TURUN YLIOPISTO
UNIVERSITY OF TURKU

The power of we

Towards dynamic collaboration capability in inter-organizational multi-party collaboration

Sari Kola

TURUN YLIOPISTON JULKAISUJA – ANNALES UNIVERSITATIS TURKUENSIS
SARJA – SER. E OSA – TOM. 132 | OECONOMICA | TURKU 2025

TURUN
YLIOPISTO
UNIVERSITY
OF TURKU

THE POWER OF WE

Towards dynamic collaboration capability in inter-organizational multi-party collaboration

Sari Kola

TURUN YLIOPISTON JULKAISUJA – ANNALES UNIVERSITATIS TURKUENSIS
SARJA – SER. E OSA – TOM. 132 | OECONOMICA | TURKU 2025

University of Turku

Turku School of Economics
Management and entrepreneurship
Management and organization
Doctoral Programme of Turku School of Economics

Supervised by

Professor Satu Teerikangas,
Turku School of Economics

Professor Tauno Kekäle
University of Vaasa

Lecturer Anni Paalumäki
Turku School of Economics

Reviewed by

Professor Paavo Ritala
LUT University

Professor Christina Öberg
Linnaeus University

Opponent

Professor Paavo Ritala
LUT University

ISBN 978-952-02-0291-0 (Painettu)
ISBN 978-952-02-0292-7 (PDF)
ISSN 2343-3159 (Painettu)
ISSN 2343-3167 (Sähköinen)
Painosalama, Turku, Suomi, 2025

Rakkaudella Kikalle, joka jaksaa kuunnella ja tukea

UNIVERSITY OF TURKU
Turku School of Economics
Management and entrepreneurship
Management and organization
SARI KOLA: The power of we: Towards dynamic collaboration capability in inter-organizational multi-party collaboration
Doctoral Dissertation, 154 pp.
Doctoral Programme: Turku School of Economics
08/2025

ABSTRACT

This thesis enhances our ability to harness the "power of we" in solving systemic problems of significant societal and economic importance. It argues that the strategic paradigm is shifting from organization-centric to collaboration-centric, while collaboration often involves multiple diverse organizations. Framing business as 'peace' instead of 'war' suggests that the ability to structure and manage such inter-organizational multi-party collaboration is a dynamic capability. This capability can help companies of different sizes and public organizations work together in addressing systemic problems.

The research problem of this thesis – "How to structure and manage inter-organizational multi-party collaboration when solving systemic problems?" – presents a contemporary research setting for strategic management scholars, organizational scientists as well as innovation and ecosystem scholars alike, while calling for a cross-disciplinary approach. This thesis starts from the strategic foundation, proceeds through understanding structures and most importantly develops frameworks that help manage inter-organizational multi-party collaboration. Qualitative methodologies namely engaged scholarship and longitudinal case study, are applied, and the two in-depth case studies, EnergySampo with focus on green transition in the energy industry and LUXTURRIM5G with focus on intelligent urban environments. They provide invaluable insights on how inter-organizational multi-party collaboration unfolds in real life.

The frameworks developed in this thesis provide novel views into theorizing in strategic management, organizational science, innovation and ecosystems. First, the concept of strategic purpose and the process of collaborative strategizing contribute to theories of strategic management. Second, from innovation and ecosystem perspectives, the framework for positioning different forms of inter-organizational multi-party collaboration helps enhance the conceptual clarity related to clusters, ecosystems, networks and platforms, and support development of the plausible decision-making process underpinning these structural choices. Third, the most significant contribution of this thesis, the dynamic collaboration capability framework, in turn, helps in understanding the importance of strategic purpose in creating trust and ensuring value creation and value capture.

From a practical standpoint, these contributions offer leaders of public organizations and companies of different sizes new tools that can help identify new

opportunities through collaborative strategizing. Together with the frameworks enhancing conceptual clarity related to different structures of inter-organizational multi-party collaboration, they help manage such collaboration, and to ensure transition from value creation to value capture. Above all, the contributions of this research can help manage the expectations of different organizations, structure inter-organizational multi-party collaboration to meet those expectations, and better manage portfolios of such collaboration, ensuring efficient use of resources and development of the dynamic capabilities needed in today's business environment by harnessing the "power of we".

KEYWORDS: strategy, organization, innovation, collaboration, cluster, network, ecosystem, platform, inter-organizational multi-party collaboration, dynamic capability

TURUN YLIOPISTO
Turun Kauppakorkeakoulu
Laitos: Johtaminen ja yrittäjyys
Oppiaine: Johtaminen ja organisointi
SARI KOLA: Yhteistyön voima: Kohti moniorganisaatioyhteistyön dynaamista kyvykkyyttä
Väitöskirja, 154 s.
Tohtoriohjelman nimi: Turun Kauppakorkeakoulun tohtoriohjelma
08/2025

TIIVISTELMÄ

Tämä väitöskirja kannustaa ja haastaa julkisten organisaatioiden ja yritysten johtajia ratkaisemaan aikamme systeemisiä ongelmia ja tunnistamaan niissä piileviä kasvun mahdollisuuksia. Sen lähtökohtana on, että monen organisaation välinen yhteistyö on systeemisten ympäristöön ja yhteiskuntaan liittyvien ongelmien ratkaisemisen edellytys. Tätä monimuotoista kokonaisuutta on tutkittu strategisen johtamisen, organisaatiotieteen ja innovaatio- ja ekosysteemitutkimuksen keinoin. Näiden yhdistäminen on mielenkiintoinen poikkitieteellinen tutkimusasetelma, jossa laadullinen tutkimus osallistavin menetelmin avaa uusia näkökulmia.

Tämä väitöskirja syventää ymmärrystä organisaatioiden välisen yhteistyön rakenteista ja vuorovaikutuksesta, kehittäen uudenlaisia työkaluja moniorganisaatioyhteistyön johtamiseen. Väitöskirjan keskiössä on uudenlaisen strategisen ajattelun tarve, monen organisaation välisen yhteistyön rakenteiden ymmärrys sekä niihin liittyvien määritelmien ja konseptien selkiyttäminen. Sen tavoitteena on lisätä ymmärrystä siitä, miten erilaisten organisaatioiden ja niissä työskentelevien ihmisten osaaminen voidaan valjastaa systeemisten ongelmien ratkaisemiseksi. Teoreettisen tarkastelun ohella väitöskirjan laadullinen tapaustutkimusote laajentaa ymmärrystä siitä, miten moniorganisaatioyhteistyötä rakennetaan ja johdetaan systeemisiin energiaratkaisuihin keskittyvässä EnergySampo ekosysteemissä ja älykkäitä kaupunkiverkkoja kehittävässä LUXTURRIM5G ekosysteemeissä.

Tutkimusongelmaa ”Millaiset rakenteet ja johtaminen tukevat monen organisaation välistä yhteistyötä systeemisiä ongelmia ratkaistaessa?”, käsitellään vaiheittain. Strategisella tasolla tämä väitöskirja esittää strategiakäsitteen yksinkertaistamista. Innovaatio- ja ekosysteemitutkimuksen näkökulmasta väitöskirja tarkastelee klusterien, verkostojen, ekosysteemien ja alustojen erityispiirteitä, kehittäen viitekehyksen, ja päätöksentekoprosessin, jotka toimivat (minkä?) rakenteiden määrittelyn ja johtamisen tukena. Väitöskirjan oleellisin uutuusarvo on dynaamisen yhteistyökyvykkyyden malli, joka yhdistää tämän väitöskirjan keskeiset strategiset ja operatiiviset löydökset.

Nämä kontribuutiot täydentävät strategisen johtamisen teoreettista kenttää. Organisaatioteorian näkökulmasta ne rakentuvat ajatukselle organisaatioista avoimina systeemeinä. Innovaatio- ja ekosysteemitutkimuksen näkökulmasta ne selkeyttävät erilaisten yhteistyömuotojen määrittelyä ja lisäävät ymmärrystä siitä, miten monen osapuolen välistä yhteistyötä johdetaan dynaamisessa toimintaympäristössä

systeemisiä ongelmia ratkaistaessa. Väitöskirja toteaa, että strategiseen merkitykseen perustuva luottamuksen rakentaminen on arvon luomisen ja etenkin arvon realisoinnin edellytys, joka pohjautuu kyvykkyydelle määritellä tarkoituksenmukaisia rakenteita ja johtaa yli organisaatiorajojen – ja muuttaa lähestymistapaa tarvittaessa.

Käytännön näkökulmasta kehitetyt viitekehykset auttavat julkisten organisaatioiden sekä yritysten johtajia ratkaisemaan systeemisiä ongelmia tuloksellisemmin. Strategisella tasolla ne tuovat uusia näkökulmia kasvun mahdollisuuksien tunnistamiseen. Lisäksi väitöskirja tuo selkeyttä yhteistyön rakenteiden määrittelyyn ja yhteistyöjohtamiseen, ja voivat näin nopeuttaa siirtymää arvon luomisesta arvon realisointiin – eli ratkaisujen kaupallistamiseen. Väitöskirja kannustaakin johtajia avoimuuteen, erilaisuuden hyväksymiseen ja erilaisten toimijoiden odotusten hallintaan. Se rohkaisee organisaatioita kehittämään dynaamista yhteistyökyvykkyyttä ja näin valjastamaan ”yhteistyön voiman” kestävän tulevaisuuden turvaamiseksi.

AVAINSANAT: strategia, organisaatio, innovaatio, yhteistyö, yhteistyöjohtaminen, klusteri, verkosto, ekosysteemi, alusta, moniorganisaatiohteistyö, dynaaminen kyvykkyys

Acknowledgements

Finalizing this thesis marks the end of an intriguing and rewarding personal learning journey. However, as many have been instrumental in getting us to where we are today, it is time to thank everyone who put their effort into harnessing “the power of we”.

Firstly, I am grateful for the academic crew that has been part of this journey. Professor Satu Teerikangas from the University of Turku has challenged, pushed, and sometimes pulled me along this journey. Thank you for your courage to accept the challenge of supervising such a broad and cross-disciplinary topic. Thank you for guiding me through choosing the methodology and for challenging me to be clearer and better. Next, there are my supervisors, Professor Tauno Kekäle, from the University of Vaasa, who greatly influenced this thesis by introducing me to EnergySampo and different actors in the EnergyVaasa cluster, leading to an unique research setting. Together with Anni Paalumäki from the University of Turku they provided invaluable contributions to this thesis through their questions and comments. In addition, great thanks go to research director Taina Tukiainen from the University of Vaasa and my long-time mentor and friend, Mikko Kosonen; our discussions have been, and will hopefully continue being, a blast of joint ideation and reflection of this important topic. Lastly, many thanks to the preliminary examiners, Professor Paavo Ritala from LUT University and Professor Christina Öberg from Linnaeus University, who helped clarify the thesis through their thoughtful comments, observations, challenges and questions. Furthermore, I thank Paavo for accepting to be my opponent in the defense as well as all faculty members and academic colleagues for valuable feedback and discussions in faculty meetings, conferences and less informal settings, sometimes over a glass of wine.

The second group of crucial people who contributed to this thesis is my “ecosystem partners of crime”, which are many. The thinking process was triggered and nurtured in numerous discussions with the wise and resourceful Ulla Koivukoski. Thank you for being a role model and for your support and friendship. During the study process, the Vaasa “mob” became and continues to be an important group of people who work relentlessly to solve various green transition challenges in the energy industry. These include the EnergySampo partners represented by

Stefan Damlin, Hannu Mäntymaa, Eero Koski, Pia Karumaa, Jarmo Saaranen, Timo Keski-Valkama, Timo Ala-Heikkilä, and many others. Furthermore, there are all the closely linked people who push the boundaries of inter-organizational multi-party collaboration: Sabina Storbacka, Riitta Björkenheim, Kaisa Penttilä, Tomas Häyry, and the BotH2nia task force members to name a few. Thank you for bearing with me and my endless requests for information and support.

Then there are friends and family. You know who you are. You have been there for me and provided unconditional support. Thank you, my dear daughters and my parents. And last but not the least, thank you Kika ♥. You gave did not complain when I was lost in thought, but supported the creative process by providing chocolate and love. For that, I am eternally grateful.

This is it – the end of this journey – and, for sure, the beginning of a new one.

14.08.2025
Sari Kola

SARI KOLA

She is a global citizen with extensive experience in managing people, business, and innovation, spanning over 25 years of management and leadership experience in various roles. She is passionate about building new businesses and creating high-performing teams across organizational boundaries. Sari is industry-agnostic and business model-enthusiastic. She is a thinker and doer who enjoys collaborative problem-solving in diverse cross-functional teams.

Contents

List of tables

List of Figures

1 Introduction

Our planet and society face deep-rooted environmental and social problems calling for systemic solutions (Calabrese et al. 2021; Ritala 2024). To solve these problems and secure a sustainable future, there is a need to engage the passion, creativity, and expertise of people across diverse organizations in collaborative problem-solving that transcends organizational boundaries (Porter & Siggelkow 2008; Clarke & Fuller 2010; Jacobides 2019). As this type of collaboration often involves more than two organizations, this thesis uses the term "inter-organizational multi-party collaboration" as an umbrella term and focuses on enhancing our understanding of the complex interactions that occur when structuring and leading such collaborations.

This thesis aims to help solve systemic problems. The means of achieving this purpose are to enhance our understanding of the strategic foundation and structures of inter-organizational multi-party collaboration and then use that understanding in designing and developing new theoretical and practical frameworks for managing such collaboration. Methodologically, it employs qualitative methodologies: engaged scholarship and longitudinal case study methodology. Together, these allow iteration between research design, theory building, problem formulation, and problem-solving. Furthermore, when applied systematically, they help enhance our understanding of the complex research problem from theoretical and practical viewpoints.

The research problem, "How to structure and manage inter-organizational multi-party collaboration needed to solve systemic problems?", is addressed in steps. This thesis begins by describing the strategic context where conflicting motivations and different ways of defining strategy prevail. Thus, it attempts to fill the research gap that defines new strategic frameworks for the "era of ecosystems". Second, it focuses on the research gap related to clarifying the conceptual definitions of different forms of inter-organizational multi-party collaboration: cluster networks, ecosystems, and platforms. Third, it considers these in light of empirical data related to two case studies: The primary case study, EnergySampo, is an energy industry innovation ecosystem where the partners ABB, Danfoss, Hitachi Energy, Wärtsilä, Vaasan Sähkö, VEO, and VNT Management are developing systemic and sustainable energy

solutions for a carbon-neutral society. The secondary case study, LUXTURRIM5G, is a telecommunications industry ecosystem in which Nokia and its 27 partners collaborated to improve the lives of city dwellers by developing a smart city solution and platform. Fourth, it examines the decision-making process leading to different inter-organizational multi-party structures in light of the resource-based and dynamic capability views, concluding that the choice of structure is a dynamic capability in itself. Finally, this thesis introduces the dynamic collaboration capability framework, defined as the capability to structure inter-organizational multi-party collaboration based on purpose, time from value creation to value capture, and trust.

The theoretical contributions embrace the paradigm shift from organization centric to value proposition centric. First, the concept of strategic purpose and the process of collaborative strategizing contribute to the theories of strategic management. They consider organizations as open systems and note the existence and need for different types of structures based on the value focus. Second, from innovation and ecosystem perspectives, the framework for positioning different forms of inter-organizational multi-party collaboration helps enhance the conceptual clarity related to clusters, ecosystems, networks and platforms, and support development of the plausible decision-making process underpinning these structural choices. Third, the dynamic collaboration capability framework helps in understanding the importance of strategic purpose in creating trust and ensuring value creation and value capture.

From a practical perspective, these contributions can help leaders of public and private organizations better understand the nature of systemic problems as drivers for inter-organizational multi-party collaboration and use that understanding to build the basis for collaborative strategizing and structuring, ultimately developing ways to solve systemic problems together, better, and faster.

1.1 Background

This thesis situates itself at the intersection of strategic management and organizational science, with a particular focus on the growing body of ecosystem literature. The cross-disciplinary approach is needed to address the inherent complexity of today's business environment, where a single organization often cannot solve systemic problems. Strategic management scholars have emphasized the importance of developing new strategic frameworks for what Jacobides (2019) refers to as an "ecosystem economy". From an organizational science perspective, this study builds on Adner's (2017) idea of the ecosystem as a structure and relates to the view of organizations as open systems (Scott 1998). It enriches the body of ecosystem literature with a specific attempt to reduce conceptual ambiguity related

to the term “ecosystem”, defined as, for example, organic constellations of organizational participants that collectively co-create ecosystem-level outputs (Autio & Thomas 2022) or as communities of interdependent yet hierarchically independent heterogeneous participants who collectively generate an ecosystem value proposition (Thomas & Ritala 2022). Instead of the term “ecosystem”, this thesis uses the term “inter-organizational multi-party collaboration”, mirroring the increasing interest and concern with interdependence across organizations and activities, with a focused attention on value creation and value capture (Adner 2017).

From the strategic management perspective, the importance of this thesis lies in the need to address systemic problems that individual organizations cannot solve alone. These problems include for example climate change (OECD 2025a), an ageing population (World Economic Forum 2024), and geopolitical uncertainty (OECD 2025b). A broad consensus exists on the urgency of generating further social, environmental, and economic innovations to address these challenges, thus reshaping global markets, offering new spaces of action for firms and institutions (Calabrese et al. 2021). Planko et al. (2019) highlight that these systemic problems or grand challenges are complex and uncertain and cannot be resolved by individual actors or organizations. They conclude that to solve or mitigate societal problems, new socio-technological systems must be developed.

From the organizational science perspective, conventional forms of organizing are insufficient in the face of existential problems (e.g., climate change or global inequality), which require continuous and varied attention and inputs (Ritala 2024). In a similar vein, Calabrese et al. (2021) note that underlying sustainable innovation is an ecosystem in which the relationships between the economy, society, and the environment are continuous; thus, collaboration assumes a strategic role.

Considering these viewpoints, this thesis focuses on structuring inter-organizational multi-party collaboration and the management challenge related to solving systemic problems via such forms of organizing.

1.2 The research gaps and research problem

This thesis employs the term “inter-organizational multi-party collaboration” as an umbrella term and focuses on enhancing our understanding of the complex interactions when structuring and leading collaboration involving two or more organizations. Considering the complexity of the topic, this thesis identified research gaps related to the different disciplines, starting with the growing body of ecosystem literature. The problem formulation has its roots in the work of Autio and Thomas (2022) and Adner (2017), who identified interesting research gaps that this thesis aims to fill.

First, according to Autio and Thomas (2022), innovation scholars have variably adopted derivative, parallel concepts such as “innovation ecosystems”, “business ecosystems”, “technology ecosystems”, “platform ecosystems”, “industrial ecosystems”, “urban ecosystems”, “civic ecosystems”, “open innovation ecosystems”, “entrepreneurial ecosystems”, and “knowledge ecosystems”– often without explicit definition, while bearing significant overlap. They conclude that “what these derivative concepts have in common is a novel coordination solution to collective production of a coherent system-level output, complemented with associated benefits for individual ecosystem stakeholders”. Their research outcomes suggest multiple directions for further study, namely, further emphasis on the need for conceptual clarity and a deeper understanding of the processes of ecosystem emergence and evolution over time. Second, this thesis builds on Adner’s (2017) view of the ecosystem as a structure, where he refers to the discussions with strategy scholars and considers related concepts (e.g., business models, platforms, coopetition, multi-sided markets, networks, technology systems, supply chains, value networks), concluding that the notion of ecosystems has raised awareness and focused attention on new models of value creation and value capture. This leads to organizational science, which examines organizations as open systems (Scott 2003). In terms of future research directions, Adner (2017, p. 56) states:

“The multiplicity of relationships within interdependent structures give[s] rise to a multiplicity of approaches to recharacterizing and measuring core constructs such as performance, investment, and capability. At the same time, they also raise the challenge of capturing data on a broader set of actors than is the case in traditional strategy research. Further, understanding multilateral structure can require a deeper level of contextual knowledge. These investment requirements, however, are balanced by a great opportunity to develop new ideas and productively revisit established wisdom.”

