta Sphere of Agency

4 - 4This meta-sphere of agency constitutes the less immediate dimensions that spur the exertion of power throughout what has been mentioned in this chapter so far, as these dimensions consider the interaction between what takes place in the collaboration itself and the external environment.

The dimensions discussed in the previous sections make it difficult to explore the outcomes and accountabilities in the development of AuroraAI. As there is no articulated theory of change, yet a broad range of sought for goals on the horizon, distinguishing between intended and unintended outcomes of collaborative actions is hindered. Hence their consequences, or accountabilities, appear to be unclear. This uncertainty shows to be further increased by the absence of a deliberate and active communication strategy, inviting society to participate in the programme meaningfully. Difficulties accessing information, processes and general communication thereby appears to limit the agency of involved and not-involved partners. Language is crucial in communication and exerts a significant amount of power on how debates are conducted.

Example 12

Simple but ample means for direct participation of many people in face-to-face or online meetings could be facilitated by giving them a voice: www.sli.do

Formal and informal accountabilities have a direct impact on the mandate of individual partners and the programme as such. While informal structures and their accountabilities, such as trust, are essential for working together, formal structures might help to mitigate, for example, resource conflicts that threaten the informal ones. These questions concern both accountabilities and responsibilities during the development, as well as in the yet to come service delivery in a decentralised service network. My preliminary data suggests, that there are conflicts between the external institutional mandates and the internal situating of roles and processes. Mandates and resources seem to be issued according to drivers and incentives, which makes their alignment with values and goals crucial. Elaborating on the above, I believe the deliberate structuration of formal and informal rules and norms can help to shape the agency that is inherent to potential tensions and conflicts.

Example 13

The engagement of individual actors, and thereby their accountabilities, can be transparently documented and traced online: www.move-lab.com/projects/teamchatviz

The only briefly outlined aspects mentioned in this section are among the most complicated, sensitive and delicate ones, as they are the link between the inside of the collaboration and the outside. Ensuring their transparency is then a challenge that has to be faced through proactive communication instead of expecting outside engagement. So far, this has not been prioritised and thereby indirectly affected the tangibility and actionability of AuroraAI as its joint agency has not reached its full potential.

Example 14

Aalto University operates a transparent and participatory online documentation of its strategy that allows co-shaping a shared perspective: www.aalto.fi/en/aalto-university-strategy-portal

Finally, every section in this chapter represents one or more actors that exert power in the interaction with others. Acknowledging that this is the case then allows for the design of structures that can facilitate this power exertion, which is another layer of agency. From my point of view, jointly determined values are a promising way of ensuring reasonably principled exertion of power in the initial design of structures. Again, the motivation is not indefinite amplification of complexity, but to provide transparent structural levers that go beyond questions of content. The understanding of power represented here is limited, however, it should help to raise awareness of how designed agency can help mediate power exertion.

Example 15

Early outcomes of AuroraAI could very much be similar to Elements of AI, the famous Finnish online course aiming to demystify AI: www.elementsofai.com

4 —— EMPIRICS

4—4—1 Outcomes and Communication

Cross-sector collaborations have outputs on multiple levels of action, which can lead to outcomes in terms of real impacts and their further adaption into the broader context of the collaboration (see Sect. 3-3-2-1). They can be tangible and intangible, and they may concern the collaboration itself, or they can be the result of it. As already described in the sections above, AuroraAI has been primarily focused on content; therefore, outcomes are mainly documentations of the preliminary phase, in which, for example, concrete technologies were tested or wider network architectures conceptualised. Again here, the complexity of underlying goals and aims makes it hard to locate and evaluate outcomes, especially if they take the form of prerequisites for later stages of development. Throughout the interviews, this is conveyed via perceived substantial uncertainties on AuroraAI's purpose, although there is a comprehensive documentation of, for example, the actions in its preliminary phase. It should be noted that there might be more concrete or tangible outcomes with the respective developing partners, as the lack of structures makes it difficult to distinguish where outcomes are situated and whether those are created in the collaboration or brought into it from the outside.

As such, outcomes depend on an articulated theory of action that is based on a deliberate theory of change (see Sect. 3-3-2-1). Distinguishing between intended and unintended outcomes can only be accomplished if the criteria for either of them is formulated, which for now does not appear to be the case in AuroraAI. However, there are ongoing efforts to define performance indicators for the programme. As those must be necessarily linked to the sought for goals, I consider them to be dependent on a consistent strategy. I find it relevant to question what kind of performance should be measured, which is essentially a question of balancing between social and economic factors. As an example, numerous interviewees suggested the measurement of satisfaction regarding the final service delivery, that is supposed to happen in the context of AuroraAI. Yet, AuroraAI is itself not a service and more importantly, services that might be running on what AuroraAI provides, will be developed by individual entities, not by the collaboration. Therefore, measuring service delivery would not at all provide a valuable mean for the evaluation of the collaborative performance in the programme. Again here, it is important to distinguish between the collaboration and what it should bring about in terms of technologies, services or

66 I hope Aurora will produce some real results in the next three years and not only be a paper study. Something to try for everyone. First, we do, and then we learn from it and expand the implementation and learning to the next life event. — Interview:22

66 If we build it with the end-user, hopefully, the end result will be much better. But, I think we should make these small trials with [a] small number of people. I hope that will be the development model of Aurora. That there will be a sequence or continuous flow of small pilots which will then produce new findings and those findings will then be used in the next phase. I hope that we are not first planning for a two-year development programme and then no feedback meanwhile. — Interview:22

{{ The aim may in the end be too ambitious / abstract to be achieved. But
learning always takes things forward. ---- Survey:Q54

66 Even though we focus on social issues (which in no way are separate from economic or technical purposes), some concrete results must be achieved from the perspective of the timetable and the redemption of Aurora's future. In short, Aurora should be so indispensable in 2023 that the next Government does not even have to consider its necessity.
— Survey:030

legislations.¹⁸

The survey, as well as the interviews, indicated that partners favour iterative development processes that create tangible short-term results for faster testing. This approach relies even more on a coherent long-term strategy, as iterative testing, or prototyping requires consistent parameters of evaluation. Outcomes are, therefore, directly connected with these goals and visions (see <u>Sect. 4-2-2</u>). A thoroughly formulated long-term strategy that addresses issues of increased socio-technical complexity would allow deriving the various individual goals that are currently soaring in the programme in a harmonised way. Subsequently, this could potentially open up matters of evaluating internal and external progress against a consistent matrix of criteria derived from ideas of public value. Therefore, outcomes are what stimulates internal and external expectations; hence they feed into respective accountabilities, making them subject to adequate communication of ongoing developments.