Drawing from these two significant studies, the research problem emerged and took form. The problem formulation consisted of three steps. First, understanding the strategic management perspective was considered important to better understand the drivers of inter-organizational multi-party collaboration and how organizations capture and articulate their strategies in an environment where such collaboration is needed. Second, defining the conceptual field surrounding inter-organizational multi-party collaboration was necessary. Third, a better understanding of the dynamic nature of such collaboration was also needed. Thus, the research problem was formulated as follows:

"How to structure and manage inter-organizational multi-party collaboration to solve systemic problems"

This research problem was articulated via the three research questions addressed in this thesis. To start addressing this broad research problem, the first research question is articulated as follows:

1. How is strategic management changing when solving systemic problems?

The first research question focuses on the strategic context in which the inter-organizational multi-party collaboration is set. From the strategic management perspective, a research gap is rooted in today's rapidly changing business environment, forcing organizations to collaborate as they simply cannot solve systemic problems alone. Scholars have recognized the importance of collaboration and noted that the focus of strategy and strategizing is shifting from outperforming others to winning together and engaging people beyond organizational boundaries (Porter 1991; Porter & Siggelkow 2008; Clarke & Fuller 2010; Porter & Heppelmann 2015; Jacobides 2019). However, a research gap exists in defining strategic management concepts for what Jacobides (2019) calls the "era of ecosystems". Building on the recent literature of the theories of the firm (Alvarez et al. 2020; Burgelman et al. 2022; Teece et al. 2016; D. Teece 2018), this thesis focuses on enhancing our understanding of the importance and nature of collective strategizing (Clarke and Fuller 2010; Ritala and Tidström 2014; Huxham 2025) and the need to develop tools and frameworks to more adequately address the inter-organizational multi-party collaboration challenge in the contemporary strategic context characterized by systemic challenges (Jacobides, Cennamo, & Gawer 2018; Jacobides 2019). Thus, this thesis proposes the concept of strategic purpose and the process of collaborative strategizing as contributions that answer the first research question. Thereafter, the focus shifts to answering the second research question, articulated as follows:

2. How can inter-organizational multi-party collaboration be structured?

The second research question is rooted in conceptual ambiguity and a research gap surrounding different concepts related to inter-organizational multi-party collaboration. Starting from the concept of the ecosystem, this thesis reviews literature on clusters (Porter 2000; Delgado et al. 2010; 2014; 2016; Speldekamp et al. 2020), networks (Möller & Halinen 2017; Aarikka-Stenroos & Lehtimäki 2014; Aarikka-Stenroos et al. 2014; Clauss & Ritala 2023), ecosystems (Adner 2017; Jacobides et al. 2018; Autio & Thomas 2022; Thomas & Ritala 2022), and platforms (Cennamo & Santaló 2013; 2019; Calabrese et al. 2021). Following this comprehensive literature review, the concept of inter-organizational multi-party collaboration is proposed as an umbrella term that captures the essence of these

various concepts. To answer the second research question, this thesis proposes a framework of "archetypes of collaboration" that builds on Adner's (2017) idea of the ecosystem as a structure. It serves as a reference point for mapping different structures of inter-organizational multi-party collaboration and paves the way to the third research question that considers the dynamic nature of today's business environment, which is articulated as follows:

3. How can inter-organizational multi-party collaboration be managed?

The third research question is rooted in the dynamic nature of today's business environment. From the strategic management perspective, its significance is rooted in the call for new management capabilities (Porter & Siggelkow 2008; Jacobides et al. 2018; Jacobides 2019; Burgelman et al. 2022), which views organizations as open systems (Scott 2003) where the boundaries of organizations are increasingly open. Again, Adner's (2017) views and the particular focus on performance, investment, and capabilities inspires one to seek the answer in light of the resource-based view (Barney 2001; Barney et al. 2021) and the dynamic capability views (Teece et al. 1997; Porter 1991; Barreto 2010; Teece et al. 2016; Teece 2016). Table 1 summarizes the research problem, the research questions, and the research focus related to each question:

Table 1: Research problem, research questions, and research focus.

Research problem	Research question	Research focus
How can inter-organizational multi-party collaboration be structured and managed to solve systemic problems?	1. How does strategic management change when solving systemic problems?	Strategic management and organizational science with a focus on developing new strategic management concepts fit for today's business environment
	2. How can inter-organizational multi-party collaboration be structured?	Enhancing conceptual clarity surrounding different forms of inter-organizational multi-party collaboration
	3. How can inter-organizational multi-party collaboration be managed?	Developing frameworks that help manage inter-organizational multi-party collaboration in today's dynamic business environment

While these three research questions are broad and explorative, they help establish an important and researchable setting. Answering them requires a comprehensive understanding of the topics under study and an ability to meaningfully combine strategic management and organizational science with

innovation and ecosystem literatures. Furthermore, they challenge the researcher to explore a combination of methodologies to address them from theoretical and practical perspectives.

1.3 Methodology

This thesis is grounded in realist ontology. Consequently, it acknowledges the existence of inter-organizational multi-party collaboration, employing qualitative methodologies to deepen our understanding of the research problem and to construct frameworks that explain the complex phenomenon of inter-organizational multi-party collaboration through abductive reasoning.

Qualitative methodologies are well-suited to the broad and exploratory nature of the research problem and questions (Eriksson & Kovalainen 2016). This thesis employs engaged scholarship (Van de Ven 2007) and longitudinal case study methodologies (Yin 2014). Applying engaged scholarship as an overarching methodology allowed for iteration between research design, theory building, problem formulation, and problem-solving in light of the broad base of literature reviewed and the rich empirical data captured from the two longitudinal case studies. Furthermore, the systematic application of engaged scholarship allowed for analysis, reflection, and reiteration along the way.

This thesis builds on two longitudinal case studies. In the primary case study, EnergySampo, the researcher was immersed in the daily operations as the ecosystem orchestrator for nearly three years (2022–2025), during which the researcher conducted almost 100 interviews, covering tens of stakeholders and numerous interactions in meetings and one-on-one sessions. The second case study, LUXTURRIM5G, offered a complementary perspective to the ecosystem evolution needed to solve the research problem and answer the third research question.

1.4 Structure of the thesis and contributions

This thesis is structured to logically answer the research questions. Chapter 1 introduces the background of the thesis and the research questions, establishes the importance of the topic, and provides an overview of the methodologies applied.

Chapter 2 discusses the methodological choices of this thesis and describes the research process, including research design, theory building, problem formulation, and problem-solving through the interplay of literature, empirical data collection, and analysis. Furthermore, it reflects on the validity, reliability, and generalizability of the findings. Notably, the decision to position methodology before introducing any theory is rooted in engaged scholarship as an overarching methodology and the

cross-disciplinary nature of this thesis that are essential in understanding the research logic and the way the research process unfolded.

Chapter 3, "Strategic Context", aims to answer the first research question: "How does strategic management change when solving systemic problems?" The answer lies in the strategic management literature, which suggests that today's strategic context calls for clarity of focus and the ability to manage not only one's organization but inter-organizational multi-party collaboration in its various forms. It recognizes three powerful drivers for collaboration: systemic problems that organizations cannot solve alone, complex value propositions, and a strategic purpose that implies that, as strategic collaboration becomes the core of strategy, how an organization's strategy is created and articulated must be revisited. Chapter 3 starts by reflecting on the concepts of a mission and vision. Furthermore, it notes that a purpose has emerged as another concept to complement the mission and vision statements. After revisiting the concept of strategic intent (Hamel & Prahalad 1994), it proposes building the inter-organizational multi-party collaboration on jointly defined strategic purposes and aligned objectives, defined through collaborative strategizing.

Chapter 4, "Collaboration Context", focuses on the second research question: "How can inter-organizational multi-party collaboration be structured?" This builds on the ecosystem literature and focuses on enhancing conceptual clarity that is essential for understanding the processes through which ecosystems and their structures emerge and evolve. Building on the idea of the ecosystem as a structure (Adner 2017), it summarizes recent literature about cluster networks, ecosystems, and platforms and introduces an integrative framework: "archetypes of collaboration".

Chapter 5, "Case Studies", explores how the strategic purpose and archetypes of collaboration play out in real-life inter-organizational multi-party collaboration, drawing from the two empirical case studies: EnergySampo and LUXTURRIM5G.

Chapter 6, "Towards Dynamic Collaboration Capability", focuses on answering the third research question: "How can inter-organizational multi-party collaboration be managed?" It builds on the framework of the "archetypes of collaboration" introduced in Chapter 4. Inspired by the heuristics that Autio and Thomas (2022) introduced, this approach provides a conceptual step-by-step framework for structuring decisions related to inter-organizational multi-party collaboration. Along this plausible decision-making process, the management principles are observed in light of the resource-based and dynamic capability views. The introduced "dynamic collaboration capability" framework builds on strategic purpose, trust, and time as essential elements for structuring and managing inter-organizational multi-party collaboration.

Chapter 7, "Discussion and Conclusions", summarizes the theoretical and practical contributions of the thesis and discusses its limitations while suggesting directions for further research. The contributions of this thesis are constructed and documented by considering the "efficiency" and "beauty" requirements introduced

in Chapter 2, "Methodology". Considering the research problem and the significance of societal and ecological issues that humankind faces, this thesis contributes to the body of research supporting our attempts to structure, manage, and lead inter-organizational multi-party collaboration in solving these problems (i.e., harnessing the "power of we").

In the guise of a summary, Table 2 outlines the structure of this thesis to help the reader understand the chapter's relationship with the research questions, content, and key concepts related to each chapter, as well as the contributions of this thesis.

Table 2: Structure, content, focus, and contributions of this thesis.

Chapter	Content	Focus	Contributions
1 Introduction	Significance of the research, research problem, and research gaps	Inter-organizational multi-party collaboration	
2 Methodology	Methodology selection and overview Data collection and analysis Reliability and validity	Engaged scholarship Longitudinal case study	
3 Strategic context	Research question 1: How does strategic management change when solving systemic problems?	Mission Vision Purpose Strategic intent	Strategic purpose (new concept) Collaborative strategizing (enhanced process)
4 Collaboration context	Research question 2: How can inter-organizational multi-party collaboration be structured?	Cluster Ecosystem Network Platform	"Archetypes of collaboration" (new framework)
5 Case studies	Describing data collection, analysis, and interpretation in two case studies: EnergySampo and LUXTURRIM5G		
6 Towards dynamic collaboration capability	Research question 3: How can inter-organizational multi-party collaboration be managed?	Strategic purpose Time Trust	Plausible structuring logic (new process) Dynamic collaboration capability (new framework)
7 Discussion and conclusions	Reflection of the contributions, as well as the limitations and applicability of the thesis		

The research problem studied in this thesis is articulated as "How to structure and manage inter-organizational multi-party collaboration to solve systemic problems". This thesis provides novel insights into the research problem by combining different viewpoints. First, it enhances our understanding of the strategic context in which systemic problem-solving is rooted. Starting from the theories of the firm (Alvarez et al. 2020; Barney 2021; Teece 2018) and building on the collaborative strategizing (Clarke & Fuller 2010; Ritala & Tidström 2014; Huxham 2025), it introduces the concept of strategic purpose as an attempt to simplify the conceptual field surrounding inter-organizational multi-party collaboration. Second, it seeks to clarify the conceptual ambiguity surrounding different forms of inter-organizational multi-party collaboration, thus building on prior research on cluster networks, ecosystems, and platforms (Adner 2017; Cennamo & Santaló 2019; Autio & Thomas 2022; Thomas & Ritala 2022a), and introduces the framework for mapping these "archetypes of collaboration". Third, considering the dynamic nature of today's business environment, this thesis builds on rich empirical data from two longitudinal case studies from the energy and communications industries to design and develop new theoretical and practical frameworks for managing and leading inter-organizational multi-party collaboration to solve systemic problems.

The multi-dimensional and integrative approach is shown in the theoretical contributions of this thesis. Recognizing the importance of inter-organizational multi-party collaboration, the concept of strategic purpose and novel perspectives on collaborative strategizing contribute to the development of theories in strategic management and organizational science. In turn, the positioning frameworks of "archetypes of collaboration" and dynamic collaboration capability enhance our understanding of different forms of inter-organizational multi-party collaboration and provide novel insights for structuring such collaboration from an innovation management and ecosystem literature perspective. From a practical perspective, these contributions can help leaders of public and private organizations understand the nature of systemic problems through collaborative strategizing and ensure the structures of inter-organizational multi-party collaboration evolve over time, thus guaranteeing the jointly developed solutions are broadly applied.

2 Methodology

The decision to position methodology before theory is rooted in the cross-disciplinary nature of this research. The initial idea to study the phenomenon of inter-organizational multi-party collaboration emerged from exploring ecosystem literature and discussions with practitioners. The research occurred in Finland, where companies and public organizations (e.g., Business Finland, the Finnish National Innovation Agency) are engaged in collaboration to address systemic problems. Notably, this thesis studies the national environment, where the need for inter-organizational multi-party collaboration (often referred to as ecosystems in general discussions) is recognized and is crucial for advancing innovation from a national competitiveness perspective (TEM 2022, p. 35).

Ontologically, this thesis draws from realism, starting from the notion that inter-organizational multi-party collaboration exists. Epistemologically, it is inclined towards constructivism. It views reality as being socially constructed, accepts that every partner's position is rooted in different organizational (social) contexts, and notes that these contexts influence how organizations articulate the importance of inter-organizational multi-party collaboration in their respective strategies. Furthermore, this thesis posits that in today's dynamic business environment, inter-organizational multi-party collaboration is a dynamic phenomenon that unfolds in response to changing conditions. Considering the realistic ontology, abductive reasoning enables plausible theories to be constructed through the interplay of existing theories and empirical data.

Addressing systemic problems that a single organization cannot solve alone is a complex, real-life phenomenon. Such problem-solving typically involves stakeholders with conflicting motivations, differing perceptions of their strategic and collaboration contexts, and varying organizational structures. Studying such a complex setting calls for a combination of qualitative methods. Methodologically, this thesis builds on Eriksson and Kovalainen's (2016) view, who consider qualitative business research important, exciting, and highly rewarding. According to them, qualitative research allows researchers to focus on the complexity of business-related phenomena within their specific contexts. Qualitative research produces new knowledge about how things work in real life, why they work in a

specific way, and how we can make sense of them in such a way that they might be changed.

This research was conducted from 2020 to 2025. The researcher's engagement with the scientific and practitioner communities was critical in defining the research gap and the research questions from 2020 to 2021. In 2022, the researcher became an orchestrator of the EnergySampo innovation ecosystem, providing the opportunity to observe inter-organizational multi-party collaboration in a real-life context. This unique opportunity to study the research problem from the inside challenged the researcher to continuously review and reflect on the research practices to avoid bias. The "bias challenge" was continuously present and addressed by conscious application of engaged scholarship and longitudinal case study methodologies.

The following chapters discuss the applied methods in detail, with a particular focus on the engaged scholarship methodology (Van De Ven & Johnson 2006; Van De Ven 2007; Van De Ven 2018). The case studies build on longitudinal data obtained through archival, historical, and real-time field observations, which, according to Langley et al. (2013), are necessary to observe how processes unfold over time. The two case studies help understand how and why things emerge, develop, grow, or terminate over time. Drawing from Van De Ven and Poole (2005), this thesis considers the process view, which, in essence, is a narrative or story about how a sequence of events unfolds to produce a given outcome. It employs this view to discover the structuring process for problem-solving through direct observation, archival analysis, interviews, and numerous interactions with the stakeholders in meetings, workshops, and one-on-one discussions.

2.1 Engaged scholarship methodology

The term "engaged scholarship" reflects an important identity. Accordingly, scholarship extends beyond research, while engagement serves as the means for scholarship to flourish (Van De Ven 2007). Engaged scholarship can be practiced in myriad ways and for many purposes. Figure 1 illustrates the four forms of engaged scholarship, while positioning the focus of this thesis as "co-produce knowledge with collaboration".

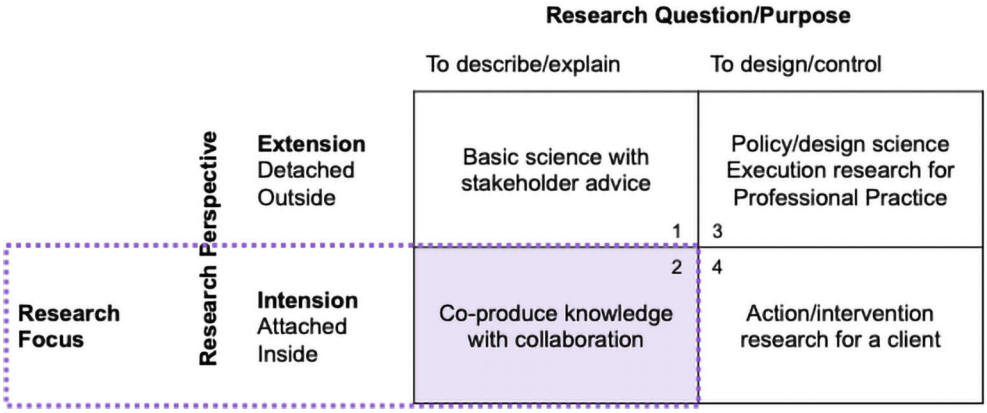

Figure 1: The focus of this thesis is to co-produce knowledge with collaboration (adopted from Van De Ven, 2007).

According to Van de Ven (2007), the choice of the correct form of the engaged scholarship approach depends on the research questions, the research purpose, and the research perspective. As illustrated in Figure 1, this thesis aims to enhance our understanding of the phenomenon under study and inter-organizational multi-party collaboration and describe it in its real-life environment. The researcher was immersed in the context of the phenomenon, enabling them to observe it directly from the inside. Therefore, in Van de Ven's (2007) terms, this thesis focuses on co-producing knowledge with collaboration.

Engaged scholarship has been applied in similar contexts. For example, in their paper exploring the applicability of the methodology, Easter et al. (2021) explore multi-stakeholder partnerships that involve actors from the public, private, and nonprofit sectors. The researchers apply a case study methodology utilizing semi-structured interviews and participant observation for data collection. They note three prominent factors that affect how the researcher experiences the divide between previous experience, the study's expectations, and multiple identities. They identify core strategies for navigating the research-practice divide: remembering the research purpose, emphasizing relationships, engaging in self-learning, practicing reflexivity, and framing results. Furthermore, they view engaged scholarship as an approach that aligns with the need for holistic research perspectives and practical solutions to effectively address sustainable development challenges.

Indeed, applying engaged scholarship in the context of inter-organizational multi-party collaboration required continued attention to the research problem, as well as building relationships and rapport with the key stakeholders involved in such collaboration. Considering this methodology, the "bias challenge" was continuously present and addressed by keeping the researcher's role in mind during the cycles of engaged scholarship, as detailed in the following chapters.

2.2 The engaged scholarship research process

This thesis applies engaged scholarship as an overarching methodology that systematically helped solve the research problem and answer the research questions. Figure 2 illustrates the engaged scholarship diamond model (Van de Ven 2007, p. 10), laying the foundation for the following chapters that discuss the essence of engaged scholarship and its application in the context of this thesis.

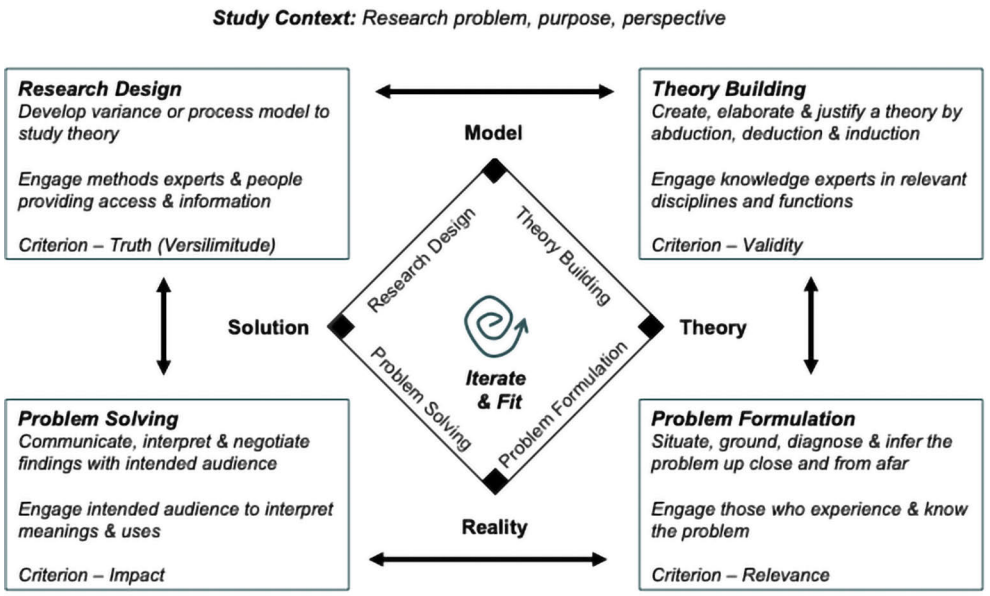

Figure 2: The engaged scholarship diamond model (Van de Ven 2007, p. 10).

Figure 2 illustrates that this research evolved through three cycles of the engaged scholarship diamond model. The trigger for this thesis is rooted in the need to address systemic problems that drive the necessity for new frameworks to structure and manage inter-organizational, multi-party collaboration. Figure 3 illustrates how the research process unfolded from 2020 to 2025 through three cycles of engaged scholarship, which are detailed in the following chapters.

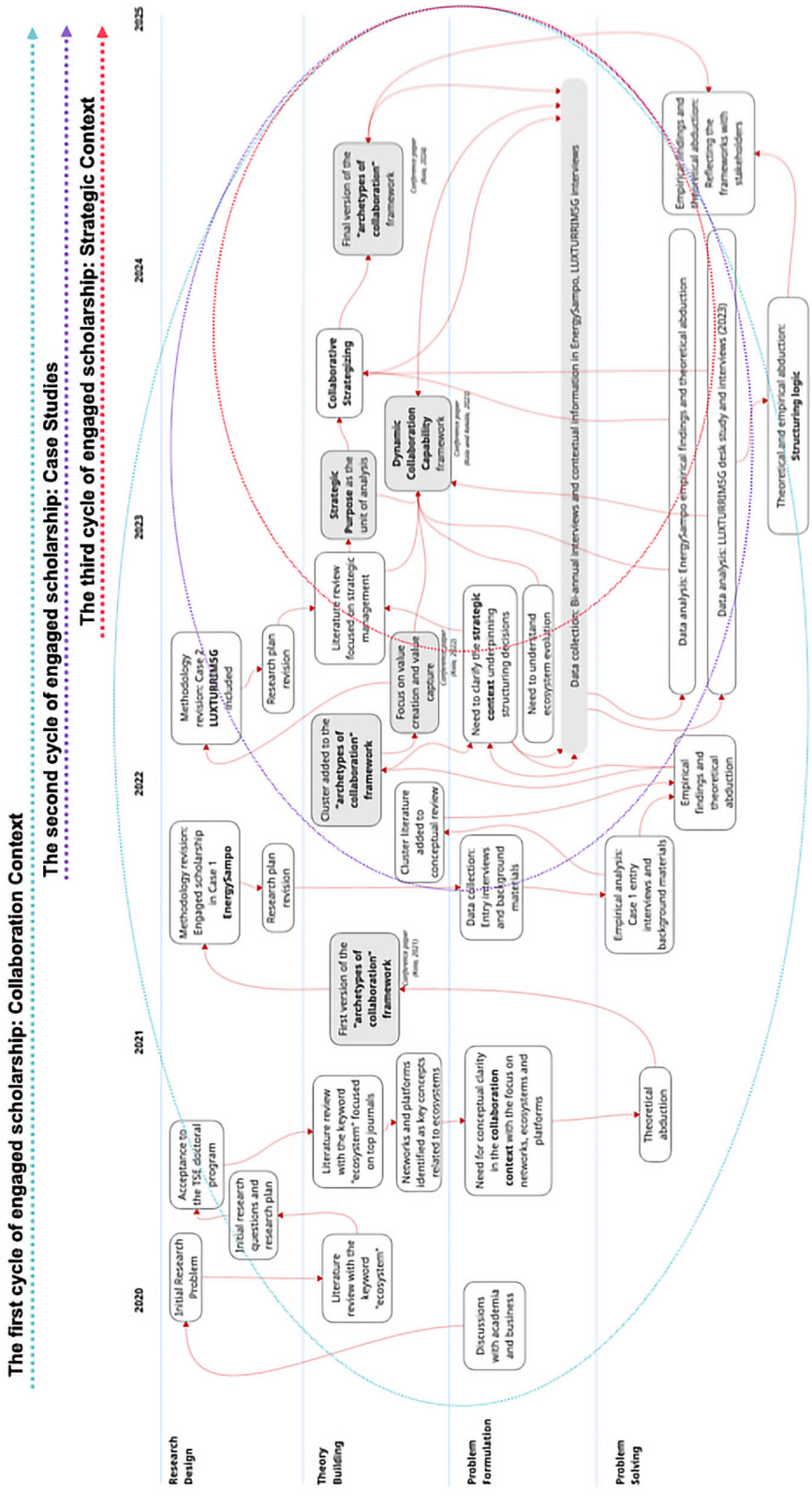

Figure 3: The research process and the three cycles of engaged scholarship.

The first cycle of engaged scholarship was initiated in response to the need to clarify the ecosystem concept and focus on the ecosystem literature. This cycle, "collaboration context", extended the conceptual, contextual, and theoretical exploration beyond ecosystems. It began with theory building based on the ecosystem literature, but soon expanded to cover literature on related concepts, cluster networks, and platforms, ultimately leading to a broader umbrella concept: inter-organizational multi-party collaboration.

The second cycle of engaged scholarship, "case studies", involved real-life collaboration within the EnergySampo innovation ecosystem, provided access to practitioners and experts, and was closely related to and partially overlapped with the topics identified in the first cycle. While EnergySampo was the focal case, the need for a second case study emerged from the inherent complexity and slowness associated with solving systemic problems. Therefore, it proved valuable to consider the outcomes of collaborating with a second case study, LUXTURRIM5G, from the viewpoints that, for temporal reasons, the focal case could not cover.

The need for the third cycle of engaged scholarship, "strategic context", emerged from empirical data and the initial discussions and interviews with the EnergySampo stakeholders. While all partners were committed to inter-organizational multi-party collaboration, further understanding of the individual partner organizations' motivations for such collaboration and linking that to their strategic discussions emerged as important.

Overall, following the engaged scholarship approach, overlap and interaction exist between the three cycles of engaged scholarship. Together, they can be considered pieces in the research puzzle that ultimately fit together, providing insight and enhancing our understanding of the topic under study. As iteration is an integral part of the engaged scholarship approach, Figure 3 helps illustrate how the research design evolved and how different theoretical traditions contributed to the theoretical and practical contributions through iterative problem formulation and problem-solving. The following chapters describe how the interplay between theory and empirical data unfolded during the three cycles of engaged scholarship.

2.2.1 The first cycle of engaged scholarship: Collaboration context

The first cycle of engaged scholarship, "collaboration context", started with the first version of the research plan. The research focused on ecosystems, with the Ecosystem Handbook (Kola et al. 2020) serving as a catalyst to explore the ecosystem literature more thoroughly. The literature review focused on finding answers to frequently asked questions that emerged in discussions with the practitioners. These questions were articulated, for example, as "What's the

difference between an ecosystem and a network?" or "How do ecosystems and platforms position themselves vis-à-vis each other?" These questions and the related literature review served as a foundation to formulate the first version of the framework of "archetypes of collaboration". This interplay between theory building, problem formulation, and problem-solving continued from 2020 to 2022. When the researcher joined the EnergySampo innovation ecosystem in 04/2022, the nature of engagement shifted from general stakeholder discussions and learning from theory to learning about inter-organizational multi-party collaboration in real life.

The first cycle of engaged scholarship focused on structuring the problem, with the primary aim of enhancing overall conceptual clarity surrounding different forms of inter-organizational multi-party collaboration. However, by 2023, empirical and theoretical findings suggested that the structures evolve over time, resulting in the development of the dynamic collaboration capability framework that reflects the dynamic nature of inter-organizational multi-party collaboration structures. Figure 4 illustrates how the phases of engaged scholarship evolved during the first research cycle.

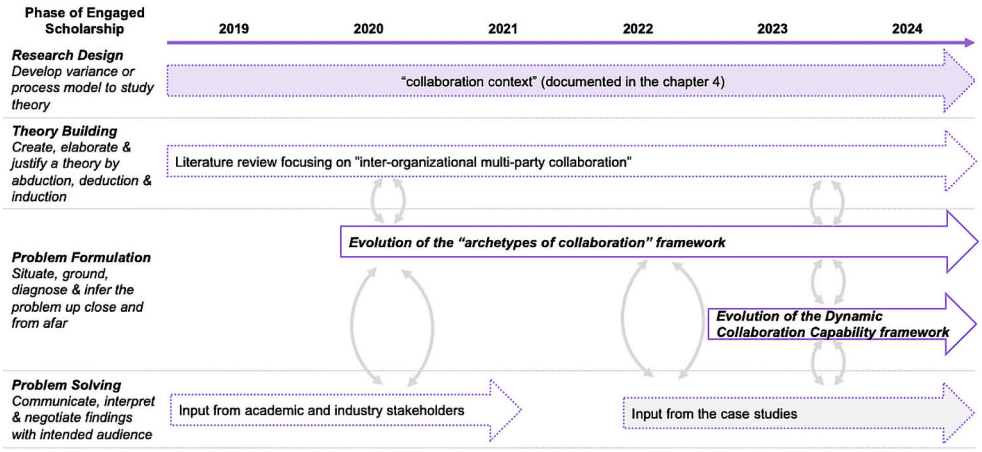

Figure 4: The first cycle of engaged scholarship, "collaboration context", focused on clarifying the conceptual field related to inter-organizational multi-party collaboration.

The cycles of engaged scholarship were interlinked and partially overlapped. Therefore, the concept of dynamic collaboration capability is presented in Figure 4, which is included in this chapter, and in Figure 6, which describes the third cycle of engaged scholarship. Furthermore, as shown in Figure 3, the initial research design evolved, as the empirical data emerging from the case studies highlighted the need to focus on the strategic concepts underpinning the structuring decisions included in the

”archetypes of collaboration” framework. Regarding the “input from case studies”, Chapter 2.4 provides a more detailed view of the data collection and analysis.

2.2.2 The second cycle of engaged scholarship: Case studies

As explained, qualitative methodologies provided a good fit for studying the research problem in a real-life setting. The first iteration of the research design in 2020 included a case study methodology as a potential approach for gathering empirical data. As shown in Figure 3, this research design was modified in early 2022, when the researcher was offered a unique opportunity to study the EnergySampo innovation ecosystem from within. At that point, the case study methodology was carefully considered to ensure the quality of data collection and analysis, considering the longitudinal aspects related to it, and to ensure the quality of case design and the subsequent data collection and analysis.

The second cycle of engaged scholarship, “case studies”, occurred from 2022 to 2024. The researcher served as the ecosystem orchestrator for the primary case study, EnergySampo. While secondary data from 2019 to 2021 was available, the focus was on primary data collection through immersive involvement in daily operations. The secondary case, LUXTURRIM5G, complements the primary case through selected interviews and secondary data. Figure 5 illustrates the second research cycle that provided invaluable input to the framework of “archetypes of collaboration” and served as a trigger to study the strategic context and develop frameworks that fit the era of inter-organizational multi-party collaboration and its dynamic nature.

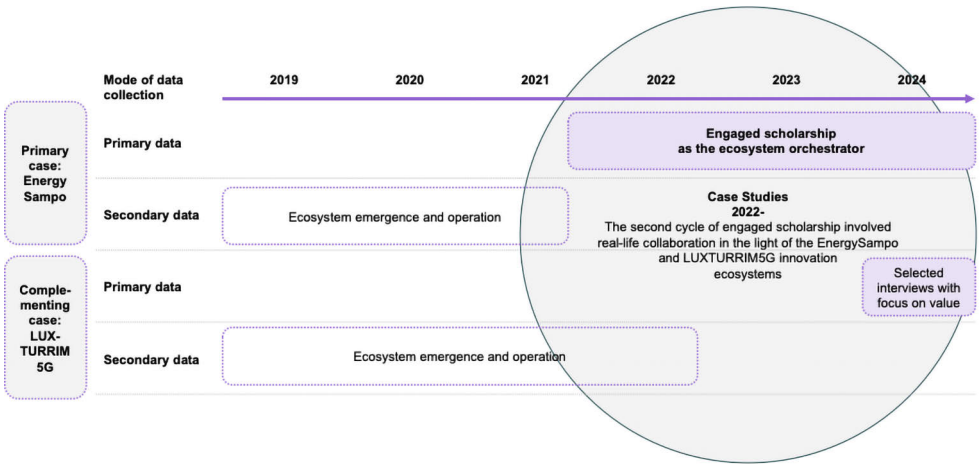

Figure 5: The second cycle of engaged scholarship “case studies” provided invaluable input to the first and third cycles of engaged scholarship.

Entering the EnergySampo innovation ecosystem as an ecosystem orchestrator helped the researcher engage with senior-level stakeholders in a deep and connected manner. Studying the research problem from the inside presented a unique opportunity, as well as a risk of bias. Paying continuous attention to differentiate the two roles mitigated this risk. The orchestrator role involved defining objectives and action plans with partner organizations, managing and leading inter-organizational multi-party collaboration within the ecosystem, and, above all, ensuring key partners were informed and involved. The discussions and interactions focused on the ecosystem structuring decisions, ways of working, and the open exploration of the collaboration context through semi-structured interviews and more general findings gathered during daily collaboration, while keeping in mind the partners' expectations and the ecosystems' objectives and managing collaboration accordingly. The researcher's role, in turn, called for observing the phenomena under study and paying attention to careful documentation and analysis. The secondary case, LUXTURRIM5G, was selected to complement the insights emerging from the EnergySampo case. In that case, the researcher's industry experience was instrumental in understanding the problem the ecosystem was solving and the solutions it developed.

Together, the empirical data from the two cases supported the development of theoretical concepts and frameworks in the "strategic context" and "collaboration context" cycles of engaged scholarship. Chapter 2.4 describes the case selection criteria, data collection, and analysis, as well as their links to theory building and contributions to this thesis.

2.2.3 The third cycle of engaged scholarship: Strategic context

The second cycle, "case studies", triggered the third cycle of engaged scholarship, "strategic context". The need for the third cycle was ignited to gain a deeper understanding of the motivations for engaging in inter-organizational multi-party collaboration. This understanding was necessary to enhance understanding of the reasons underlying different structures of inter-organizational multi-party collaboration. The empirical data implied that the concept of strategy would need to be revisited. Considering this empirical data and further study of the strategies employed by different organizations in light of the documentation led to theory building through exploring the strategic management and organizational science literatures. Figure 6 illustrates the third cycle of engaged scholarship. It highlights problem formulation and problem-solving focus with strategic purpose and collaborative strategizing as focal concepts. It notes the evolution of the dynamic collaboration capability framework with a link to the the ecosystem literature covered in the first engaged scholarship cycle and in this third cycle.

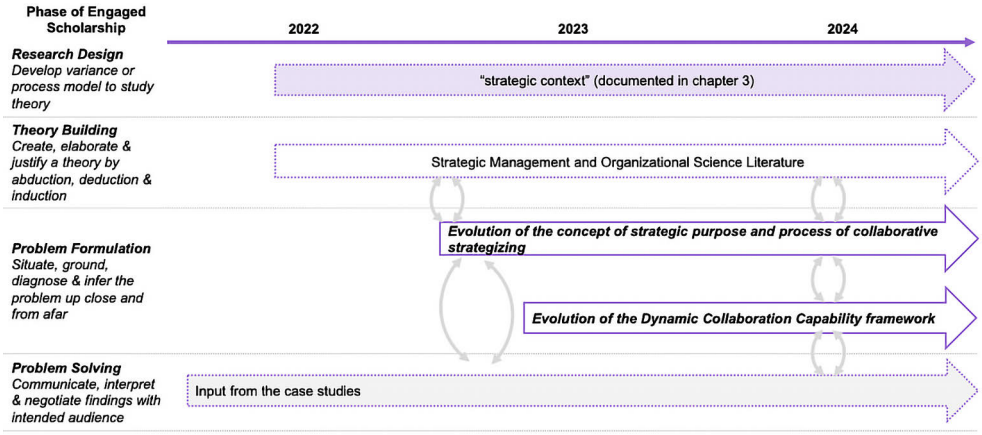

Figure 6: The third cycle of engaged scholarship, "strategic context", explored the strategic management and organizational science literature.

Importantly, the third cycle of engaged scholarship partially overlapped with the first and second cycles. Chapter 2.4, "Theory development, data analysis, and documentation", describes the three cycles of engaged scholarship from 2020 to 2024 and how the interplay between research design, theory building, problem formulation, and problem-solving evolved over that time.

2.3 Longitudinal case study methodology

The need for case studies arises from the desire to understand complex social phenomena. As solving systemic problems typically takes time, longitudinal case study methodology was applied to allow iteration that is inherent to the engaged scholarship approach. In general, case study methodology allows an investigation to retain the holistic and meaningful characteristics of real-life events (e.g., organizational and managerial processes) (Yin 2014). According to Yin, case study investigators must exercise care in designing and conducting case studies to overcome the traditional criticism of the method. Therefore, attention must be paid to defining the case being studied, determining the relevant data to be collected, and deciding what to do with the data once it has been collected. A case study's most important objective is to provide a rigorous and fair presentation of empirical data. Additionally, Eriksson and Kovalainen (2016) state that one reason for the popularity of case study research is its ability to present complex and hard-to-grasp business issues in an accessible, vivid, personal, and down-to-earth format. Considering the phenomenon under study, inter-organizational multi-party collaboration – a contemporary, complex social phenomenon spanning the fields of strategic management and organizational science, as well as innovation management and

ecosystem literatures – the case study methodology seemed well-suited to study the problem in its real-life context.

The way the case study methodology has been applied in the context of this thesis is similar to the one Eisenhardt (1989) described. However, with engaged scholarship as the overarching methodology, the approach is more longitudinal, iterative and layered via the three cycles of engaged scholarship (see also Chapter 2.4). Accordingly, the researcher has paid attention to ensure that both case studies are carefully designed and comprehensively documented. Case selection was based on three criteria. First, the problem they were solving was systemic. Second, the two case studies involved innovation ecosystems that were open to discussing the problem being solved. Third, the partner organizations in both cases were similar and encompassed organizations of different sizes.

Although the cases were selected using common criteria, the two case studies are different yet complementary. The EnergySampo case is a source of rich primary data and the main source of insights. In turn, the LUXTURRIM5G case is based on data collected through interviews two years after the ecosystem collaboration formally ended, as well as secondary data describing how the partnership unfolded. Combined with the literature reviewed during the first and third cycles of engaged scholarship, the empirical data from these two cases provided the basis for observing the phenomenon under study. The empirical insights and findings supplied essential elements in solving the research problem: *How to structure and manage inter-organizational multi-party collaboration to solve systemic problems*. The methods of data collection and analysis somewhat differ in the two cases, which are explained in detail in the following chapters.