Previous chapters already outlined the primary means of communication like Slack and Google Drive, alongside written reports distributed, for example, via the Ministry of Finance's website. I consider those means as passive means of engaging with external parties, as there is no active invitation into a dialogue (see, e.g., <u>Sect. 4-2-3</u>). Even though the goals and the general purpose of AuroraAI are perceived to be complex and not fully comprehensible, the preliminary findings suggest that the communication strategy does not sufficiently engage with the public, impacting external agency and capability of participation. Thus far, important messages or questions tend to be buried in lengthy and text-heavy documentation or in locations that are effectively inaccessible because of being unknown.

However, I believe the nature of AuroraAI requires extensive and engaged transparent communication with society. Besides more evident processes that require to be structured - from working together to acquiring feedback to making decisions - the means of access and communication, as mentioned earlier, have to be laid out and planned as well. Currently, this communication mainly addresses the intake of potential new partners from the private or third sector while society **66** I would like to see the Aurora story in that sense, somebody to draw a cartoon or graphic novel.... Somebody tell me what happens because it is very hard for me to not be sceptical on some elements of Aurora unless somebody has shown me what it actually is. — Interview:87

66 With an all-embracing agenda the stakes are stretched too thin, so nothing happens. In addition, too abstract an objective is a communication challenge - AuroraAI must not be wishful thinking, but it must not sound like that in the ears of a critical audience either. ______Survey:Q30

66 It should be some kind of brand even though in this government they don't use the term brand. Something that all citizens know about and ... are able to participate all the time. It isn't something that starts and stops but it's sort of a community of all the people interested in the topic. It should involve all the universities and researchers and start-ups etc. It should be as open as possible.... That was only the digital thing of Aurora, but it should be an ongoing process of participation and meeting the citizens all the time and collecting customer insight.

(It is not [about] creating this science-fiction fantasies and concerns for people. I think we should be careful about what we are after. We should, with all the steps, show the remarkable value and show how much there is value in each of the steps that we take. And, I think this is not shared and understood in this programme. — Interview:78

66 Aurora is not a project, the development is, but it will be a living thing in the future.... [E]verybody knows about AuroraAI, that is my dream. Maybe the name is different, but the benefit that people get from this should be more tangible. Even though this is an abstract thing, but the people learn to know that they have some great people in the official organisations to think about citizens and protect them. Protect may be the wrong term but they care about citizens by developing this. — Interview:73

¹⁸ Another interesting dimension, which is not further explored here, is the operative measurement to become applied in the service delivery. Practical decisions on the functional computation of, for example, service recommendations via AI imply vast ethical consequences.

is not seen as a relevant actor in the programme. The implications of the change that should be brought about by the developments in AuroraAI does not only ask for a more engaged communication but an active and continuous dialogue; that is direct means of public and meaningful participation. For now, AuroraAI lacks a conscious communication strategy. The different ways of how information is communicated, the choice of words and the tonality that is used, who is communicating and where communication takes place all have an internal and external agency that can be designed.

The literature reviewed in the thesis highlights the importance of authoritative texts and their communication (see <u>Sect. 3-3-2-1</u>). Those texts are the outcome of processes towards formalised declarations on goals, progress, structures and so forth. Developing such a communicative format could help AuroraAI to instance a more defined and tangible impression.

4—**4**—**2** Accountabilities and Mandates

Formal accountabilities are what can be derived principally from the deliberate structures regarding roles and responsibilities in a collaboration. As already mentioned, the prevalent uncertainty on roles, as well as the structural shortcomings, make it difficult to distinguish how accountabilities and their enforcement are handled in AuroraAI. On the informal side, empathic aspects such as mutual trust and understanding are what constitutes less tangible interpersonal accountabilities, only enforced via social regulatory measures and cultural aspects that spur adherence to unwritten rules. However, as collaborations are necessarily about working together, and therefore mutual trust is their key focality, informal accountabilities play a significant role regarding the internal structures of the programme. Nonetheless, their strength is put under test in matters of financial or other resources disputes; hence, formal structures of, for example, sharing resources or the processes of provisioning can limit the impact of resource conflicts through transparent and jointly formulated rules.

Interestingly, interviewees did reveal perceived informal accountabilities towards the wider public (see <u>Chapter 4-1-2</u>). Yet, as they are not formalised as such, they are not enforceable and give space for tensions or imbalanced exertion of power. As it has been revealed earlier, drivers and incentives for participating in the programme do create formal or informal accountabilities in

66 I am sharing the vision where it is not about individual services, but it's more about combining different services. Service providers will be collaborating together and will create new combined offerings for the users. And personally, I am really interested that goes into that concept how to construct the combined services and how to share the revenues and the incentives based on those combined services. — Interview:22

66 It is like treating the other like reviewers but not expecting them to do anything because most of them are not doing anything; they are kind of hanging around. You cannot base your actions on other organisations because you have to expect them to do nothing. — Interview:38

66 Of course, citizens have rights to demand things to be more understandable. I wouldn't sacrifice the innovation [for participation] at this moment. We are at the very beginning, dreams and visions are welcome and crazy ideas are welcome. If that is tolerated by citizens, then welcome! — Interview:73 4 —— EMPIRICS

respect to the general direction the collaboration is heading to. There, satisfying accountabilities is directly linked to, for example, mandates or the marshalling of resources to sustain the operation of the collaboration. I understand drivers and incentives as factors that motivate the self-determined mandates of partner organisations. This could explain why, for example, a change in goals of the programme could nullify a partner's incentive to collaborate, which in return either ends or decreases the direct participation in AuroraAI. Analysing and transparently documenting cross-sectoral goal dependencies, intersections and conflicts could, therefore, become a valuable side output of the programme.