2.3.1 Case EnergySampo

The material used for the EnergySampo case is based on a rich foundation of publicly available materials, involvement in meetings and workshops, and in-depth interviews with key partners and related organizations in the Vaasa region, as well as nationally. Considering the engaged scholarship methodology, this longitudinal case study results from immersive involvement in managing and orchestrating collaboration from 2022 to 2024, allowing rich observation and data collection along the way.

The ecosystem orchestrator role involved everything entailed in leading challenging, inter-organizational multi-party collaborations. The EnergySampo ecosystem's internal stakeholders – ABB, Danfoss, Hitachi Energy, Wärtsilä, Vaasan Sähkö, VEO, and VNT Management – each had different concerns and interests. The ecosystem's objectives include ensuring its evolution and expansion, as well as involving external stakeholders, such as other national and international

companies, research organizations, and public stakeholders (e.g., funding agencies, ministries, regulators, regional and municipal actors). The ecosystem orchestrator position called for seniority and the ability to build rapport with the leaders of the stakeholder organizations. The researcher's motivations were openly shared with all partners, and the research design and methodology aligned with the strategic and operational interactions that were an integral part of the role.

As an orchestrator, the researcher's engagement in the EnergySampo innovation ecosystem was immersive. The data collection occurred from 2022 to 2024. The bi-annual semi-structured interviews focused on strategic-level discussions and provided valuable input for validating the frameworks emerging from the engaged scholarship cycles' "collaboration context" and "strategic context". Board meetings, pilot scoping discussions, interviews, and daily interactions provided more nuanced views about the thoughts and feelings of different partners on specific topics. Interviews with selected industry stakeholders complemented these views. Furthermore, the views of different partners were reflected in external events that provided opportunities to engage broadly with national and international stakeholders. Preparing for such events also offered insight into how the partners presented themselves and their inter-organizational, multi-party collaboration. Considering the simultaneous engagement in orchestrating the ecosystem and research activities, the monthly reporting of key activities supported the researcher in documenting and reflecting the progress of the collaboration. Figure 7 illustrates the different data points from 2022 to 2024.

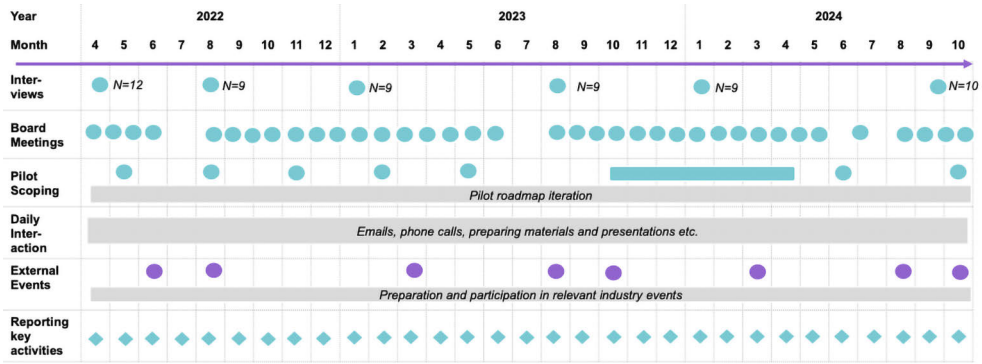

Figure 7: EnergySampo data collection and data points 2022–2024.

The continuous and immersive data collection posed a challenge for the researcher. Acting as an orchestrator requires decision-making, management, and leadership skills to ensure a successful operation. Conversely, the researcher's role required the ability to observe and analyse and, above all, be neutral. Balancing the

two roles was a conscious activity and required continuous reflection and attention to detail, specifically since the key stakeholders in the partner organizations were all senior leaders with titles (e.g., CEO, SVP, or managing partner). The researcher's background and tenure in global corporations helped build rapport and establish trust, facilitating continuous engagement and high-quality interactions. Being part of the case challenged the researchers' integrity and called attention to the pitfalls of bias. The case documentation presented in Chapter 5, "Case Studies", of this thesis describes how the risk of bias was addressed.

Regarding the data collection, two periods are of particular interest. At the beginning of 2023, ecosystem partners held several discussions about the ecosystem's position regarding competition law. From 09/2023 to 04/2024, EnergySampo actively sought to drive broader regional collaboration, ultimately involving over 90 organizations. Balancing the roles of orchestrator and researcher was not always easy, yet the two roles supported each other. As an orchestrator, the theory development served to structure empirical data, and the empirical data, in turn, provided input for further theory development. An overview of the research process (Figure 3) and the conceptual views of the cycles of engaged scholarship methodology (Figures 4, 5, and 6) provide a detailed view of the research process from 2020 to 2024. Furthermore, Table 3 provides further insight into the nature of engagement and the collected data (primary/secondary), while Table 4 offers insight into the types of stakeholders involved (internal/external).

Table 3: Description of the data sources in the EnergySampo case.

Data Source	Partners	Format	Description
Public documentation	All	Secondary data	Partners web pages, reporting, press releases, Energy Vaasa events, and publishing Energy industry reports and events
Confidential documentation	All EnergyVaasa	Secondary data	Planned meetings and workshops 2019 Documented target groups, objectives, and a signed MoU that served as a basis for collaboration Board proceedings 2020–2022
Interviews	All EnergyVaasa	Primary data	54 bi-annual semi-structured one-on-one interviews to gather input for the collaboration orchestration and validate theoretical findings from 2022 to 2024 Final review: nine semi-structured interviews to review the researcher's case documentation and validate findings with all partner organizations on 09/10/2024
Board meetings	All EnergyVaasa	Primary data	37 board meetings from 2022 to 2024, board meeting minutes (documented by the researcher)
Pilot scoping	All EnergyVaasa External	Primary data	Ten workshops: planning meetings, setting objectives, stakeholder preparation 17 thematic interviews about pilot ideas and related development, 2022–2024 NOTE: These interviews also include input from various industry stakeholders
External events	All EnergyVaasa	Primary data	Eight external events (EnergyWeek, Suomi-Areena, Wasa Future festival, EnergySampo Forum) and preparation discussions, agenda preparation, stakeholder involvement, and content preparation with the partners and other stakeholders
Reporting key activities	n/a	Primary data	Monthly reporting and reflection of the key activities (researcher's own notes)

The empirical data collected in the EnergySampo case involves different types of materials that allow for complementary perspectives. The meetings were documented, the semi-structured interviews were documented almost verbatim, and formal proceedings were jointly defined and agreed upon. The interview questions

focused on the objectives, reflecting the nature and structure of different forms of inter-organizational multi-party collaboration and expected outcomes of the EnergySampo innovation ecosystem. The detailed questions are in the Appendix. Notably, the key stakeholders in the partner companies and adjacent organizations were all senior leaders who were accustomed to and expected a structured and transparent approach, further emphasizing the quality of the documentation.

The 54 semi-structured interviews (conducted biannually) and 37 board meetings with the seven senior leaders in the partner organizations and leaders in adjacent organizations provided a systematic view of the ecosystem's evolution. The final reviews, where the key outcomes of this thesis were addressed with these stakeholders, helped validate the contributions of this thesis. They reflected the partners' attitudes and commitment to inter-organizational multi-party collaboration, while providing a rich source of data. Furthermore, the discussions with adjacent organizations, project organizations, and other stakeholders focused on a specific topic but provided valuable insights into understanding the context and key developments. While Figure 9 provides an overview of different events, the interaction of the researcher and key stakeholders extended beyond these. The daily operations involved hundreds of discussions in person, over the phone, and by email, further enriching the deep immersion in this case and embracing the engaged scholarship methodology. Table 4 provides a detailed overview of the types of organizations and roles involved in the EnergySampo innovation ecosystem and a more detailed view of the data points noted in Table 3.

Table 4: Description of the data sources in the EnergySampo case by organization type and interviewee role.

Role	N	Number of interviews/ reviews	Number of meetings	Number of workshops, external events, etc.	Stakeholder role/level
Partner organizations	7	54+7	37	25	EnergySampo leaders, titles CEO, SVP, managing partner
Adjacent organizations	2	18	37	25	Director level stakeholders in companies closely linked to EnergySampo (Merinova, Vasek)
Project partners	3	8	15	3	Senior leaders in organizations involved in pilots and/or pilot preparation
Other stakeholders	30+	9	12	3	These involve national and regional companies and research institutions working in the energy sector

Understanding the motivations and actions of different stakeholders and the dynamic business environment in which the inter-organizational multi-party collaboration was set was continuously reflected during the research process. However, considering the engaged scholarship methodology, being deeply involved in the research context comes with the difficulty of interpreting it from each partner's perspective without bias. Balancing day-to-day activities and semi-structured interviews managed this bias. The formal meetings and workshops provided valuable information about the joint goals and actions required to achieve them, and the bi-annual status interviews provided detailed insight into the commitment of partner organizations and their concerns related to the inter-organizational, multi-party collaboration. As the discussions were confidential, they were not recorded but documented almost verbatim in Excel and analysed by highlighting common themes and topics. Towards the end of the research process, the case description and conclusions were shared with the partner organizations. The quotes noted in the case descriptions reflect an important way to convey the partners' sentiment related to the inter-organizational multi-party collaboration and contribute to solving the research problem.

2.3.2 LUXTURRIM5G Case

The EnergySampo case provided a rich dataset to observe an innovation ecosystem from the inside. However, as questions such as “How to scale the systemic solutions that the ecosystem is developing” began surfacing in discussions with the practitioner community, the need for further data collection emerged. Indeed, in 2025, the EnergySampo pilots are still in development, and the lead time to value capture is expected to occur in the next few years. The LUXTURRIM5G case is included in this thesis as a secondary case to provide a complementary example of an ecosystem’s transition from value creation to value capture. As noted, the inter-organizational multi-party collaboration is gaining momentum as a means of solving systemic problems through joint innovation and learning activities that create value for the partners involved in such collaborations. Scaling such solutions requires transitioning from value creation to value capture – a path that can be anything but straightforward and takes time (Ben Letaifa 2014).

The transition from value creation to value capture was observed in light of the LUXTURRIM5G case study from 2016 to 2024. Defined as an innovation ecosystem, its 28 partners collaborated to develop technology and new business models for emerging 5G networks in urban areas. The researcher had access to a rich base of materials (secondary data) collected during the ecosystem’s existence. As the case study was initially documented as part of the Ecosystem Handbook (Kola et al. 2020) covering the period up to mid-2020, the researcher had primary data related to the discussions during the documentation process. Furthermore, complementary interviews (primary data collection) were conducted in the spring of 2024 with key stakeholders to better understand the value capture mechanisms. Table 5 describes the data sources related to the LUXTURRIM5G case.

Table 5: Description of the data sources in the LUXTURRIM5G case.

Data Source	Partners	Format	Description
Public information	All	Desk study	Partners web pages, reporting, press releases, and the LUXTURRIM5G web page and publications
Case Description	All	Secondary data	The orchestrator of the LUXTURRIM5G ecosystem (Spinverse) documented and validated the initial case description with Nokia (published in the Ecosystem Handbook) on 09/2020
Case Discussions	Spinverse	Primary data	Documented discussions and revisions of the case description on 04/2020
Focused interviews	Nokia Teleste Tehomet Spinverse	Primary data	Four semi-structured interviews (five stakeholders) with a special focus on key factors related to the transition from value creation to value capture on 05/2024
Final review	Nokia Spinverse	Primary data	Focused group discussion involving the ecosystem owner and ecosystem orchestrator (two stakeholders) in 09/2024

In the LUXTURRIM5G case, the data was mostly collected from secondary sources, as it aimed to complement the initial findings from the EnergySampo case. The secondary data collection was based on the rich base of available data about ecosystem evolution, key findings, and the results of ecosystem collaboration (https://www.luxturrim5g.com/), which enabled analysis using the same conceptual narratives. Furthermore, the primary data collection, which occurred two years after the ecosystem collaboration formally ended, allowed for the gathering of insights into how the partners perceived the partnership and its value to their organization and the broader innovation ecosystem. These semi-structured interviews and their findings were focused on identifying the themes underlying value creation and value capture.

2.4 Data collection and data analysis

The researcher's experience in large corporations helped build the relationships needed to collect data and gain a meaningful understanding of the environment in which the two case studies were set. This "interactional expertise" (Langley et al. 2013) was instrumental during data collection and analysis. Building theory from case studies is often the most difficult and least codified part of the process (Eisenhardt 1989, p. 539). The researcher navigated the data collection process by maintaining a focus on the quality of interaction and documentation. Data analysis occurred during the cycles of engaged scholarship, as illustrated in Figure 3. The literature reviewed from 2020 to 2022 guided the formulation of interview questions and served as a lens through which the empirical data was analysed. The interviews were conducted via Teams, each

lasting approximately 45–60 minutes. As the topic under study required confidentiality, the interviews were not recorded but documented almost verbatim in Excel. The initial interviews with the EnergySampo stakeholders focused on understanding the partners, their motivations, and their mutual relationships amid the broader collaboration context. The first set of interviews (10) was conducted in 04/2022. The results were documented, and emerging themes were captured. These summaries were shared and discussed in board meetings from 05/2022 to 06/2022, with each discussion leading to new insights and findings that were analysed and documented for subsequent discussions. The data analysis revealed insights into the nature of inter-organizational multi-party collaboration concerning networks, ecosystems, and platforms; it also discovered the importance of clusters. Furthermore, the interviewees highlighted the importance of the strategic nature of inter-organizational multi-party collaboration, prompting the researcher to expand the scope of the thesis to strategic management and organizational science. Considering this iteration, which is an inherent part of the enhanced scholarship methodology, it is important to note that the findings of these discussions were shared with the interviewees and discussed in board meetings, with the reflections and comments documented in meeting minutes. Furthermore, the findings were used to guide further actions in the research context and manage further actions in the orchestrator role.

Between 2022 and 2024, the researcher conducted biannual semi-structured interviews with the EnergySampo partner organizations. While the interview questions remained unchanged each round, the bi-annual interviews were analysed to discover further insights related to the different forms of inter-organizational multi-party collaboration, as well as the dynamic nature of relationships between partner organizations. In early 2023, numerous vivid one-on-one and board-level discussions occurred regarding various forms of inter-organizational multi-party collaboration in relation to competition law. These discussions further elaborated on the need to clearly differentiate between different forms of inter-organizational multi-party collaboration and validate the importance of positioning them. The result of this analysis was documented as an amendment to the ecosystem MoU and validated by the legal departments of each partner organization. In addition, the importance of collaborative strategizing observed in the board meetings was highlighted, as the continuity of collaboration was at stake. Once the commitment to the strategic purpose was clarified, the focus shifted to considering the dynamic nature of inter-organizational multi-party collaboration from 03/2024 to 06/2024, leading to further theory development and the initial idea of the dynamic collaboration capability framework.

In addition to discussions and interviews with the partner organizations, numerous discussions and interviews were conducted regarding the piloting of systemic solutions with closely related organizations. These semi-structured

interviews were conducted via Teams and documented in Excel almost verbatim. The analysis involved searching for key themes related to systemic problems and solution ideas, like power balancing in electricity networks or the development of hydrogen market models. The EnergySampo board then discussed these findings with the broader stakeholder groups in meetings. The findings were also presented them at events to the broader audience, supporting the discussion about ecosystem's evolution and its objectives.

It is essential to acknowledge the tension between the strategic and operational objectives related to advancing the EnergySampo ecosystem as an orchestrator and the research objectives. In the EnergySampo case, a significant amount of informal and tacit information sharing occurred. The monthly reporting provided the researcher a systematic way to reflect on the activities accomplished in relation to set objectives from the strategic and operational perspectives, as well as the research perspective.

The LUXTURRIM5G case was included as a secondary case to provide further insights into the research problem. The initial analysis of the case was based on publicly available documentation generated during the ecosystem's operation from 2019 to 2022 (https://www.luxturrim5g.com/publications), followed by primary data collection and analysis to complement the theoretical and empirical insights emerging from the first cycle of engaged scholarship. These learnings guided the definition of the questions for the semi-structured interviews involving the most important stakeholders (n = 5) of the LUXTURRIM5G ecosystem. Teams conducted the interviews, which were documented in Excel almost verbatim, and analysed to identify common themes following the same systematic approach applied throughout this research. The data analysis in the LUXTURRIM5G case focused on the dynamic nature of inter-organizational multi-party collaboration and brought forward key themes related to value creation and value capture.

The two case studies were instrumental in guiding theory development and advancing research through the three cycles of engaged scholarship. The next chapter describes this interplay of theory building and documentation.

2.5 Theory building and documentation

Theory building was important in framing discussions with key stakeholders, serving as a reference for observing events and interactions, developing meaningful interview questions, conducting the interviews, and analysing and documenting the results.

Bringing the three cycles of engaged scholarship together required an integrative approach that draws from Eisenhardt (1989, p. 533), who describes theorizing from multiple case studies as getting started, selecting cases, crafting instruments and protocols, entering the field, analysing data, shaping hypotheses, enfolding literature, and reaching closure. Figure 3 illustrates the research process, where iteration played

an important role. Considering the broad and explorative nature of the topic of this thesis, reaching closure and documenting the findings in a meaningful and understandable manner proved challenging, requiring multiple rounds of iteration.

Therefore, the theory building in this thesis can be seen as shaping frameworks through iteration. It resembles Eisenhardt's (1989) process involving refining the definition of the construct and building evidence that measures the construct in each case. The evolution of the theoretical contribution of this thesis is illustrated through conference papers and discussions with the academic audience, which were crucial parts of theory building and documenting the findings. The first conference paper (Kola 2021) focused on understanding value creation in ecosystems, networks, and platforms. The second further iterated on the concept by emphasizing the importance of differentiating between value creation and capture, leading to the third and fourth conference papers (Kola & Kekäle 2023; Kola 2024), as well as the introduction and iteration of the dynamic collaboration capability framework and the plausible decision-making logic. These conference papers and discussions with academics were valuable intermediate steps that paved the way for the contributions of this study, as presented in Table 2.

As the interview conversations were framed as a potential source of bias, error, misunderstanding, or misdirection (Silverman 1997), the case study reports were reviewed with the key stakeholders as a deliberate attempt to mitigate these factors. Furthermore, considering Langley et al.'s (2013, p. 7) advice – "knowledge advances with the comparative method across cases, time, and models are applied" – some comparisons over the case studies were possible and performed whenever applicable. The chapter, "From Case Studies Onwards", documents this comparison.

Notably, the structure of this research differs from the order of the three cycles of engaged scholarship that occurred from 2020 to 2024. Structuring the report with a "why-what-how" logic, this thesis follows Silverman (2007), who emphasizes the importance of identifying compelling descriptions and explanations. He encourages writing "economical" and "beautiful" descriptions where multiple phenomena are presented by a minimum of conceptual tools and disputes, which are resolved by rearranging the existing pieces in a pleasing way or by introducing a new piece that discloses a previously invisible order. These pieces of methodological advice have been considered during the writing process.

2.6 Reliability and validity of this thesis

Considering the reliability and validity of this thesis, numerous risks are associated with the overarching methodology of engaged scholarship. Therefore, this chapter begins by examining the identified risks and provides insight into how they are mitigated. The starting point for the reliability and validity is Van De Ven and Johnson's (2006) view, which posits that engaged scholarship is based on the

concept of arbitrage – a strategy of exploiting differences in the kinds of knowledge that scholars and practitioners can contribute to a problem of interest. They also note that participants often experience conflict and interpersonal tensions associated with different views and approaches, arguing that managing conflict constructively is not only important but lies at the heart of engaged scholarship. Table 6 outlines the arbitrage strategies that Van de Ven and Johnson (2006) proposed while detailing how they were applied in this research.

Table 6: Arbitrage strategies of engaged scholarship applied in this thesis.