Mandates can also be issued from outside a collaboration. The last question that became evident in the interviews is regarding the programme's general mandate and how it is affected by its institutional location. As different ministries, agencies and organisations each have different, potentially even legal, mandates, it becomes crucial to think about which roles and responsibilities are situated where and why. In the case of this cross-sectoral collaboration, this situating would have to ensure sufficient authorisation, while at the same time keep up transparent communication regarding accountabilities. Mandates directly influence the agency of individuals and organisations and thereby, the joint agency of the programme. Nonetheless, they are often subject to wider context dependencies, which are far less open for alteration from inside the collaboration. **(6** Everything that is done must bring added value directly to people and citizens – no internal development of organisations or the construction of segments because no money in the world is enough for that. AuroraAI comes close to people, and we have to make sure that the work is done well. Public administration and ministries are forced to make a safe framework for this rapidly. This must be prioritised, and those who do it under official responsibility should be rewarded financially, not those who come to meetings with public funds to say that it is not possible. Mandate issues should be clarified from the very top. — Survey:Q54

(This lacking layer here is something that you can't really get from each of these, even if they work in co-creation. Because they don't have the authority to do anything.... This layer, I'm not saying it's an agency or ministry of something, I used to call it the agency for humanity, the agency for humans, someone has to coordinate this to take grip of the co-creation here. — Interview:61

66 Ministries are more on a steering level. They issue decrees and documents and plans, but it's up to us then to do it.... Some people are a bit critical about ... their approach to doing things because they think it is not the ministry of finances business to do it.... Implementing, doing things is not the ministries work. — Interview:61

5 — Summary

In this chapter, I will bring together the theory and practice as mentioned earlier into a, hopefully, concise design-driven conclusion on AuroraAI, barriers in the preliminary developments, and how actors and agency drive these. Lastly, I will open up the discourse on the individual topics again for further considerations in the discussion.

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- 5—2 Discussion: Reasoned Normativity 84

5

Conclusion: Designed Agency

Thus far, the preliminary developments and preparations of the AuroraAI programme appear to omit questions of structure and design for a focus on content and results. The programme's antecedent attributes ample agency to partners striving for efficacy in advancing a prefigured technocentric agenda. Bringing concepts and solutions into a collaboration poses questions on perceived joint ownership among partners alongside the potential impact on engagement and commitment in respect to the anticipated equity in decisionmaking. In fact, everything that comes into a collaboration requires joint deliberation and structured adaptation to ensure recognised and fair contribution among those affected by the collaborative outcomes. Antecedent-related impacts further influence the operating mode of the programme, so far shadowed by siloed structures found in the Finnish public sector. Limitations in prior participation, namely omitting the agency of the public and of municipalities, currently suggest a juxtaposition of expert decision-makers (in the programme) and lay-persons as passive consumers (in society), that impedes co-creation of services. These siloed structures and omitted partners are questions of posture or mindset that require a focal change in the programme's governance towards the implementation. AuroraAI's antecedent, from timely pressure to external agendas to internal dynamics, has agency in the implementation of the programme; raising questions on how to mitigate this agency towards more balanced power dynamics. I believe this requires to be addressed through formats of open deliberation and transparent communication among more diverse partners to advance legitimate collective agency through a richer perspective. Lastly, I would like to acknowledge the difficulty in distinguishing between the preliminary developments and the actual programme, starting from early 2020, as the antecedent already prefigures the nature of AuroraAI's current stage.

Exceptional levels of trust and ethical standards in-between the Finnish public and the government demand to be consciously and deliberately sought after in AuroraAI. However, the currently prevalent technocentric narrative and lingo appear to foster partly vague values; potentially giving up the opportunity to sincerely address the in my opinion fundamental questions of human dignity and democratic participation in governance for efficiency. The nuanced account of some interviewees suggests that fragmented problem understanding and focus on solutions produced ill-defined goals, revealing the absence of a designated overarching strategy that pursuits a joint vision. Foreshadowed foci on technology and solutions could be overcome by collaborative (re-)framing exercises that create room for abductively exploring preferred situations of increased public value within the complex problems that AuroraAI, and therefore the Finnish public, are facing. Reframing the programme towards public value creation does not only nurture trust and legitimacy but might help to align and interrelate the current strategic fragments. The agency of partners appears to be unconsciously restricted by the current goal strategy, as the life-event approach promotes concrete examples of applications over the meta-narrative of rethinking service provision. Reflective framing, as well as approaches to continuous meaningful participation in the collaborative prefiguration of futures, is, at least in theory, a potentially valuable inherent quality of design. Cascading shared values of designed futures does not only increase strategic consistency and alignment but helps to structure processes of facilitated engagement to favour a more balanced agency. Until now, these processes are perceived as inaccessible, hence they do not nurture mutual trust, understanding and commitment of partners, as engagement is not equally salient in forums, arenas and courts. Values, language, visions, goals and processes each have agency in a collaboration, as they reflect consciously deliberated value-decisions. Addressing them carefully through a normative approach, could avoid reproducing and reinforcing situations that fall risk of being objectionable and unsolicited instead of preferred.