Arbitrage strategy (Van De Ven & Johnson 2006)	**Application of the arbitrage strategies in the context of this research**
1. Ground the research question or problem in *concrete and observable phenomena* to appreciate and situate its multiple dimensions and manifestations.	While inter-organizational multi-party collaboration is inherently complex and difficult to observe, the research design and opportunity to observe it in its real-life environment through the orchestrator role in EnergySampo provided a unique setting for this kind of research. The researcher's 20+ years of international leadership and management experience, combined with the theoretical knowledge in the field of study, created a solid foundation for understanding the multiple dimensions and manifestations of the phenomenon under study.
2. Develop *plausible concepts and models* that represent the main aspects of the observed phenomena, providing a base for new theories to address the central research question.	While the research began with innovation management ecosystem literature, it soon expanded to other plausible concepts in the areas of strategic management and organizational science, which were essential for understanding and representing the aspects of inter-organizational multi-party collaboration. The new theori0es and key constructs of this thesis are grounded in cross-disciplinary theoretical backgrounds and a unique set of empirical data, which are brought together through a deliberately chosen methodology.
3. Use *appropriate methods to design the research and obtain empirical evidence* of the concepts and plausible models for examining the question about the phenomenon being examined.	The empirical evidence collected in this study was carefully considered and the cases deliberately chosen. The focal case study, EnergySampo, provided a rich base of primary data about collaboration from 2022 to 2024. The data collection design reflected the research problem, and the interactions, interviews, and their analysis were meticulously documented. The secondary case study, LUXTURRIM5G, provided an important point of reference through secondary data and covered crucial aspects related to the dynamics of value creation–value capture transfer. The concepts and plausible models were reviewed and discussed with the key stakeholders.
4. Apply and disseminate the research findings to address the research question from the perspectives of different academic and practitioner users.	The three cycles of engaged scholarship involved systematic interaction with a broad base of stakeholders, adding value from theoretical and practical viewpoints. Further applications and dissemination remain to be explored, but significant potential for additional applications exists.

This research has three critical tensions: First, in the strategic context, there is the tension related to understanding the concept of strategy and the processes through which it is created, articulated, and executed when different parties join forces to solve systemic problems; second, there is the tension related to defining and structuring different forms of inter-organizational multi-party collaboration; third, there is the tension related to managing and leading such collaboration. The articulated research problem and the related research questions provided a structured approach to managing these tensions, and the systematic application of engaged scholarship and case study methodologies further emphasized the pursuit of quality.

The following paragraphs evaluate this thesis in the light of the criteria that Van de Ven (2007) defined. According to him, the five steps of the engaged scholarship diamond model can be evaluated in five criteria: relevance, validity, truth, impact, and coherence. The problem may be grounded in a reality that is relevant to the intended research audience within the scholarly and professional communities. The theoretical model should be expressed clearly and consist of a logically valid argument. The design and conduct of the research should adhere to the standards and methods that a scientific community believes will yield a truthful solution. The findings should impact scientific advancement and inform enlightened practice in the profession. In addition to relevance, validity, truth, and impact, a fifth criterion – coherence – is equally important for evaluating the engaged scholarship process. Table 7 reflects these five criteria in the context of this research. Realizing that qualitative methodologies are inherently biased, I have done my best to address each point throughout the research process.

Table 7: Quality criteria related to the engaged scholarship diamond model considered in this thesis.

Criteria	Consideration
Relevance	The topic of this research – managing and leading inter-organizational multi-party collaboration to solve systemic problems– is rooted in today's strategic reality with complex value propositions and systemic problems that organizations cannot solve alone. The topic's relevance is elaborated in the cross-disciplinary theoretical traditions covered in this thesis. The research problem and questions aim to fill the identified research gaps. *Hence, the research is considered relevant to scholars and practitioners.*
Validity	The viewpoints selected in this research are grounded in strategic management, organizational science, and innovation and ecosystem literatures. Several measures are in place to ensure validity: the selection of relevant literature to ensure sufficient coverage of the complex domain; the systematic review of this rich body of literature and the selection of a few well-recognized pieces of research as cornerstones for building the theoretical frameworks; the selection and access to relevant theoretical data; and the development of the logical argumentation in constructing the frameworks while considering the more critical views. *The selection of the literature covered the essential aspects related to inter-organizational multi-party collaboration and the different concepts related to the topic. These guided the structure of the thesis and the design of the empirical data collection.*
Truth	Methodologically, this thesis relies on qualitative methodologies (engaged scholarship, longitudinal case study methodology), which have an inherent pitfall of bias. To address the challenge of truthfulness, the empirical data sources and related proceedings are meticulously documented. Furthermore, during the research process, the researcher's interests and perspectives towards the organizations involved in the case studies have been transparently disclosed. *Final validation of the "truthfulness" was established through validation discussions with the stakeholders. During these discussions, the outcomes of this thesis were shared with them, and their feedback, ideas, and comments were documented. These discussions are reflected in Chapter 7, "Discussion and Conclusions".*
Impact	From the impact perspective, the results of this thesis can help solve systemic problems by identifying systematic ways to structure, manage, and lead inter-organizational multi-party collaboration. Also, the proposed strategic paradigm shift may help organizations understand the role of inter-organizational multi-party collaboration in the broader strategic context.
Coherence	Coherence is probably the most challenging criterion in this thesis. Interorganizational multi-party collaboration is a complex phenomenon that can be examined from different viewpoints. *Coherence is first approached by covering a broad multi-disciplinary body of literature, second, by developing a step-by-step approach that supports a clear definition and articulation of the research problem, third, by articulating a methodologically sound way to provide clearly justified answers as easy-to-understand frameworks and plausible scenarios, and last, assessing their applicability in real-life leadership situations.*

In addition to the overarching engaged scholarship methodology, attention was paid to ensure the quality of the application of the case study methodology. According to Yin (2014), the case study investigator must maximize four aspects of the quality of any design: construct validity, internal validity, external validity, and reliability. Construct validity involves establishing correct operational measures for

the concepts being studied. Internal validity refers to establishing a causal relationship where certain conditions are shown to lead to other conditions. External validity is about establishing the domain to which a study's findings can be generalized. Reliability is about demonstrating that the operations of a study (e.g., the data collection procedures) can be repeated, with the same results. Table 8 demonstrates the measures taken to meet the quality criteria identified as construct validity, internal validity, external validity, and reliability:

Table 8: Summary of measures taken to meet the quality criteria during the engaged scholarship research process.

Quality criteria	Case study tactic	Phase	Measures taken to meet the quality criteria
Construct validity	Use multiple sources of evidence	Data collection	Multiple partner organizations
	Establish a chain of evidence	Data collection	Documented interview sequence
	Key informants review the case study report	Composition	Focus group discussions, interviews
Internal validity	Pattern matching	Data analysis	n/a
	Explanation building	Data analysis	Interview interpretation
	Time-series analysis	Data analysis	Repeated interview results
External validity	Use replication methods in multiple case studies	Research design	Two complementary case studies
Reliability	Use case study protocol	Data collection	Rigorous documentation
	Develop case study database	Data collection	Shared case study database

Generalizability considers whether the research results can be extended in one way or another into a broader context. In qualitative research, generalizability implies a well-grounded and well-argued selection of research cases or people (Eriksson & Kovalainen 2016). The question of generalizability can be approached by considering the concept of possibility through observing social practices that are possible in the context of case studies of interaction in a particular institutional setting (Silverman 1997). Langley et al. (2013) note that cross-case replication is useful as knowledge advances with the comparative models across cases, time, and models. Longitudinal replications highlight the importance of individually coded events and the rethinking process, represented by "boxes and arrows". Their research concern how the authors draw visual maps or diagrams to illustrate processes and their iterative dynamics and conclude that these diagrammatic representations are nevertheless often crucial in describing and communicating dynamic process

theocratizations. Furthermore, they suggest that rich narratives, which enable the representation of nuance and ambiguity, can be combined with more structured analytical approaches that favour the articulation and replication of more abstract theoretical ideas.

As far as analysis is concerned, the generalizability of this thesis is grounded in process theory, as Langley et al. (2013) suggest. While cross-case replication is difficult due to the immersive nature of involvement, similarities between the "archetypes of collaboration" can be observed in the two case studies: EnergySampo and LUXTURRIM5G. Considering individual events, the importance of the lead time from value creation to value capture is paramount. The visual and conceptual representation of the thesis is the framework of "archetypes of collaboration". It advances the conceptual clarity surrounding ecosystems, noted as an important research gap, and further develops it to incorporate process dynamics that enhance our understanding of the emergence and evolution of ecosystems.

The following chapters present the interplay between theory and empirical data, leading to the conceptual decision-making logic and the final construct: the dynamic collaboration capability framework. However, observing the thought process that Figure 8 illustrates highlights the thought process and narrative that emerge from the interplay between theory and the rich empirical data throughout the research process described in the chapter "Cycles of Engaged Scholarship". These diagrammatic representations provide an overview of the logical sequence; thus, they are valuable in communicating the outcomes of this thesis.

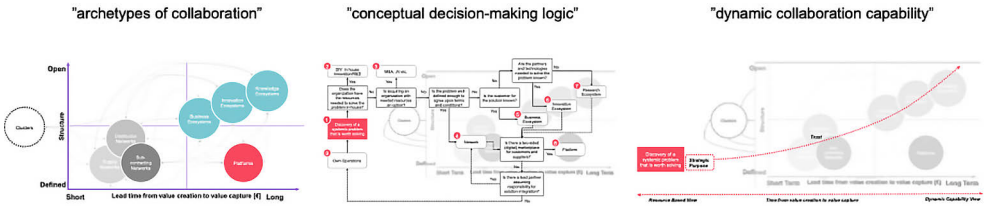

Figure 8: The visual representation of the thought process presents the interplay between theory and rich empirical data.

This thesis yielded several outcomes that were reflected in light of the rich empirical data in continuous interaction with the partners of the EnergySampo ecosystem, allowing discussions about the generalizability of the outcomes with key stakeholders – all seasoned leaders with experience related to strategy processes in their respective organizations. The chapter "Discussion and Conclusions" documents the key takeaways of these discussions. Table 9 assesses the feedback more generally, concluding that much potential exists for applying and generalizing the outcomes beyond the context of this thesis.

Table 9: Assessment of the applicability and generalizability of the outcomes of this thesis.

Outcome	Applicability and generalizability
Strategic Purpose	Building on strategic intent (Hamel & Prahalad 1994), the value of the concept lies in simplifying the conceptual field. Considering that when the strategic context involves multiple organizations – each with their own ways of perceiving, formulating, and implementing strategy – a strategic purpose is suggested as a foundation of inter-organizational multi-party collaboration. Drawing on case studies involving large multinational companies that are already articulating their purpose and collaborating to solve systemic problems, this thesis concludes that the concept of strategic purpose has significant potential for being applicable in the broader strategic context.
Collaborative strategizing	Collaborative strategizing is not a conceptually new idea, but combining Minzberg's (1994, p. 12) view with the concept of strategy brings a novel, more inclusive aspect to thinking about strategy. In addition to the discussion about inter-organizational multi-party collaboration, the collaborative strategizing process may change the strategic context of the individual companies; hence, its significance may be multi-directional. The collaborative strategizing that occurred in both case studies can be used more broadly.
Archetypes of collaboration	Considering the ambiguity and overlap of different inter-organizational multi-party collaboration concepts presented an important research gap. The framework enhances conceptual clarity for thinking about such collaboration and provides an actionable tool for scientists and practitioners alike. As the framework is based on a broad base of existing literature and tested in light of the rich empirical data, it can be applied in other contexts, providing an interesting research agenda for further studies.
Decision-making logic related to archetypes of collaboration	This process view emerged while considering the resource-based view and dynamic capability view and its application in real life was tested when validating the outcomes with stakeholders. However, as the decision-making logic is a practical application of the resource-based view, when applied, it can help practitioners "trace back" their past decisions and accelerate and improve the quality of their future structuring decisions.
Dynamic Collaboration Capability	As the dynamic collaboration capability framework largely builds on the archetypes of collaboration but is a conceptual construct, its generalizability warrants further investigation. The dynamic collaboration capability has not been empirically tested; thus, no proof of its generalizability exists other than the stakeholder feedback in the review sessions, which states that "it makes sense".

3 Strategic context

This chapter summarizes the theory-building phase related to the third cycle of engaged scholarship illustrated in Figure 6. It begins by examining the reasons underlying the need for inter-organizational multi-party collaboration by exploring prior research in strategic management and organizational science. Thus, it enhances our understanding of the contextual and goal dimensions of inter-organizational multi-party collaboration (Castañer & Oliveira 2020) that serve as a basis for structuring such collaboration. While this thesis focuses on the strategic organization of operations, understanding the key concepts as the partner organizations' perception of what strategy is and how it is articulated may differ is essential.

Gulati et al. (2012) captured the strategic dimension, noting that since the 1980s, a dramatic increase in partnerships spanning geographies, industries, and value chains has occurred. Furthermore, according to Porter (1991), strategic and competitive advantages are increasingly based on shared resources, network externalities, knowledge spillovers, local endowments, and governmental support, creating a need for concepts beyond the firm-specific competitive advantage approach. Considering the statement that existing strategy frameworks are no longer valid (Jacobides 2019) leads to examining the strategic concepts to answer the first research question: "How does strategic management change when solving systemic problems?"

This chapter answers the question in three phases. First, it discusses the theories of the firm and the concept of value to better understand the strategic paradigm shift and the need for collaborative strategizing. Second, it reviews collaborative strategizing as a concept, highlighting its importance in light of the discussion related to the inter-organizational multi-party collaboration. Third, after examining the concepts of mission, vision, purpose, and strategic intent, it proposes simplifying the conceptual field by introducing strategic purpose as a unit of analysis for structuring inter-organizational multi-party collaboration.

3.1 Theories of the firm and the concept of value

Review of "theories of the firm" provided a good starting point for observing the strategic paradigm shift from single organization focused to multi-party

collaboration focused. Theories of the firm involve, for example, transaction cost economics, agency theory, team production, and incomplete contract theory. The limitation of these theories is their focus on trying to explain the existence of firm boundaries, with a bright-line distinction between those economic activities "within" a firm's boundary and those "outside" a firm's boundary (Alvarez et al. 2020). According to them, identifying firms' boundaries is connected to control over resources as a source of efficiency and sustainable competitive advantage about a firm's competitive environment. According to Burgelman et al. (2022), CEOs are the ultimate decision-makers regarding corporate boundaries. In that role, their function in large public firms includes monitoring the evolving business ecosystem, defined as the broader economic context that a focal firm must monitor and react to, especially considering the corporate business model portfolio – the set of different business models operated by the same organization. While boundary definition is important, in light of recent ecosystem literature (Aarikka-Stenroos & Ritala 2017; Autio & Thomas 2022; Jacobides, Cennamo, & Gawer 2018; Thomas & Ritala 2022) inter-organizational multi-party collaboration is seemingly emerging as a new paradigm, forcing firms to look beyond their organizational boundaries. Also, from the organization theory perspective, inter-organizational multi-party collaboration considers organizations as open vs. rational or natural (Scott 2003), where, due to openness, determining the boundaries can be difficult; hence, structural analyses are important.

Developing wholly new theories of the firm is a significant challenge because the theories of the firm are well-established in the economics and management literatures (Alvarez et al. 2020) and the organizational science. However, there are ideas that one can learn from and build on. For example, Barnett and Burgelman (2007) review evolutionary perspectives on strategy involving dynamic, path-dependent processes, allowing for variation and selection within or among organizations. From an organizational design perspective, Gulati et al. (2012) note that prominent forms of economic organization increasingly involve multiple firms and communities of noncontractually linked individuals. Thus, an emphasis on intrafirm design may be outdated or, at the very least, incomplete. Considering the view that competing organizations often engage in complex strategic interactions, with outcomes depending not just on what a firm does but on what others do (Barnett & Hansen 2007), the same can be seen to apply to inter-organizational multi-party collaboration.

In light of this discussion, it is important to note that the tone of voice in strategy discussion is changing from "business is war" – where a company has to capture the market, beat the competition, make a killing, etc. – to "business is peace", considering the importance of partnerships, alliances, working together, listening to the customer, and working with suppliers (Nalebuff & Brandenburger 1997). This

implies the need to better understand the motivations of different stakeholders and how inter-organizational, multi-party collaboration is structured and managed, especially when solving systemic problems calling for public-private partnerships.

Alvarez et al. (2020) consider various viewpoints related to inter-organizational multi-party collaboration, including those of shareholders and other stakeholder interests, stating that in many parts of the world, society increasingly expects businesses to help address environmental degradation, inequality, and poverty. They note the need for ownership competence and governance competence, focusing on understanding value creation as a key factor in this context. Furthermore, they highlight the "new normal of uncertainty", where decision-makers do not know the possible outcomes of a decision nor the probability of those outcomes. This implies an emphasis on understanding economic incentives, which are often conflicting, especially when multiple stakeholders are involved. Creating a joint understanding requires shifting from an "inside-out" approach to an "outside-in" approach by meeting customer needs and creating value for them (Abdelmoneim & Jones 2014). In this increasingly competitive, interconnected economy, in-house research and development (R&D) activities are being replaced by more open approaches toward the strategic management of innovation (Chesbrough & Appleyard 2007; Bacon et al. 2020), as successful innovation requires tracking partners and potential adopters as closely as one's own development process (Adner 2017). Nalebuff and Brandenburger (1997) use the term "coopetition" and identify these players as customers, suppliers, competitors, complementors, and governments who pull the strings behind the scenes and set some rules of the game. For example, competition or coopetition often facilitates the creation of new products by enabling the use of joint market and technological knowledge, which can lead to more effective innovation generation and diffusion (Ritala 2012; Bacon et al. 2020; Bouncken et al. 2018).

Furthermore, not all organizations involved in inter-organizational multi-party collaboration have commercial motivations. In fact, public–private partnerships are now a common feature in the public domain in many countries, and their number is increasing (Bovaird 2004). He defines public-private partnerships as working arrangements based on a mutual commitment (over and above what any contract implies) between a public sector organization with any organization outside the public sector; he notes new-style collaborative partnerships and alliances, often without any legal underpinning, as well as partnerships backed by contracts, but where partners display levels of mutual commitment over and above those contracts. Similarly, Santalainen et al. (2024) note the need for strategists to balance competitive advantage issues with long-term viability issues when public partners are involved in partnerships.

Alvarez et al.'s (2020, p. 714) views consider the impact of digital technologies, namely AI, and state that "Changes in technology and the quality of labour may spur additional experimentation on the part of firms regarding the nature of incentives, organizational templates, and organizing principles required to be successful in this new setting. Increasingly, these changes may lead firms to be less hierarchical, with less clarity regarding lines of command, planning, contracts, and (economic) incentives." This highlights the importance of resource dependency as a key entity underpinning new ways of organizing (Adner 2017; Jacobides et al. 2018). Continuing the discussion, Adner (2017, p. 53) notes the interlinked nature of resources in today's dynamic business environment: "Just as there are potential interactions between competitive strategy and corporate strategy, there can be strong interactions between competitive strategy and ecosystem strategy, such as leveraging partner relationships in one setting to advantage position in a different setting". This implies the importance of the dynamic nature of inter-organizational multi-party collaboration, encouraging the focus on dynamic capabilities, defined as those capabilities that enable firms to create, extend, and modify how they make a living by contemplating alterations in their resources, operating capabilities, scale and scope of businesses, products, customers, ecosystems, and other features of their external environments (Teece et al. 1997). Abbate et al. (2022) suggest that the dynamic nature and underlying transforming capability refer to the ability to realign structure and culture by aligning existing capabilities.

Drawing on the prior discussion, the resource-based and dynamic capability views seem to have the most potential when considering inter-organizational multi-party collaboration, which can be compared to the concept of meta-organization. Gulati et al. (2012) defined _meta-organization as an organization whose agents are legally autonomous and not linked through employment relationships. They characterize meta-organizations as comprising networks of firms or individuals not bound by authority based on employment relationships but characterized by a system-level goal.