The lack of collaborative structures in AuroraAI demonstrably has an impact on the programme's collective agency as working together is expected to happen by default. If structures are the sum of all formal and informal elements that shape and principle foremost internal but also external engagement, they are, as mentioned above, the primary locus for the (re-)design of agency. Collaborating across sectors, organisations and units is prone to emulate external hierarchies and operating modes if not deliberately structured differently. Roles, responsibilities, as well as rules and norms in AuroraAI appear to be not yet defined, leading to independent working, perceived uncertainties and potential for conflict. Informal and intangible structures, such as carefully nurtured trust, are at risk where formal structures of, for example, transparent procurement, are not in place. Thus far, the naturally grown realm of leadership in AuroraAI is unilateral instead of collaborative and self-governed among 5 — SUMMARY

partners. Advancing the programme development required direct contributions of leaders to the programme content and management; potentially paying less attention to the superior agency held by those in a collaborative environment. Facilitation and mediation of power dynamics are vital leadership mechanisms to ensure joint ownership of processes and outcomes among partners. The digital means of engagement utilised in AuroraAI do not imply collaboration per se and therefore depend equally on skilful facilitation, precise common lingo and presupposed trust to become meaningful. Structuring collaborative engagement then, has to be sensitive to hidden aspects of power and agency that come with every dimension from the choice of location for a face-to-face meeting to the utilised technologies for virtual deliberation. All structures have agency, either consciously decided or unconsciously attributed, which makes their design a question of value-choices that can either facilitate or restraint access and agency in a collaboration.

The above makes it difficult to attribute the intentionality of different levels of tangible and intangible outcomes and therefore their derived accountabilities in AuroraAI. Uncertainty appears to be further amplified through a communication strategy that does not facilitate access and participation of involved and not involved partners through passiveness. In return, the programme becomes directly confronted with internal and external concerns of mandates under the respective institutional or organisational locale, jurisdiction or responsibility. Despite the criticism I outlined above, the interviewed partners provided me with a sincere impression of honest motivation to jointly develop a functioning, collaborative working environment to tackle the pressing issues of digital futures.

I showed that there are different levels of agency at play in every dimension of a collaboration. This examination of power is by far not exhaustive and does require considerably more in-depth investigation and theoretical ground. However, if agency is the capacity of an actor to exert power in a given context, this capacity can be deliberately or unintentionally limited and expanded; hence agency is open to be designed in a way that changes its capacity situation into a preferred one. In the context of collaborations, designed structures, rules, and norms then become the main lever to manipulate agency and thereby power dynamics, according to prefigured values and principles. This, in return, attributes significant power to the very act of designing or structuring said agency, demanding immanent value-decisions to be fathomed and rendered less elusive if increased power balance is sought for. Only then, hidden power can be made overt, and imbalances harmonised through the mindful exercise of this power. Conscious acknowledgement of this agency and the levels on which it limits or augments the power exertion in others becomes the first step in redesigning it. I proceed by assuming collaborations to be democratic and deliberative by nature. If cross-sector collaborations are about jointly achieving an outcome that could not have been achieved by the involved partners separately, they aim to build towards a collective agency. Dividing processes and structures of a collaboration into arenas, forums and courts can help to reveal inherent agencies of human and non-human actors and take informed decisions of where to enhance and where to limit them respectively. Understanding the interrelations of agency then serves as a starting point to consciously design the collective agency of the collaboration as such, as it fundamentally depends on the collaborative dynamics between actors to function accordingly. 5 —— SUMMARY

My critical, hopefully, constructive view towards AuroraAI was instructed by two distinctive lenses, aiming to reveal different layers and forms of agency held by human and non-human actors in a collaboration. The design lens herein provided me with the view on the programme in the broader perspective of complex problems, while demanding a human-centric angle. Public administration theory allowed me to ground and attribute normative values of democratic participation or the creation of public good to the realm of governance and therein collaboration. Cross-sector collaboration theory further provided me with an initial understanding of collaborative dynamics to determine the different elements at play in AuroraAI. Acknowledging that signs, objects, services and thoughts affect humans and human behaviour, is then again something inherent to design that hopefully revealed novel perspectives to agency for the development of the programme and potential enrichment of theory. As design to me is primarily a perspective or mindset, the understanding formulated in this thesis - from human-centricity to abductive framing, to transition design, to participatory backcasting - did not only serve as a vehicle to develop this thesis; I believe it can help to grasp and advance the governance of AuroraAI constructively without imposing prefabricated solutions. To me, the programme has unprecedented potential to advance digital human-driven environments and challenge existing structures and paradigms in contemporary governance. In this context, this would mean fundamentally increasing societies agency toward its futures and thereby directly increasing its agency in democratic governance, which is, in essence, to 'support and strengthen the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances' (Buchanan, 2001). Efforts in advancing the public sector through the careful application of technology, as well as improvements of cross-sector service delivery, are then the means to address the urgent redesign of relations and contracts between society and the government.

5 —— SUMMARY

Discussion: Reasoned Normativity

5 From my perspective, the inherent value and potential of AuroraAI are not primarily in the application of technology, as there is an ongoing global race for progress in the prospects of machine learning and artificial intelligence. The programme is also only so much about the approach of life-events or multi dimensional wellbeing, as those are only a means to structure service delivery concepts. I think that AuroraAI is about the reframing of how public good is created and shared among society, which is essentially about the relationship between people and the government. Therefore, it is much more about the high ethical standards and levels of trust in this country, as those distinguish the programme from the myriad of similar approaches elsewhere. It is about setting course for an immediate future as much as for the uncertainties of more distant futures that pose vast socio-technical complexities not graspable by neither lay-person nor experts today. This is precisely the reason why I think we have to jointly and deliberately redetermine the fundamental criteria of values and ideologies on which we want to build those futures. Moreover, if we decide that things such as transparency, participation or inclusion are, or are maybe not, the values we want to advocate, I think we have to create mechanisms that transparently reproduce them; taking form as structures of a collaboration, functional principles in technology or concrete policies and regulations. In this context, I would like to acknowledge that I only peripherally touched upon the wider ethical implications of AuroraAI operations from individual human autonomy to questions of legislation and legal responsibility in automated decision making and service provision.

The picture of design I painted here is a mostly idealistic one. Nevertheless, I acknowledge that design is by far not always motivated or applied in a way that strengthens human dignity, but instead often abused to advance contemporary neoliberal thinking and foster imbalanced economic growth. Therefore, I attempted to build this 'black and white' notion that allows distinguishing between the mindful posture and the mindless repetition of buzzwords. Design theory would, therefore, equally benefit from a reflective and critical dialogue that examines the contemporary gaps between theoretical ideal and practical reality of the discipline.

I acknowledge that my theoretical expertise in Public Administration and Management is limited; hence this thesis most likely will not provide anything novel for the respective theory. However, I do think that the deliberate perspective towards human, or non-human, power and agency in collaborations can enrich the academic dialogue. Therefore, I think looking further into how different levels of agency interrelate systematically and how this agency can be structured accordingly could be a valuable avenue for theory. Incorporating more reflections on means or technologies into the theory, especially from the viewpoint of power mediation, would fill a current gap in the research. This then includes the way how things are framed, named and laid out in collaborations and their communicative strategy, from goals to roles to outcomes. NPG and the fundamental concept of collaboration are normative, as they argue for principles of collective action or public value (co-)creation. Consequently, I think it could benefit also to dare to look at where and how those principles are currently advanced and where they still get omitted, consciously, or unconsciously. The theoretical dimensions discussed in this thesis become tangible examples of how science does have agency in the way it frames research and thereby guides the practitioner who produces tangible actions based on results. Endorsing this normativity would then be the first step for a more reflective mode of science that critically, yet actively engages with creating change in a time where uncertainty and complexity cannot be solely addressed via pseudo-neutral naturalistic principles of description anymore. In return, I acknowledge the potential impact my research might have on the prospects of AuroraAI. Referring to what has been mentioned earlier, the next steps would then be the development of more practical measures derived from what has been discussed in this thesis.

6 — APPENDIX

6—1 Bibliography

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6-2 Typography Resources

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6—3 Interview Guideline

SEMI-STRUCTURED INTERVIEW GUIDELINE



INTRODUCTION

Reintroduce purpose of the study and make sure that privacy note / consent form are read, understood and signed before proceeding with the questions.

GENERAL COLLABORATION

• • What is the sector/organisation you are working in? What is your role in your organisation? What is your role in AuroraAI? What is your organisations role in AuroraAI? What other important roles are there in AuroraAI?

ROLES OF CITIZENS

: How do you see the role of citizens in AuroraAI? What is their role in the current stage and in the future? How and why should citizens get involved in the project? What are the benefits of citizen participation? What would happen if citizens participate?

GENERAL COLLABORATION

- : Why are you participating in AuroraAI? | Why are others participating in AuroraAI?
- How to people communicate and discuss in AuroraAI? / How is AuroraAI lead? How are decisions made? How should it be?

Do people understand other's perspectives and trust each other? Are the people committed of the project? How should it be?

GOALS & OUTCOMES

- What are your / your organisation's most important goals for AuroraAI? / What are the most
- important com-mon goals?

What should be the immediate / mid-term / long-term outcomes of AuroraAI? / What are the important blocks towards that?

6—4 Survey Structure

AuroraAl Survey 1.3 MWI

Section	ID	Item [EN]	Item [FI]	Value [EN]	Value [FI]
Introduction To					
the Survey	1	AuroraAl Kick-Off Questionnaire	AuroraAl Kick-off -kyselylomake		
	1.1	Welcome and thank you for taking the time to answer this questionnaire on AuroraAl.	Tervetuloa ja kiitos siitä, että teillä on aikaa vastata tähän AuroraAI:ta koskevaan kyselylomakkeeseen.		
		My name is Mirko and I was given the opportunity to study the AuroraAI programme with support from the Finnish Ministry of Finance as part of my master's thesis in Aalto University. The questions are designed to help me understand your experiences and perspectives in the preliminary collaborative development of AuroraAI - and your expectations for the future.	Nimeni on Mirko ja olen saanut mahdollisuuden tutkia AuroraAl-ohjelmaa valtiovarainministeriön tuella osana pro gradu -tutkielmaani Aalto-yliopistossa. Kysymysten tarkoituksena on auttaa minua ymmärtämään kokemuksianne ja näkökulmianne alustavassa yhteistyössä kehitetystä AuroraAl-isa – ja odotuksianne tulevaisuuden suhteen.		
		Participation is of course voluntary and you will only find three mandatory questions; still I appreciate every answer.	Osallistuminen on tietenkin vapaaehtoista ja pakollisia kysymyksiä on vain kolme. Arvostan silti kaikkia vastauksia.		
	1.2	All information will be handled strictly confidential and data will be collected, evaluated and presented anonymously. Preliminary results will be presented on 24.10.2019 during the AuroraAl Kick-Off meeting. The final results will be published as part of my thesis in spring 2020.	Kaikki tiedot käsitellään ehdottoman luottamuksellisina, ja ne kerätään, arvioidaan ja esitetään nimettöminä. Alustavat tulokset esitetään 24.10.2019 AuroraAl Kick-off -kokouksen aikana. Lopulliset tulokset julkaistaan osana tutkielmaani keväällä 2020.		
		In case of any questions, feel free to contact me via mirko.wittka@aalto.fi	Jos tulee kysyttävää, ottakaa minuun yhteyttä osoitteella mirko.wittka@aalto.fi		
		Kiitos paljon, Mirko	Kiitos paljon, Mirko		
		[Start the survey]	[Aloita tutkimus]		
		[סנמו נווס סטו אסא]	[Alora tutulinas]		

		To start with, I would like to know more about your participation in the development of the	
General		AuroraAl programme. The following three questions are mandatory to help me structure the	Aluksi haluaisin tietää enemmän osallistumisestanne AuroraAl-ohjelman kehittämiseen.
Information	2	results.	Seuraavat kolme kysymystä ovat pakollisia, jotta pystyn niiden avulla jäsentämään tuloksia.