Based on the literature reviewed as part of this chapter, this research confirms that inter-organizational multi-party collaboration is a strategic phenomenon and a potentially new paradigm that profoundly impacts organizations and society. Noting the importance of this phenomenon, the processes through which strategic discussions occur are discussed next.

3.2 Collaborative strategizing

The emerging paradigm shift to "business as peace", where joint success is a key concern, raises interest in collaborative strategizing (Fombrun & Graham Astley 1983; Huxham 2025; Clarke & Fuller 2010; Ritala & Tidström 2014; Deken et al.

2018). These studies provide valuable insights into the need for and the dimensions of strategic discussion, as well as the processes through which they occur.

Conceptual discussions related to collaborative strategizing include the collective strategy that Fombrun and Astley (1983) introduced, which emphasized the need to incorporate collective dimensions into the strategy process while considering the technological, economic, social, and political contexts. Astley (1986) challenges the individualistic view of strategic planning and suggests that the nature of interdependence, mode of interaction, resource flows, and control mechanisms are dimensions through which organizations can develop shared systems for cooperation, adaptation, and control. Bresser and Harl (1986) also note the importance of interdependence as a key driver of collaborative strategy and analyse it according to two dimensions: the rate of movement among and the strength of interconnectedness between the elements. Related to these discussions, Huxham (1993) suggests the term "collaborative advantage" as achieving outcomes that none of the partners could attain alone and refers to these jointly developed missions and objectives as a shared meta-strategy. Clarke and Fuller (2010, p. 87) build on the previously noted concepts of collective strategy and shared meta strategy and define collaborative strategy as the "joint determination of the vision, and long-term collaborative goals for addressing a given social problem, along with the adoption of organizational and collective courses of action and allocation of resources to carry out these courses of action." They propose that collaborative strategic management is a dynamic, multi-level process in which strategy formulation and implementation occur at the collaboration and individual partner levels, including feedback loops for learning and adaptation. Ritala and Tidström's (2014) research extends the collaborative strategizing to include the coopetition aspect (simultaneous cooperation and competition) and suggests the need for dynamic and dual-level strategy management to handle evolving tensions between value creation and value appropriation. In turn, Deken et al. (2018) introduce the concept of prospective resourcing as a dynamic interactive process through which organizations and potential partners jointly construct resource complementarity while strategizing and initiating collaboration. The collaborative strategizing process is open and transparent and involves making strategic information visible to broader audiences (Hautz et al. 2017).

Collaborative strategizing involves inherent complexity, as the partner organizations involved in these discussions will likely have diverse ways of perceiving strategy and the processes through which it is created. Mintzberg (1994), who summarizes these as "schools of strategy", has thoroughly studied this field. This is of interest, as inter-organizational multi-party collaboration may involve different types of organizations, including large corporations, SMEs, start-ups, research institutions, universities, and public sector organizations (e.g., cities,

municipalities, government funding agencies, and regulators). These different perceptions of strategy and the processes through which strategy is created in different organizations may complicate collaborative strategizing, especially since the partner organizations may be at different phases of their lifecycle, have different ownership structures, and differ in their focus areas. All this further emphasizes the need for collaborative strategizing as a fundamental part of inter-organizational multi-party collaboration.

This chapter concludes that collaborative strategizing is an essential part of inter-organizational multi-party collaboration and acknowledges the inherent complexity associated with it. In the next chapter, this thesis revisits the research question, "How does the concept of strategy change when solving systemic problems?" and attempts to simplify the process by focusing on the key concepts of strategy: the mission, vision, purpose, and strategic intent.

3.3 Towards conceptual simplification

Considering the need for new strategic frameworks (Jacobides 2019) that align with the "era of ecosystems", this thesis notes that the key concepts of strategic management have mainly been studied from a single organization's perspective. It suggests that a closer look at the different strategic concepts is essential to ensure an efficient and inclusive approach. This chapter reviews the concepts of vision, mission, purpose, and strategic intent – first, to agree on their definitions and the differences between them, and second, to observe their applicability in the context of this thesis.

3.3.1 Vision

Vision is future-oriented and describes where an organization wants to be positioned in the market in 5, 10, 15, or 20 years. It is a goal state embodying a long-term ambition of where an organization would like to be relative to its competitors (Bowen 2018). According to Bowen, asking "What is it that the organization is pursuing?" can determine a vision. Vision statements are typically concise and brief; effective visions are 11–22 words, rendering them easy to communicate and remember (Kantabutra & Avery 2010). According to them, powerful visions do not consist of a one-time, specific goal or productivity target (e.g., sales or profit) that can be met and then discarded. Instead, they are abstract enough to be a guide for a wide range of business activities over a long period. Powerful visions are also stable. They do not shift in response to short-term trends, technology, or market changes, although they must be flexible enough to weather fluctuations.

An understanding of the concept of vision is somewhat two-fold. Although scholars, corporate trainers, and management consultants often emphasize the importance of espousing a vision and even suggest characteristics of a compelling vision, despite taking a critical look, no one really knows what such a vision looks like (Kantabutra & Avery 2010). The authors observe that powerful vision statements possess seven characteristics – conciseness, clarity, abstractness, challenge, future orientation, stability, and desirability or inspiration – finding that the shared vision characteristics and content have positive, direct effects on customer and staff satisfaction. Strategically using a vision statement can help an organization in long-term planning, scenario building, and issue identification and analysis, as well as resolve ethical dilemmas and determine the best allocation of limited resources (Bowen 2018). All are powerful qualities, but the doubts regarding the usefulness of vision in the context of a single organization leave room for further concerns about the applicability and effectiveness of vision statements in the inter-organizational multi-party collaboration context. Therefore, further exploration of the related concepts is warranted.

3.3.2 Mission

The introduction of mission statements as organizational tools is attributed to Drucker's Handbook of Management (1974). Mission is the pursuit of a goal that is unique to an organization's competitive advantage – its specific strengths and offerings relative to competitors – while reemphasizing its values (Bowen 2018). A mission statement defines the company's business, its objectives, and its approach to reaching those objectives. Mission statements should answer some fairly simple yet fundamental questions for every organization, such as "Why do we exist?", "What is our purpose?", and "What are we trying to accomplish?" (Bart et al. 2001). Mission statements facilitate coherence within an organization by providing direction and purpose, serving as a control mechanism, constituting a guide for organizational decision-making, and giving meaning to work that inspires and motivates organizational members (Bartkus et al. 2000). Unlike vision statements, mission statements are typically several sentences in length. They help management organize the hierarchy of priorities that an organization must face in daily and long-term operations (Bowen 2018).

According to Braun et al. (2012), mission statements include three meta-components: (1) a vision and a statement of goals, (2) a statement of mission and a self-definition, and (3) an organization's philosophy and values. They conclude that although the three theoretically defined components of mission statements are intended to fulfil different purposes, they are often neither differentiated nor explicitly applied in organizational practice. Bowen (2018) identifies categories that

mission statements usually discuss: target markets, principal products/services, geographic domain, technological advantage, economic goals, philosophy, identity, reputation, and employee concerns.

Mission is about culture and strategy. It is an organization's character, identity, and purpose. Campbell and Yeung (1991) note that a mission should allow the prioritization of operations and resources. They conclude that a mission exists when strategy and culture are mutually supportive and claim that an organization has a mission when its culture aligns with its strategy. The best mission statements encourage commitment and motivation among internal publics and employees, helping foster a collaborative, team-driven environment focused on common goals (Bowen 2018). Mission statements are argued to play a vital direction-establishing role that facilitates strategy formulation and aids strategy implementation by fostering unity of purpose and team spirit (Sidhu 2003). The challenge with mission statements appears to be that they often fail to engage people. Despite sounding inspirational, they are usually so general that they become ignored (McKeown 2012).

In their study of the relationship between mission statements and firm performance, Bart et al. (2001) suggest that the advantage of having a clear mission with well-specified ends and means is that confusion, uncertainty, and contradiction are eliminated. They conclude that a mission statement matters, but to do so, it must have a proper rationale, contain sound content, be aligned with the organization, and bring about sufficient behavioural change in the desired direction. Bowen (2018) also encourages using the mission statement when discussing managerial dilemmas and in the contexts of routine decision-making and problem-solving. Learning from Bartkus et al. (2000), rationales for mission statement development should be directed toward internal and external stakeholders, as implementation is more effective when all relevant stakeholders are involved. On that note, they suggest that mission statements should embody a brief and comprehensive presentation of their major contents, emphasizing organizational values/philosophy and self-concept, (desired) public image, and concern for internal and external stakeholders.

Although several studies in the field of mission statements have at least partly demonstrated their utility for organizational purposes, scholars and practitioners remain sceptical about this tool (Bartkus et al. 2000). The lack of empirical evidence has led to a gradual erosion of managerial confidence in mission statements (Sidhu 2003). Considering the reasonable level of doubt regarding the applicability of mission statements at the organizational level, doubts emerge about their usefulness in the inter-organizational multi-party collaboration context, especially when considering the partial overlap with vision statements that was reflected in the previous chapter.

3.3.3 Purpose

The concept of purpose partially overlaps the concepts of vision and mission. A purpose statement provides meaning and connects team members not only to the work but how that work affects the company and its customers or clients (McIntosh 2010). The most effective purpose statements in guiding decision-making have two basic and interrelated features: First, they delineate an ambitious long-term goal for the organization. Second, they give that goal an idealistic cast, committing to the fulfillment of broader social duties (Gulati 2022). Gulati's analysis of commercial and social logic underpinning purpose concludes that every purpose-driven company claims to aim for the "purpose with profit" but often fails to achieve it.

A sense of purpose that transcends financial gain can motivate employees, but it involves a paradox. Fulfilling a purpose without money is difficult (Birkinshaw et al. 2014). While strategy offers a formal logic for the company's goals and orients people around them, it is more rational. Mission statements often lack the fundamental emotional component of pride, which connects people to the statement and its meaning (McIntosh 2010). Instead, purpose is defined by a spiritual and moral call to action; hence, it is more emotional – it is what a person or company stands for. When such a purpose exists, it provides employees a clear sense of direction, helps them prioritize, and inspires them to go the extra mile (Birkinshaw et al. 2014).

The benefits of having a clearly articulated purpose materialize at the individual and organizational levels. Many teams use their unique purpose statement to initiate, evaluate, and refine business strategies and activities, infusing the statement with their emotional connections to the work (McIntosh 2010). Additionally, recent research shows that when people contribute to a higher purpose, they tend to experience a heightened level of well-being, happiness, and life satisfaction, as well as robust physical health and increased resilience to stress. Furthermore, they exhibit greater vitality during mentally and physically challenging activities (Rainey 2014). Considering the views of organizational culture scientists (Atkinson 1990; Groysberg et al. 2018; Schein 2017; Shook 2010), it is assumed that the purpose underlying organizational culture is increasingly important at the organizational and personal levels.

In conclusion, vision and mission statements seemingly capture the essence of corporate objectives, which are rooted in the theories applicable to the context of a single organization. However, considering their overlap and the need for commitment to common goals and organizational alignment in the context of inter-organizational multi-party collaboration, purpose might be a simpler way of articulating the joint direction than having multiple overlapping strategic concepts. Therefore, this thesis proposes that building on the concept of purpose could be a basis for connecting organizations and people. Furthermore, the concept of purpose may be conceptually easier to understand and communicate, considering that inter-

organizational multi-party collaboration often involves different organizations, with varying mission and vision statements. However, the question arises as to whether purpose alone suffices to guide clear enough objective setting to ensure execution, leading to further exploration in the conceptual field in the next chapter.

3.3.4 Strategic intent

Strategic intent is another concept that overlaps with the concepts of vision and mission. It is close to the traditional definition of mission: "What business are we in and what strategic position do we seek?" (Campbell & Yeung 1991). McKeown (2012) observes mission, vision, and strategy as a means to define quarterly objectives. They conclude that these short-term tactics may lack inspiration. Therefore, he suggests learning from Hamel and Prahalad (1989) and combining mission and vision statements into a strategic intent – a concrete and inspirational statement to use as a tool to guide people and teams in knowing exactly what they are trying to do and not do.

Hamel and Prahalad's (1989) original article challenged concepts such as "strategic fit" (between resources and opportunities), "generic strategies" (low cost versus differentiation versus focus), and the "strategy hierarchy" (goals, strategies, and tactics). They note that selecting a generic strategy to build sustainable success will unlikely produce the desired outcome in today's volatile, uncertain, complex, and ambiguous world. Instead, companies should focus on executing a strategy based on people, partners, and processes to manage change and culture. They define strategic intent as more than simply unfettered ambition and highlight the fact that many companies possess an ambitious strategic intent yet fall short of their goals. The concept also encompasses an active management process that includes focusing the organization's attention on the essence of winning, motivating people by communicating the value of the target, leaving room for individual and team contributions, sustaining enthusiasm by providing new operational definitions as circumstances change, and using intent consistently to guide resource allocations.

Comparing today's business environment to the 1990s, when cost, quality, and differentiation were pressing concerns, inter-organizational multi-party collaboration is under more pressure to deliver complex value propositions and solve existential problems. Considering that such collaboration to achieve these goals involves multiple organizations and people, all with different motivations, encourages taking a closer look at applying strategic intent in such a context seems appealing. However, considering the overlap between the concepts of vision, mission, and purpose, an opportunity exists to revisit these concepts and explore whether they can be combined.

3.3.5 Introducing strategic purpose

This thesis suggests simplifying the conceptual field by choosing purpose and strategic intent as key concepts to build upon. This choice is rooted in the conceptual overlap between a mission and a vision with a purpose, as well as the general usefulness of vision and mission statements (Campbell & Yeung 1991; Slintak & Dvorsky 2019). While mission, vision, purpose, and strategic intent are used in the individual organizational strategies, they fail to fully align with the inter-organizational multi-party collaboration context.

However, strategic intent (Hamel & Prahalad 1989) has been argued to be more tangible than mission and vision, and it has been suggested to provide a way to tie actions at every level of the organization to drive aligned execution. Figure 9 illustrates the thought process that led to the development of the concept of strategic purpose.

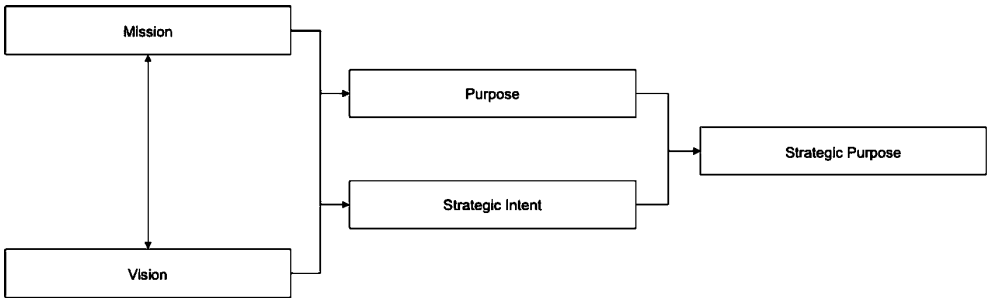

Figure 9: Strategic purpose is proposed as a new concept to be the basis of inter-organizational multi-party collaboration.

Strategic purpose is proposed as a new concept to serve as the basis of inter-organizational multi-party collaboration. It is not intended to replace existing strategies or strategy concepts in different organizations but to help focus attention on the importance of goals (Castañer & Oliveira 2020) in inter-organizational multi-party collaboration. It is suggested to combine the elements of strategy as it is inherently bound with culture, which expresses goals through values and beliefs and guides activity through shared assumptions and group norms (Groysberg et al. 2017).

Drawing on the benefits associated with a clear purpose, the value of strategic purpose lies in its simplicity. It is suggested to serve as a basis for inter-organizational multi-party collaboration and helps ensure the quality of strategic decision-making in a changing business environment (Bart et al. 2001; Birkinshaw et al. 2014). Purpose focus is also argued to ensure a deeper commitment at the organizational and individual levels (Gulati 2022; Rainey 2014) and to align actions and beliefs toward a challenging goal (Campbell & Yeung 1991). Furthermore,

several studies imply (Bart et al. 2001; Birkinshaw et al. 2014) that when employees are aligned with their purpose and know how their tasks are tied to their everyday work, performance improves.

Strategic purpose embodies meaningfulness, which, according to Birkinshaw (2014), is built on a limited number of objectives, support systems to reinforce execution, ways of measuring progress, and institutional mechanisms that exist to enforce a continued focus. These qualities are also linked to strategic intent (Hamel & Prahalad 1989). In essence, in the inter-organizational multi-party collaboration, the strategic purpose answers the questions: "What problem are we solving together?" and "Why is it worth solving?" and establishes a set of objectives that enable joint success. The power of strategic purpose is suggested to rest in aligning individual organizations' purpose statements and meeting the challenge of addressing the legitimate interests of multiple stakeholders not sequentially, but simultaneously, as Martin (2014) outlined.

3.4 From strategic context to collaboration context

The theoretical reflections introduced in this chapter lead to important considerations in the following chapters. The reflections of the theories of the firm serve as input to developing the dynamic collaboration capability in Chapter 5. Theories related to collaborative strategizing provide a framework for analyzing discussions throughout the data collection, data analysis, and further theory building. Furthermore, the need for simplification in the conceptual field and the development of a strategic purpose as a means of achieving this are important steps, as they serve as the unit of analysis for the following chapter, "Collaboration Context".

Summarizing the findings related to the "strategic context", this thesis proposes collaborative strategizing as a core process related to inter-organizational multi-party collaboration (Fombrun & Astley 1983; Astley 1984; Bresser & Harl 1986; Clarke & Fuller 2010; Ritala & Tidström 2014; Deken et al. 2018). Furthermore, it emphasizes the importance of collaborative strategizing to accommodate different organizations' strategies, which can be created and implemented through various processes and articulated in different forms, as Mintzberg (1994) suggested. Noting that individual organizations may use different terms to communicate their strategic direction, this approach attempts to enhance the theories of collaborative strategizing by introducing a strategic purpose that articulates the foundation of the joint effort and its objectives.

Figure 10 illustrates the dynamics of collaborative strategizing, including the organizational and inter-organizational multi-party collaboration views.

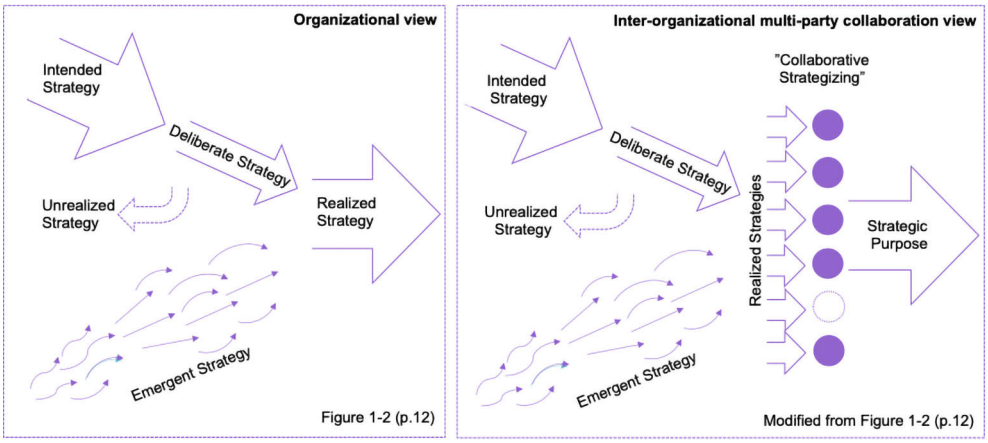

Figure 10: The collaborative strategizing process in inter-organizational multi-party collaboration (adopted from Minzberg 1994, p. 12).