2.1	In which sector are you - or the partner organisation you are working for - primarily situated?	Millä sektorilla - tai missä kumppaniorganisaatiossa - työskentelette ensisijaisesti?	1: Public sector (ministry, civil agency,) 2: Private sector (lech company, consultancy,) 3: Third sector (NGO, foundation,) 4: Civil society	J. Junisetia serikon illa (Immisetin, Viraatu,) 2: Yksityisellä sektorilla (teknologiayritys, konsultointitoimisto,) 3: Kolmannella sektorilla (kansalaisjärjestö, sää) 4: Kansalaisyhteiskunnassa
			2: Coordination and management 3: Core technologies 4: Ethical code 5: Token economy 6: Monitoring and reporting 7: "Moving" related life-events 8: "Working Life" related life-events	2: Koordinointi ja hallinnointi 3: Ydinteknologiat 4: Eettiinen koodisto 5: Token-talous 6: Seuranta ja raportointi 7: "Muuttoon" liittyvät elämäntapahtumat 8: "Työelämään" liittyvät elämäntapahtumat
2.2	Which are the three areas, your involvement in the programme is mainly concerned with?	Millä kolmella alueella olette pääasiassa osallistuneet ohjelmaan?	9: "Family" related life-events	9: "Perheeseen" liittyvät elämäntapahtumat
			1: Since 2017 2: Since 2018	2: Vuodesta 2017 aikaen 3: Vuodesta 2019 aikaen
2.3	Since when are you involved in the development of the programme?	Mistä lähtien olette osallistuneet ohjelman kehittämiseen?	3: Since 2019	
2.4	The following section provides you with a number of general statements concerning AuroraAI. In each case, please rate the extent to which you agree with the statement provided.	Seuraavassa osiossa on joukko yleisiä väittämiä , jotka koskevat AuroraAl:ta. Arvioikaa kussakin tapauksessa, missä määrin olette samaa mieltä esitetyn väittämän kanssa.		
	AuroraAI will allow the joint achievement of an outcome, that could not be achieved by it's involved	AuroraAI mahdollistaa yhteisen lopputuloksen saavuttamisen, mitä siihen osallistuvat kumppanit	1: Strongly disagree 5: Strongly agree	1: Täysin eri mieltä 5: Täysin samaa mieltä
241	partners separately.	eivät olisi voineet saavuttaa erikseen.	6: No answer (default)	6: Ei vastausta (oletus)
	The collective interests of partners involved in AuroraAl are interdependent. Partaking in the development of AuroraAl holds consequential incentives for me or the	AuroraAI:n yhteistyökumppanien yhteiset edut ovat toisistaan riippuvaisia. Osallistuminen AuroraAI:n kehittämiseen antaa merkittäviä kannustimia minulle tai organisaatiolle,	i v z H	и
2.4.3	organisation I am working for. Future developments in artificial intelligence and digitalisation will bring cross-sectoral	jossa työskentelen.		8
2.4.4	uncertainties. There has been positive cooperation between my organisation and other involved partner	Tekoälyn ja digitalisoinnin tuleva kehitys luo sektoreiden välisiä epävarmuustekijöitä. Organisaationi ja muiden mukana olevien kumppaniorganisaatioiden välillä on aiemmin tehty		8
2.4.5	organisations in the past.	positiivista yhteistyötä.	н	
		[Jatka seuraavalle sivulle]		

Goals & Visions	3.1	The following section provides you with a number of statements concerning the goals of AuroraAI. In each case, please rate the extent to which you find the statement provided important for AuroraAI.	t Seuraavassa osiossa on joukko väittämiä, jotka koskevat AuroraAI:n tavoitteita. Arvioikaa kussakin tapauksessa, miten tärkeä esitetty väittämä on mielestänne Aurora AI:lie.		
				1: Not important	1: Ei tärkeä
			Yhdistää älykkäät palvelutarjoukset useille sektoreille.	5: Very important	5: Erittäin tärkeä
		 Connect smart service offers across multiple sectors. 		6: No answer	6: Ei vastausta
	3.1.2	Enable citizens to manage their personal data.	Antaa kansalaisille mahdollisuuden hallinnoida henkilötietojaan.		
	3.1.3	Allow re-use of customer data across multiple sectors.	Sallia asiakastietojen uudelleenkäytön useilla sektoreilla		

6—4 Survey Structure

3.2

4.1

42

5.1

Principles &

Collaborative

Structures

Processes

323 transformations

The following section provides you with a number of statements concerning the vision for

AuroraAI. In each case, please rate the extent to which you agree with the statement provided

The vision for AuroraAl should be abstract and allow working towards wider socio-technical

The following section provides you with a number of statements concerning the engagement

4.1.7 There is joint determination of decisions (defining agendas, setting up work groups, actions, ...).

the development of AuroraAI. In each case, please rate the extent to which you agree with the

The following section provides you with a number of statements concerning the structures within

within the development of AuroraAI. In each case, please rate the extent to which you agree with

3.2.2 The vision for AuroraAl should be tangible and allow working towards immediate actions.

3.2.5 Please briefly outline what else is important to your personal programme vision.

4.1.1 Individual or shared interests and values are discovered collaboratively.

4.1.2 Individual or shared issues and concerns are discovered collaboratively.

4.1.4 Programme expectations and responsibilities are defined collaboratively.

415 There is continuous meaningful communication on developed perspectives. 4.1.6 There is continuous reasoned deliberation on conflicting perspectives.

4.2.3 There is a high level of mutual understanding of other partners' perspectives.

4.1.3 Programme objectives and problems are defined collaboratively.

4.2.1 There is a high level of mutual trust between involved partners.

4.2.4 All partners show clear commitment to the project and process.

Items 11 [Go back to previous page] / [Continue to next page]

4.2.2 There is face-to-face dialogue between the involved partners.

3.2.1 The joint vision for AuroraAI is mainly focused on:

3.2.4 The joint vision for AuroraAl should be mainly focused on:

Items 20 [Go back to previous page] / [Continue to next page]

the statement provided.

statement provided.

Teknologisiin tarkoituksiir

2: Taloudellisiin tarkoituksiin 3: Yhteiskunnallisiin tarkoituksiin

1: Teknologisiin tarkoituksiin

2: Taloudellisiin tarkoituksiin

6: Ei vastausta (oletus)

1: Täysin eri mieltä

5: Täysin samaa mieltä

6: Ei vastausta (oletus)

: Tävsin eri mieltä

5: Täysin samaa mieltä

6: Ei vastausta (oletus)

1: Julkisella sektorilla (ministeriö, virasto, ...)

3: Yhteiskunnallisiin tarkoituksiin

6: Fi vastausta (oletus)

3.1.4 Increase digital competencies in partner organisations.	Lisätä kumppaniorganisaatioiden digitaalista osaamista.	11		
3.1.5 Develop new business opportunities and service offers.	Kehittää uusia liiketoimintamahdollisuuksia ja palvelutarjouksia.			
3.1.6 Build up digitalisation knowledge for citizens.	Vahvistaa kansalaisten digitalisaatioon liittyviä kyvykkyyksiä.	10		
3.1.7 Engage new partners from different sectors.	Saada mukaan uusia yhteistyökumppaneita eri sektoreilta.			
3.1.8 Develop ethical standards for the age of artificial intelligence.	Kehittää eettisiä standardeja tekoälyaikaa varten.			
3.1.9 Spur new policies and regulations for digitalisation.	Luoda uusia digitalisoinnin toimintamalleja ja -sääntöjä.			
3.1.10 Increase the efficiency of service provision.	Parantaa palvelujen tarjoamisen tehokkuutta.	10		
3.1.11 Address societal problems or deficits.	Puuttua yhteiskunnallisiin ongelmiin tai puutteisiin.			
3.1.12 Build incentive models by establishing a token economy.	Luoda kannustinmalleja perustamalla token-talous.			
3.1.13 Develop new ways of working across multiple sectors.	Kehittää uusia työskentelytapoja useilla sektoreilla.			
3.1.14 Establish new organisational structures across multiple sectors.	Perustaa uusia organisatorisia rakenteita useille sektoreille.	"		
3.1.15 Increase trust towards digitalisation and Al.	Lisätä luottamusta digitalisointia ja tekoälyä kohtaan.			
3.1.16 Create a human-centric society.	Luoda ihmiskeskeinen yhteiskunta.	"		
3.1.17 Please briefly outline other programme goals that are important to you.	Kuvatkaa lyhyesti ohjelman muita tavoitteita, joita pidätte tärkeinä.	Text Area	Tekstialue	

Seuraavassa osiossa on joukko väittämiä, jotka koskevat AuroraAI:n visiota. Arvioikaa kussakin

AuroraAl:n vision pitäisi olla konkreettinen, ja sen olisi mahdollistettava välittömien toimien

Kuvatkaa lyhyesti, mikä muu on tärkeää teidän henkilökohtaiselle visiollenne ohjelmasta.

Seuraavassa osiossa on ioukko väittämiä, iotka koskevat osallistumista AuroraAl:n

kehittämiseen. Arvioikaa kussakin tapauksessa, missä määrin olette samaa mieltä esitetvn

Päätökset määritellään yhdessä (työjärjestyksen määrittely, työryhmien perustaminen, toimet, ...).

prosesseja. Arvioikaa kussakin tapauksessa, missä määrin olette samaa mieltä esitetyn

AuroraAl:n vision pitäisi olla abstrakti, ja sen avulla olisi voitava pyrkiä laajempiin

: Technological purposes

1: Technological purposes

2: Economic purposes

3: Societal purposes

6: No answer (default)

1: Strongly disagree

6: No answer (default)

: Strongly disagree

6: No answer (default)

5: Strongly agree

5: Strongly agree

2: Economic purposes

3: Societal purposes

6: No answer (default)

tapauksessa, missä määrin olette samaa mieltä esitetyn väittämän kanssa.

AuroraAI:n yhteinen visio keskittyy etupäässä:

AuroraAI:n yhteisen vision pitäisi keskittyä etupäässä:

[Mene takaisin edelliselle sivulle] / [Jatka seuraavalle sivulle]

Yksittäisiä tai yhteisiä etuja ja arvoja löydetään yhteistyössä.

Ohjelman tavoitteet ja ongelmat määritellään yhteistyössä.

Ristiriitaisista näkymistä keskustellaan jatkuvasti perusteellisesti.

Mukana olevien kumppaneiden keskinäinen luottamus on korkea.

Mukana olevien kumppanien välillä kävdään suoraa vuoropuhelua.

[Mene takaisin edelliselle sivulle] / [Jatka seuraavalle sivulle]

Kaikki kumppanit ovat selvästi sitoutuneita hankkeeseen ja prosessiin

Muiden kumppanien näkemyksiä ymmärretään vastavuoroisesti.

Ohjelman odotukset ja vastuut määritellään yhteistyössä. Kehittvneistä näkymistä tiedotetaan jatkuvasti merkityksellisesti.

Yksittäisiä tai yhteisiä kysymyksiä ja huolenaiheita löydetään yhteistyössä.

vhteiskunnallisteknisiin muutoksiin

toteuttaminen

väittämän kanssa.

väittämän kanssa.