As Figure 10 illustrates, this thesis suggests that collaborative strategizing is a dynamic process that considers the strategic discussions occurring at the organizational level. Furthermore, it proposes that joint collaborative strategizing is essential for achieving commitment to the strategic purpose of inter-organizational multi-party collaboration. As Minzberg's original figure (1994, p. 12) illustrates, these discussions encompass the intended and deliberate strategies as well as unrealized, emergent, and realized strategies. These organizational-level discussions are considered to serve as input for the collaborative strategizing among multiple parties involved in inter-organizational discussions. The result of those discussions – a strategic purpose – is proposed to serve as the basis for structuring inter-organizational multi-party collaboration.

According to this view, collaborative strategizing does not replace strategy processes or the strategies of individual organizations; rather, it complements them. Furthermore, this thesis implies that in today's fast-paced business environment, organizations must be attuned to observe their "intended" or "deliberate" strategies in the context of "emergent" strategies. Collaborative strategizing may improve awareness of how the "realized" strategy presents itself. This highlights the need to understand which parts of their strategy are being implemented within their organization and which parts necessitate a more open approach. However, when involved in collaborative strategizing, significant attention must be paid to ensuring each participating organization benefits from these discussions to ensure commitment.

Furthermore, considering the strategic purpose underpinning inter-organizational multi-party collaboration, attention must be paid to finding a structure that ensures value creation and value capture for each partner, considering their

strategies and related objectives that evolve over time. The next chapter, “Collaboration Context”, observes these structuring decisions. It focuses on enhancing conceptual clarity related to different forms of inter-organizational multi-party collaboration, drawing on the innovation and ecosystem literatures, to answer the second research question: “How can inter-organizational multi-party collaboration be structured?”

4 Collaboration context

This chapter summarizes the theory-building related to the first cycle of engaged scholarship illustrated in Figure 4. It describes the theoretical discussion related to answering the second research question: "How can inter-organizational multi-party collaboration be structured?"

This research has thus far concluded that the need for inter-organizational multi-party collaboration is rooted in the necessity to solve systemic problems. Shifting the strategic focus from "business as war" to "business as peace" raises interest towards new business models and organizational structures involving different organizations. Alvarez et al. (2020, p. 711) have widely recognized this:

> *"The emergence of structured cooperation within the economy is not just the result of an abstract and static choice between market and hierarchical forms of governance, or even between market and hybrid forms of governance. Instead, structured cooperation emerges through a complex interaction among a wide variety of economic actors in an ecosystem."*

Notably, Alvarez et al. (2020) use the term "ecosystem". However, while researchers agree that the need for inter-organizational multi-party collaboration is on the rise and recognize the need to manage such collaboration, the definitions of such collaborative agreements remain partially overlapping and ambiguous. This chapter focuses on identifying key concepts related to the field and improving conceptual clarity, which several authors (Aarikka-Stenroos & Ritala 2017; Möller & Halinen 2017; Adner 2017; Autio & Thomas 2022) have noted as a research gap. By reviewing recent literature, it maps research on closely related terms (e.g., ecosystems, cluster networks, and platforms). Thereafter, it develops a framework for positioning different forms or "archetypes of collaboration". Thus, this chapter seeks to enhance conceptual clarity surrounding the concept of inter-organizational multi-party collaboration.

4.1 Conceptual field related to inter-organizational multi-party collaboration

According to Autio and Thomas (2022), the management community's increased focus on collaboration and ecosystems is advancing the discussions in the field, leading to significant research interest, including this research. A substantial body of literature covers cluster networks, ecosystems, and platforms. While several researchers have defined these related terms, a degree of ambiguity remains, confirming that further development, discussion, and frameworks are needed.

To ensure relevance in this discussion, this study conducted a thorough literature review along the "collaboration context" cycle of engaged scholarship. As Figure 2 illustrates, engaged scholarship involves an iterative process with an interplay between theory building and empirical data collection and analysis. This chapter presents links to the prior literature and explains the thought process leading to the use of inter-organizational multi-party collaboration as an umbrella term. The literature review began with the keyword "ecosystem" and extended to "network" and "platform", as these terms were frequently encountered in the ecosystem literature. Adner (2017) greatly influenced this work, exploring the field of alternative constructs (business models, platforms, coopetition, multi-sided markets, networks, technology systems, supply chains, and value networks), helping characterize where the ecosystem construct adds and does not add insight to the strategy literature. This chapter positions clusters ecosystems, networks, and platforms as structures that relate to inter-organizational multi-party collaboration, defined as an umbrella term encompassing the broad context of collaboration. Figure 11 illustrates how the literature review progressed from 2020 to 2024.

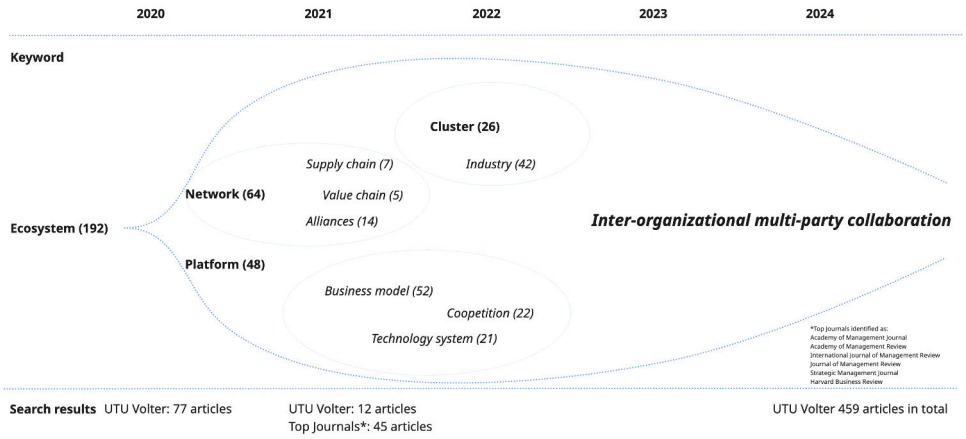

Figure 11: Literature review and theory building related to the key concepts during the first cycle of engaged scholarship.

The term “ecosystem” is used in various ways, ranging from a synonym for business networks to an analogy for interconnected environments (Adner 2017; Aarikka-Stenroos & Ritala 2017; Möller & Halinen 2017; Autio & Thomas 2022). he ecosystem concept has also begun to emerge in the field of network research (Möller & Halinen 2017; Aarikka-Stenroos & Ritala 2017). While some suggest that an ecosystem is an actionable construct for strategy (Adner 2017; Jacobides et al. 2019; Cennamo & Gawer 2018), others argue that the concept of an ecosystem should never be used (Oh et al. 2016). The discussion continues with Ritala and Almpanopoulou (2017) countering that view. Furthermore, the ecosystem discussion encompasses platforms and their related platform ecosystems (Cennamo 2018; Cennamo & Santaló 2013; Cennamo & Santaló 2019). The term “platform” is often used with the terms “network” and “ecosystem” and is suggested to be an effective organizing form for addressing grand challenges, as it can provide coordination structures that orchestrate complementarities (Ritala 2024). However, trying to conclude the discussion about the differences and overlaps between different concepts is far from easy, as the definitions remain ambiguous and partially overlapping.

Emerging insights from the EnergySampo case, as shown in Figure 3, focused attention on clusters as part of this discussion. Clusters are defined as agglomerations of closely related industries within a given geographical area (Delgado et al. 2010, 2014, 2016). The cluster discussions include the ecosystem concept (Spigel 2017; Speldekamp et al. 2020) and the concept of a network identified as a collaborative structure where close relationships drive mutual success (McIntyre & Subramaniam 2009; Valkokari 2015). Considering previous attempts to achieve conceptual clarity, Möller and Halinen (2017) cover sectors and clusters, business fields, ecosystems, and platform ecosystems.

This thesis’s attempt to enhance conceptual clarity builds on the concepts of ecosystem, network, platform, and cluster as key constructs. Table 10 summarizes a fraction of the literature reviewed, presenting selected examples that demonstrate how the terms “cluster”, “network”, “ecosystem”, and “platform” are partially used in parallel, indicating a need for conceptual clarification. While these examples of recent literature provide an overview of the conceptual ambiguity, they are essential to “anchor” the definition discussion.

Table 10: Examples of literature related to the conceptual field of inter-organizational multi-party collaboration.

Focal concept	Noted concepts	Perspective	Author
Cluster	*Network*	*Cluster emergence and evolution, social ties*	*Casper 2007*
Cluster	*Ecosystem*	*Role of clusters in new business formation and regional growth*	*Delgado, Porter, & Stern 2016*
Cluster	*Ecosystem*	*Entrepreneurial ecosystems and regional systems of innovation with a focus on business model innovation*	*Autio et al. 2018*
Cluster	*n/a*	*Cluster policy as a government tool*	*Vernay, D'Ippolito, & Pinkse 2018*
Cluster	*Ecosystem*	*Clusters as geographic concentrations of interconnected companies and institutions in a particular field*	*Speldekamp, Saka-Helmhout, & Knoben 2020*
Network	*Ecosystem*	*Commercialization through networks*	*Aarikka-Stenroos, Sandberg, & Lehtimäki 2014*
Network	*Ecosystem*	*Business nets as manageable and intentional*	*Valkokari 2015*
Network	*Ecosystem Platform*	*Development of strategic networks towards business fields and ecosystems*	*Möller & Halinen 2017*
Network	*Ecosystem*	*View of collaboration by interaction focus and system dynamics*	*Aarikka-Stenroos & Ritala 2017*
Network	*n/a*	*Interorganizational network governance*	*Clauss & Ritala 2023*
Ecosystem	*Network Platform*	*Ecosystem as an affiliation and as a structure defined by value proposition*	*Adner 2017*
Ecosystem	*Network Platform*	*Ecosystem emergence as a distinct governance form*	*Jacobides, Cennamo, & Gawer 2018*
Ecosystem	*Platform*	*Ecosystem value creation and value capture, systematic review*	*Khademi 2020*
Ecosystem	*n/a*	*CEO strategizing as the ecosystem evolves: inter-business model complementarity and intra-business model complexity*	*Burgelman, Snihur, & Thomas 2022*
Ecosystem	*Network Platform*	*Ecosystem model based on value logic, participant symbiosis, and institutional stability*	*Autio & Thomas 2022*
Ecosystem	*Supply chain Network Platform*	*Process model of ecosystem collective action requiring legitimacy to overcome the liability of newness*	*Thomas & Ritala 2022*
Platform	*Ecosystem*	*Platform-based technology ecosystems as new forms of organizing*	*Cennamo & Santaló 2019*

Focal concept	Noted concepts	Perspective	Author
Platform	*Networks Ecosystems*	*Platform strategies' success related to network effects, network clustering, disintermediation, multi-homing, and bridging*	*Zhu & Iansiti 2019*
Platform	*Network Ecosystem*	*Platform literature synthesis from scale, integration, heterogeneity, and governance viewpoints*	*Rietveld & Schilling, 2020*
Platform	*Ecosystem*	*Platform architecture as a "meta organization" defined as a modular and interdependent system of core and complementary components*	*Kretschmer et al. 2022*
Platform	*Ecosystem*	*Platform ecosystems as an organizational form that can effectively scale solutions for grand societal and economic problems*	*Ritala 2024*

Based on the literature review, this study suggests inter-organizational multi-party collaboration as an umbrella term. The following chapters focus on enhancing conceptual clarity by focusing on the key concepts identified as ecosystems, networks, and platforms; they also describe the theory-building process leading to the positioning framework, "archetypes of collaboration".

4.2 Towards conceptual clarity

This chapter introduces the thought process leading to the positioning framework of "archetypes of collaboration". It begins by introducing the key concepts in light of prior literature, as illustrated in Figure 11. Thereafter, it introduces the positioning framework, which utilizes the previously introduced concept of strategic purpose as a unit of analysis.

4.2.1 Clusters

The concept of cluster thinking originates from Porter's (1990) considerations regarding the competitive advantage of nations, where factors such as labor costs, interest rates, exchange rates, and economies of scale matter. He identifies mergers, alliances, strategic partnerships, and collaboration as determinants of competitiveness. While the thinking may appear outdated, geography and context still matter. The importance of *industry* and *sector* has been reflected in different contexts. The term "sector" derives from traditional economics (primary sector, manufacturing sector, service sector) and was recently used in conjunction with the cluster concept to refer to interrelated industries of economic activity. Evolutionary economics also uses it to cover production and innovation, including institutional

aspects (Möller & Halinen 2017). They define these concepts as closely related to a *business field*, which consists of organizations constituting a recognized area of institutional life, including key suppliers, resource and product consumers, regulatory agencies, and other organizations, and emphasize the inter-organizational links between actors and their cognitions. Planko et al. (2017) note this approach, suggesting the strategic nature of emerging or changing sectors can be transformed by centrally coordinated strategic nets, which implicates conceptual overlap with networks. Autio et al. (2018) note the importance of location and conclude that the ecosystem concept resembles concepts previously explored by economic geographers and innovation researchers (e.g., "clusters", "knowledge clusters", "industrial districts", "innovative milieus" and regional and national systems of innovation); they suggest viewing these concepts through a digitalization lens, which appears particularly useful in the context of platforms. They conclude that, as a type of cluster, entrepreneurial ecosystems are distinctively different in that they are systems for discovering and pursuing entrepreneurial opportunity.

Different dimensions, including geography, firm heterogeneity, agglomeration economies, and the diversity of local actors' strategies, define the notion of a cluster (Vernay et al. 2018). Clusters traditionally indicate an important overall scale of local activity, complemented by spatial density and linkages amongst local firms (Kerr & Robert-Nicoud 2020) and are considered agglomerations of closely related industries bound by including local demand conditions, specialized institutions, the organizational structure of regional business, and social networks (Delgado et al. 2010; Delgado et al. 2016). Their research notes distinct influences of convergence and agglomeration on regional economic growth and employment, suggesting that complementary economic activity creates externalities that enhance incentives and reduce barriers to new business creation. This leads to the conclusion that clusters are a crucial way through which location-based complementarities are realized. Agglomeration benefits are based on the importance of a network of smaller suppliers that interact with "anchor" firms, which include spin-offs, as well as attract firms from related industries, leading to significantly higher growth rates in entrepreneurship. Delgado et al. (2014) suggest that industries in a strong cluster experience higher employment and patent growth, noting that regional industry growth increases with the strength of related clusters within the region and with the strength of similar clusters in adjacent regions. They also find evidence of the complementarity between employment and innovation performance in regional clusters, suggesting that new regional industries emerge where a strong cluster already exists. In their analysis of cluster performance, Speldekamp et al. (2020) view clusters as location-bound networks, governed networks, and location-bound institutional arrangements, adopting a system-level perspective. Based on an

integrative review of the cluster literature, they identify opportunities for system-level analyses to improve our understanding of cluster performance.

Autio et al. (2018) conclude that the cluster and agglomeration literature identify two major benefits facilitated by spatial affordances: enhanced productivity and increased innovation. Regional technology clusters have been identified as an important source of economic development, mainly due to social networks and labor market mobility that create a culture of decentralized social ties linking scientists and engineers across local companies, which helps diffuse innovation, while managing the career risks of working in failure-prone companies from the perspective of skilled individuals (Casper 2007). Kerr and Robert-Nicoud's (2020) study of technology clusters uses patents, venture capital funding, and employment as defining metrics. First, they emphasize settings with a frontier edge, where many companies seek insights into emerging possibilities through first access to codified knowledge or tacit knowledge that cannot be easily written down; they conclude that clusters create specialized labor and high-velocity labor markets, enabling innovation through spillover benefits. Second, they note that clusters also attract investment through customer–supplier interactions and gain from co-locating depending upon local production techniques and, perhaps less obviously, on global integration and production chains. Third, they emphasize the importance of universities featuring prominently in the history of tech clusters. Certain supply-side externalities sustain cluster growth, including deep pools of specialized labor generated by the concentration of firms and industry-relevant institutions (Denney et al. 2021). They note the importance of serial entrepreneurs who have contributed to the emergence of a supportive ecosystem by redeploying financial and knowledge-based capital through their network to seed the next generation of start-ups.

Clusters have often been identified as deliberately created, government policy-driven structures designed to boost a geographical area's development (Vernay et al. 2018). They found differences in motivations and ways to participate in the cluster: Large companies and national government labs were active partners, but some firms were opportunistic receivers. These start-ups became part of the cluster to create another venue for meeting firms that were already part of their network; some were loosely connected as they did not feel a sense of belonging to the cluster. They conclude that governments have a seemingly paradoxical role in cluster development due to the need to continuously strike a balance between a top-down, interventionist approach (i.e., using the cluster as a policy tool) and a bottom-up, laissez-faire approach (i.e., allowing cluster members to use the cluster to self-organize their collaborations). Clusters are seemingly important in facilitating the scaling of nascent industries that have taken root rather than attempting to engineer a cluster from scratch (Kerr & Robert-Nicoud 2020). Speldekamp et al. (2020) also note the national intent to deliberately develop clusters. They observe geography, networks,

and institutions in the context of clusters. They suggest that geographic proximity reduces input costs and may lead to knowledge spillovers and productivity gains, noting that knowledge can be transmitted between network partners, thus spurring innovation. Additionally, they consider the role of institutions in recognizing the influence that institutional regimes and structures have on organizational capabilities and innovation strategies. In any case, Delgado et al. (2016) suggest that measuring cluster performance calls for a thorough understanding of the context and configuration. Their research concludes that to compete more effectively, regions must understand their cluster strengths compared to those of other regions and develop a clustering methodology and algorithm to generate and assess sets of comparable cluster definitions.

Based on the discussion in the recent literature, this thesis defines clusters as a *geographical or industry agglomeration that evolves over time*, noting that cluster goals or objectives are often defined at the national or regional levels. Furthermore, it suggests that being part of a cluster has benefits. For example, for individual organizations, clusters are a breeding ground for trust that is necessary to develop deeper relationships and more formal structures for creating joint value propositions and/or solving systemic problems together.

4.2.2 Networks

Network literature reveals intriguing insights into the strategic importance and nature of collaboration from the perspectives of product development and market entry. Collaboration in inter-organizational networks has become a critical success factor for businesses, especially in fast-changing, technology-intensive sectors, in which the products and services offered are not only complex but include a wide variety of complementary products and services (Planko et al. 2017). Networks are considered strategic *alliances* – the anticipated benefits of which can vary according to their objectives. These benefits can range from the distribution of opportunities, risks, and costs among alliance partners; complementary additions to individual strengths; and the compensation of individual weaknesses to establishing a basis for penetrating new markets or expanding market shares (Aaldering et al. 2018). Networks have been considered a specific “form of governance” or “form of organization” situated between markets and hierarchies. Networks also involve meta-organizational features, which require joint governance mechanisms to achieve a sufficient level of coordination (Clauss & Ritala 2023).

System-building networks can be classified as strategic networks (i.e., networks intentionally created by three or more organizations to achieve a common goal) featuring deliberately created structures and negotiated roles and responsibilities (Planko et al. 2017). Their research suggests that strategic networks must be

managed intensively to be effective, and that identifying network composition, governance structure, managerial processes, and relational factors (e.g., trust) are key factors in network management. Valkokari (2015) defines strategic business networks, or "nets", as long-term, cooperative, and delimited entities with identifiable joint goals, where more than two partners share critical knowledge, resources, and/or financial assets to attain, sustain, or improve the net members' future competitive positions. In addition to joint goals, the actors agree on the net-level activities and operation model as well as the roles and responsibilities of the net members.