The following section provides you with a number of statements concerning the processes within Seuraavassa osiossa on joukko väittämiä, jotka koskevat AuroraAI:n kehittämiseen liittyviä

the development of AuroraAI. In each case, please rate the extent to which you agree with the statement provided.	Seuraavassa osiossa on useita väittämiä, jotka koskevat AuroraAl:n kehittämisen rakenteita. Arvioikaa kussakin tapauksessa, missä määrin olette samaa mieltä esitetyn väittämän kanssa.	
		1: Public sector (ministry, civil agency,)



5.1.6	In the future, leadership functions within AuroraAl should be more situated in:	Tulevaisuudessa AuroraAl:n johtotehtävien tulisi sijaita enemmän:	1: Public sector (ministry, civil agency,) 2: Private sector (tech company, consultancy,) 3: Third sector (NGO, foundation,) 4: Civil society	1: Julkisella sektorilla (ministeriö, virasto,) 2: Yksityisellä sektorilla (teknologiayritys, konsultoinitioimisto,) 3: Kolmannella sektorilla (kansalaisjärjestö, säätiö,) 4: Kansalaisyhteiskunnassa
5.2	In each case, please rate your tendency regarding the statement provided.	Arvioikaa kussakin tapauksessa suuntaustanne koskien annettua väittämää.		
5.2.1	The structures and rules for planning, administration and decision making in AuroraAl are mainly:	AuroraAI:n suunnittelua, hallintoa ja päätöksentekoa koskevat rakenteet ja säännöt ovat etupäässä:	1: Informal 5: Formal 6: No answer (default) 1: Intra-organisational 5: Inter-organisational	1: Epämuodollisia 5: Muodollisia 6: Ei vastausta (oletus) 1: Organisaation sisäisiä 5: Organisaatioiden välisiä
5.2.2	During my working experience for AuroraAI, I faced organisational barriers.	Kohtasin organisatorisia esteitä työskennellessäni AuroraAI:n parissa.	7: I did not. 6: No answer (default) 1: Flexibility	7: En kohdannut. 6: Ei vastausta (oletus) 1: Joustavuuteen
5.2.3	The working structures of AuroraAI should be based on:	AuroraAl:n työrakenteiden tulisi perustua:	5: Stability 6: No answer (default) 1: Inclusivity	5: Pysyvyyteen 6: Ei vastausta (oletus) 1: Osallisuuteen
5.2.4	The selection of involved partners for AuroraAl should be made towards:	Mukana olevien AuroraAI:n kumppaneiden valinnan tulisi perustua:	5: Efficiency 6: No answer (default) 1: Unity	5: Tehokuuteen 6: Ei vastausta (oletus) 1: Yhtenäisyyttä
5.2.5	The values of the AuroraAl programme should reflect:	AuroraAl-ohjelman arvojen tulisi heijastaa:	5: Diversity 6: No answer (default) 1: Autonomy	5: Monimuotoisuutta 6: Ei vastausta (oletus) 1: Riippumattomia
5.2.6	Partners and working groups in AuroraAl should act in:	AuroraAI:n kumppaneiden ja työryhmien toimien tulisi olla:	5: Interdependence 6: No answer (default)	5: Keskenään riippuvaisia 6: Ei vastausta (oletus)
Items 12	2 [Go back to previous page] / [Continue to next page]	[Mene takaisin edelliselle sivulle] / [Jatka seuraavalle sivulle]		
Additional Feedback 6	Is there anything else you would like to tell me? I appreciate your feedback.	Haluaisitteko kertoa minulle vielä jotain muuta? Kaikki palaute otetaan kiitollisena vastaan.		
ltems	1 [Submit Survey]	[Lähetä kysely]		
	Thank you very much for participating in this survey and filling the questionnaire.	Paljon kiitoksia osallistumisesta tähän kyselyyn ja kyselylomakkeen täyttämisestä.		
Outro 7 Total Items: 5	I will present the preliminary results on 24.10.2019 during the AuroraAI Kick-Off meeting and am looking forward to meeting you. The final results will be published as part of my thesis in spring 2020. 52	Esittelen alustavat tulokseni 24.10.2019 AuroraAI:n Kick-off -kokouksessa ja odotan tapaavani teidät siellä. Lopulliset tulokset julkaistaan osana tutkielmaani keväällä 2020.		
	In case of any questions, feel free to contact me via mirko.wittka@aalto.fi	Jos tulee kysyttävää, ottakaa minuun yhteyttä osoitteella mirko.wittka@aalto.fi		
	Kiitos paljon, Mirko	Kiitos paljon, Mirko		
	Contact information in the Finnish Ministry of Finance: Aleksi Kopponen: aleksi.kopponen@vrn.fi Niko Ruostetsaari: niko.ruostetsaari@vrn.fi	Valtiovarainministeriön yhteistiedot: Aleksi Kopponen: aleksi kopponen@vm.fi Niko Ruostetsaari: niko.ruostetsaari@vm.fi		

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A? / AURORAAI Resume later Exit and clear survey	Title of this Page Torem ipsum dolor sit amet, consectetur adipiscing elit. Praesent in imperdiet orci. Aliquam suscipit turpis orci, quis fringilla nisi tempus ut. In ac commodo metus, et venenatis purus. Etiam sit amet ex lacinia, cursus mi eu, feugiat odio. Vestibulum sagittis ac est in ultrices. Vestibulum varius finibus tincidunt. T Z 3 4 5 6	Please state how much you agree with the statement above. Totally agree - 6: Totally disagree Totally agree - 6: Totally disagree Your peers are discussing this issue below. Scroll down and join them!	 Anonymous Test Comment April 22, 2020, 13:28 PM Anonymous Etiam sit amet ex lacinia, cursus mi eu, feugiat odio. Vestibulum sagittis ac est in ultrices. April 22, 2020, 13:29 PM 	Post a Comment Type comment here