Structurally, networks include direct and indirect ties between actors, and the overall network is composed of these actors and their linkages (Aarikka-Stenroos & Ritala 2017). Networks are frequently analyzed for pooling and utilizing valuable resources for joint value creation (Ritala 2012; Aarikka-Stenroos & Jaakkola 2012; Aarikka-Stenroos & Ritala 2017) and as potential structures for commercializing innovations (Aarikka-Stenroos & Sandberg 2012; Aarikka-Stenroos et al. 2014; Aarikka-Stenroos & Lehtimäki 2014). The findings of network analysis support the idea that divergent actors surrounding the innovator company impart knowledge, relationships, and other resources that are crucial to commercialization, facilitating it in myriad ways; thus, combining their resources for commercialization is necessary (Aarikka-Stenroos et al. 2014; Aarikka-Stenroos & Sandberg 2012). They conclude that a holistic understanding involving the examination of all involved actors' perspectives on networks for commercialization is often missing.

Möller and Halinen (2017) present a comprehensive overview of the evolution of network research from the mid-1990s to the 2000s. Their research covers business and innovation networks evolving to ecosystems and beyond. They note the use of the term "net" instead of "network" as an effort to better define the strategic nature of collaboration and conclude that strategic nets are formed by a few actors pursuing specified mutual goal(s) and having jointly agreed-upon and contractually defined roles and responsibilities. Actors relinquish part of their autonomy to the net to achieve goals beyond their individual resources. Furthermore, they propose the need for further study and conclude that even after two decades of research, network management remains a strongly progressing yet controversial domain. Hence, their conclusions propose a theory that describes the contextual levels (environment, network, and actor) and key factors at each level that influence network management activities, proposing prototypical configurations of management activities.

Adding to the discussion, Corsaro et al. (2012) offer an interesting perspective on the roles of actors, along with Hurmelinna-Laukkanen and Nätti (2018), who focus on the orchestrator role in innovation networks. The importance of networks seemingly depends on the maturity of the solution the network is developing. They are crucial in the innovation and commercialization processes (Aarikka-Stenroos et

al. 2014) and prove especially valuable in commercializing radical innovations (Lehtimäki & Aarikka-Stenroos 2014). Networks also apply digital tools. Graça and Camarinha-Matos (2017, p. 238) define these collaborative networks as "a network consisting of a variety of entities (e.g., organizations and people) that are largely autonomous, geographically distributed, and heterogeneous in terms of their operating environment, culture, social capital and goals, but that collaborate to better achieve common or compatible goals, and whose interactions are supported by computer networks". Their research observes these long-term strategic and goal-oriented networks across three layers: the business ecosystem of companies, goods and services, the evolutionary environment in which companies operate, and the digital ecosystem involving the technical infrastructure.

Based on this discussion, this thesis defines *networks as structurally defined entities where the partner organizations pursue mutually agreed-upon goals and have jointly agreed-upon and contractually defined roles and responsibilities*. This implies that networks create and capture value for their partners according to the set contractual terms and conditions within a relatively short term, meaning value is captured when the products and/or services included in the scope of the defined contract are delivered according to the agreed-upon time schedules, terms, and conditions.

4.2.3 Ecosystems

Like one species in a biological ecosystem, each member of a business ecosystem ultimately shares the network's fate, regardless of that member's apparent strength (Iansiti & Levien, 2004). The concept of an "ecosystem" describes an organic constellation of organizational participants that collectively co-create ecosystem-level outputs (Autio & Thomas 2022). Their research concludes that the adoption of derivative concepts (e.g., "innovation ecosystems", "business ecosystems", "technology ecosystems", "platform ecosystems", "industrial ecosystems", "urban ecosystems", "civic ecosystems", "open innovation ecosystems", "entrepreneurial ecosystems" and "knowledge ecosystems") are often used without explicit definition and significant overlap. Aarikka-Stenroos and Ritala (2017) also highlight that the term "ecosystem" is used in various ways, ranging from a synonym for business networks to an analogy for interconnected environments – and even as a full-fledged theoretical and empirical approach. The discussion about the use of the term includes Oh et al. (2016), who propose not using the term at all, and Ritala and Almpanopoulou (2017), who suggest the term "innovation ecosystem" should ideally be used in respect of systems that focus on innovation activities (goal/purpose), involve the logic of actor interdependence within a particular context

(spatial dimension) and address the inherent co-evolution of actors (temporal dimension).

Building a supportive business ecosystem is crucial for any firm aiming to develop and commercialize radical innovations, particularly for those focused on radical sustainability innovations (Planko et al. 2017). When an ecosystem is emerging, like other new organizational forms, it often struggles to acquire resources and institutional support, resulting in high failure rates during the early phases. A dependence on cooperation from strangers and a lack of legitimacy drive this "liability of newness" (Thomas & Ritala 2022).

Ecosystems have been analyzed from various viewpoints, including analyses of business ecosystems (Aaldering et al. 2018; Baldwin 2012; Lee et al. 2018), innovation ecosystems (Chen & Hung 2016; Granstrand & Holgersson 2020; Jucevičius & Grumadaitė 2014; Oh et al. 2016; Osterwalder et al. 2019), and knowledge ecosystems that have been observed as hotspots where research organizations, universities, and innovators (e.g., technology for-profit firms) are central in advancing the collaborative exploration of knowledge and developing innovation within the systems (Clarysse et al. 2014). There are also knowledge ecosystems that focus on knowledge exploration instead of knowledge exploitation, emphasizing that these ecosystems are predominantly centered on knowledge sharing (Abbate et al. 2022).

Ecosystem strategy (Jacobides 2019; Jacobides, Cennamo, & Gawer 2018; Jacobides 2019; Straub, 2019) and the dynamics of innovation in ecosystems (Ihrig & MacMillan, 2017) have also garnered significant attention. Also, roles, modes, and structures (Uusikartano et al. 2020), the role of an orchestrator (Hurmelinna-Laukkanen & Nätti 2018; Gupta et al. 2020), the challenges related to accounting (Feger & Mermet 2017), as well as collaboration mechanisms (Hellström et al. 2015) and knowledge transfer and translation (Dameri & Demartini 2020) are identified as themes underpinning ecosystems' ability to create value. All these viewpoints have been well covered in Autio and Thomas's (2022) meta-synthesis. Moreover, numerous studies have thoroughly examined the views related to platform ecosystems, defined as the network of organizations that seek innovations to produce complements that increase the ecosystem's value through a digital platform (Chen et al. 2022; Lähteenmäki & Töyli 2023).

Ecosystems include the actors that are directly or indirectly connected, as well as the actors, technologies, and institutions that are less formally and more loosely interdependent. Such interdependence can occur through identification; shared institutional values and logic; a shared purpose, intentions, or affiliation; or a technological platform that provides connectivity. Ecosystems are open social systems and subject to constant inflows and outflows. Therefore, ecosystem boundaries are often blurred, and actors can belong to several systems

simultaneously (Aarikka-Stenroos & Ritala 2017). Ecosystem complexity refers to the structure of interdependence for complementors, defined by the number of unique components in the ecosystem they need to interact with to materialize their value proposition. The greater the number of unique components, the higher the ecosystem complexity for complementors (Chen et al. 2022).

As noted, regarding the discussions related to the proposed view of the ecosystem as a structure, Adner (2017) considers contrasting alternative approaches to interdependence such as platforms and multi-sided markets, networks and alliances, business models, project management, supply chains and value chains, industry structure and architecture, value nets, systems of technology, and open innovation. The multitude of these viewpoints further highlights the need for conceptual clarity surrounding ecosystems. To achieve that conceptual clarity, this study defines *ecosystems as connected entities that pursue joint development goals articulated as a strategic purpose* and positions them as structurally open, as the outcomes of the ecosystem collaboration are often unknown. Considering the focus on systemic problem-solving in an ecosystem-type of inter-organizational multi-party collaboration, it distinguishes between business, innovation, and knowledge as key drivers of value creation.

4.2.4 Platforms

Initially, platform strategy was considered an enabler for sharing production tools, machines, and assembly lines, thus reducing production costs while allowing for scalable design and improved product development processes (Burström et al. 2022). However, lately platforms and the phenomenon of "platformization" – the shift from individual products or services to platforms as the basis for offering value – and the emergence of associated ecosystems as a major venue for innovation, value creation, and delivery have had considerable implications on international business theories (Nambisan et al. 2019). Rietveld and Schilling's (2020) review of platform literature note four research themes: "winner takes it all" markets and ramification of the market structure; platform influence on vertical integration and related diversification; heterogeneity within the categories of platform, complementors and end users; and platform governance and orchestration of value creation and value capture. Starting from the definitions, the following chapters focus on the essential elements of platforms, namely from the viewpoint of value.

Industry platforms are defined as "products, services or technologies developed by one or more firms, and serve as foundations upon which a larger number of firms can build further complementary innovations and potentially generate network effects" (Gawer & Cusumano 2014, p. 420). Interestingly, platforms and multi-sided markets are intermediating an interface among different kinds of actors, with a focus

on technology and transaction (Adner 2017). Platforms can be defined as "an assemblage of persons, processes, interfaces, and artifacts, whose engagement design affords environments of interactions that intensify agential actions in value creation" (Abbate et al. 2022). In a platform ecosystem (e.g., Android's ecosystem), one can distinguish between the platform (i.e., Android), the platform owner (i.e., Google), the platform providers (e.g., Samsung and Huawei), and the complementors (e.g., app developers). Platform providers and complementors are considered "producers" in the ecosystem, while "consumers" refer to the end users (Chen et al. 2022). He et al. (2023) note two basic lines of research related to platform innovation: One focuses on the innovation of platform-based enterprises; the other examines the platform-based transformation of traditional enterprises (non-platform enterprises). Digital platforms and ecosystems also transcend borders, locations, and industries. Collaborative interactions among ecosystem members reflect and reinforce these members' co-specialization in different economic activities, which are often situated in different countries and orchestrated by a central player – the platform leader (Nambisan et al. 2019). Regardless of perspective, the main design feature of a digital platform ecosystem is the coexistence of central and complementary components – modular and interdependent – united by a shared set of rules and a comprehensive value proposition (Abbate et al. 2022).

Platform economics generally describes platform systems as two-sided markets (between end users and complement providers), with the distinct sides characterized by the presence of positive complementarities (or indirect network effects). Network effects are reinforcing, so more participation on each side creates more value, with complementors' activities coordinated via market-based feedback mechanisms (Cennamo & Santaló 2013; Cennamo 2018; Cennamo & Santaló 2019; Y. Chen, Richter, & Patel 2021). Platforms exhibit patterns of price setting and customer demand that do not align with traditional economic models; they often display high levels of interfirm interdependency and coordination. Digital technology has facilitated the reorganization of industries around platforms, transforming many firms into platform sponsors or producers of complementary goods within a platform ecosystem (Rietveld & Schilling, 2020). They also note that many platform ecosystems have "chicken and egg" problems that must be overcome for the platform to thrive. Digital platform ecosystems configure a new model that can combine various functionalities, technologies, actors, interests, and objectives, thus expanding existing markets and creating new ones (Calabrese et al. 2021). Platforms take time to build, and their value creation potential is based on the number of partners onboard (Cennamo & Santaló 2019). They conclude that platforms create value through generativity and complementarity, noting that increasing the variety of complements available for a platform extends the platform technology system's possible uses, which can enhance the value for final users. Disintermediation,

wherein network members bypass a hub and connect directly, can pose a significant problem for any platform that captures value directly from matching or facilitating transactions (Zhu & Iansiti 2019).

Abbate et al. (2022) note that in the platform-based context, dynamic capabilities can help firms create and capture value by integrating and combining internal and external knowledge to cope with the dynamic environment and exploit innovative opportunities. So, a platform is not only a technology-based marketplace, but a way of organizing. Kretschmer et al. (2022) suggest viewing platform ecosystems as an organizational form in their own right (a "meta-organization"), without the hierarchical structures of a firm or the largely uncoordinated decision-making of markets. Meta-organizations connect multiple organizations, actors, activities, and interfaces and are underpinned by interrelated social or economic value propositions or business models. As a structure, meta-organizations are less formal and hierarchical than firms, yet more coupled than traditional markets. Also, Calabrese et al. (2021) conceptualize platforms as meta-organizations, which are less formal and hierarchical than firms, yet more coupled than markets. To succeed, platforms require coordination among multiple actors and interests that are not necessarily aligned.

Platforms are closely linked to ecosystems and networks. When evaluating an opportunity involving a platform, entrepreneurs (and investors) should analyze the basic properties of the networks it will use and consider ways to strengthen network effects (Zhu & Iansiti 2019). Platforms are viewed as multi-sided markets, allowing for direct interactions between two or more sides (e.g., buyers and sellers) or users and complementary content providers. Often, such multi-sided markets operate over a digital infrastructure that enables platform participants to connect to the platform via boundary resources (e.g., application programming interfaces). The ecosystem aspect of platforms highlights the importance of a community of complementary actors that involve unique interdependencies in creating value and attracting innovative contributions and inputs (Ritala 2024). Digital platforms are defined as the set of products, services, or digital technologies developed by one or more companies that form a technological base on which other companies can develop complementary products, services, and digital technologies, generating potential network effects. They consist of a digital structure that helps individuals and organizations innovate or interact in ways that would otherwise be impossible (Calabrese et al. 2021). A digital platform may require its platform owners to manage its core technology and governance systems, third-party developers to build innovative applications on top of its core technology, and end users to use its core and complementary services (Chen et al. 2021). At any point, rival platforms may display differentiated governance designs ranging from fully open to fully closed. On more open platforms, platform owners delegate more decision-making rights to

platform providers and allow them to maintain the interface through which users consume complementary goods and experience the platform (Chen et al. 2022). Their research highlights the importance of customer involvement and suggests that user participation in digital innovations constitutes an important channel for knowledge acquisition. The use of digital platforms alleviates the cost of feasibility tests in product development, as each renewed product version builds on previous versions by incorporating users' incremental feedback on the product's actual performance.

Platforms may also be crucial in knowledge creation and innovation. Abbate et al. (2022) note that open innovation digital platforms help combine the dynamic capabilities that are central to supporting open innovation processes with different external knowledge entities. Platforms support learning and, consequently, further develop dynamic capabilities, which can put ecosystems in an even stronger position to face future challenges. From the structural perspective, the platform sponsor designs the algorithms of digital platforms with four crucial aspects in mind: shared standards, rules of participation, the degree of openness, and direct and indirect network effects (Calabrese et al. 2021).

Assessing the value of an individual platform requires assessing the value of the whole system (the platform and its complements) in relation to competing systems (Cennamo 2018). Platform markets represent a new competitive landscape, wherein the nature of strategy can be altered, requiring a better understanding of the role of strategy in relation to the underlying competitive and technological dynamics that unfold at the platform's ecosystem and industry levels (Cennamo & Santaló 2013, 2019). They observe platforms as organizing structures and note that their increasing adoption rests on their ability to leverage the ecosystem of autonomous firms to free innovation through greater generativity (i.e., the overall system's capacity to produce new output).

Platform technology evolution significantly impacts its success. Ozalp et al. (2018) note that platform owners need to manage the transitions to the next generation and conclude that performance-enhancing technological transitions should reinforce the value of the incumbent dominant platform, as the platform owner can leverage its well-established ecosystem and user base to successfully promote and transition to the next-generation technology.

Drawing from the literature above, this thesis defines *platforms as multi-sided markets, which are defined structures that capture value according to set rules, which are often defined by the platform owner or focal firm*. In the context of inter-organizational multi-party collaboration, the motivations of platform owners typically differ from those of their complements. For joint value creation and value capture to occur, there is a need to agree on value-sharing logic.

4.2.5 Introducing “archetypes of collaboration”

This chapter introduces the framework of “archetypes of collaboration”. The framework builds on strategic purpose as a unit of analysis and maps different forms of inter-organizational multi-party collaboration along two axes: structure and lead time – from value creation to value capture. Both are drawn from Adner’s (2017) conceptualization of the ecosystem-as-structure, which views ecosystems as configurations of activity defined by a value proposition, and notes that collaboration is structured around the focal value proposition rather than a focal firm. In this thesis, value proposition is assumed to change over time; therefore, it is considered in light of the lead time from value creation to value capture. Both axes also reflect the goal orientation and the temporal aspect, as Castañer and Oliveira (2020) highlight.

This chapter builds upon the definitions introduced in previous chapters. The structural dimension is analyzed by observing it as “defined” and “open”. A “defined” structure implies a contractual relationship between partners; an “open” structure implies a structure where partners have agreed-upon broader terms of commitment. The value proposition is analyzed by considering the lead time from value creation to value capture as “short” and “long”, with short referring to a typical strategy period of three to five years and long referring to a horizon beyond that. Figure 12 illustrates the framework of “archetypes of collaboration” that the following chapters will discuss in further detail.

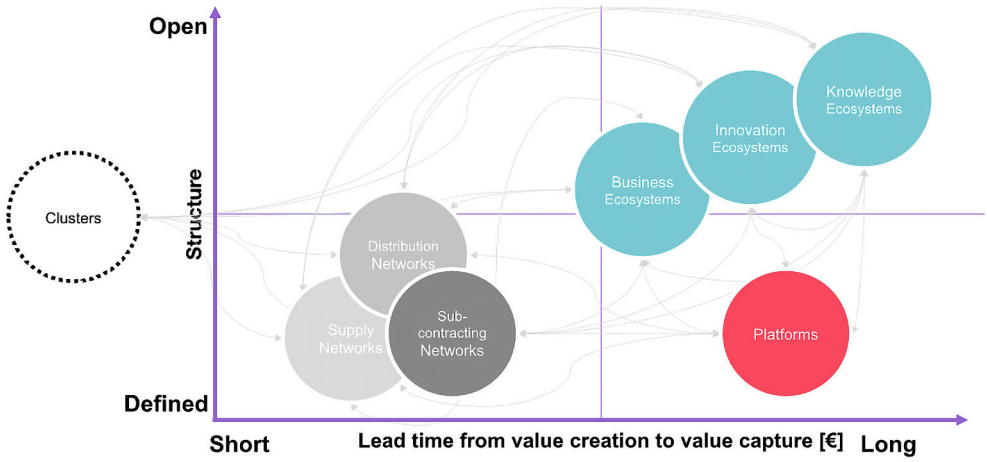

Figure 12: Framework “archetypes of collaboration” positions cluster networks, ecosystems, and platforms based on structure and lead time from value creation to value capture.

The framework "archetypes of collaboration" positions cluster networks, ecosystems, and platforms based on their structure and lead time from value creation to value capture. Clusters are positioned beyond the grid, as they are considered structurally ambiguous affiliations, as well as time-independent or semi-permanent entities. Based on the discussion in the recent literature summarized in Chapter 4.2.1, this thesis defines clusters as geographical or industry agglomerations (Delgado et al. 2014; 2016). Cluster and agglomeration literature often includes policy elements and identifies two major benefits facilitated by spatial affordances: enhanced productivity and increased innovation resulting from employee mobility (Casper 2007; Speldekamp et al. 2020). This thesis suggests that clusters are crucial in inter-organizational multi-party collaboration, as they may attract investments, help build trust, and foster social relationships that serve as a foundation for more structured collaboration, ultimately leading to measurable value creation and value capture.

Based on the literature summarized in Chapter 4.2.2, this thesis defines networks as structurally defined entities, where the partner organizations pursue mutually agreed-upon goals and have jointly agreed-upon and contractually defined roles and responsibilities. In the framework, defined collaboration indicates that a contract is in place. Short-term refers to the collaboration's purpose (supply, distribution, outsourcing) with a primary focus on meeting the contractual terms and capturing value through that process. Value capture through contractual relationships is based, for example, on agreed-upon delivery quantities, quality measures, or service levels that are formalized and documented with pricing, terms, and conditions. Positioning networks as "short-term" also links to their potentially important role in commercializing systemic innovations (Aarikka-Stenroos & Sandberg 2012; Aarikka-Stenroos & Lehtimäki 2014; Aarikka-Stenroos et al. 2014). This study proposes that value capture in networks is primarily measured in money but recognizes the importance of related value creation (e.g., innovation or co-development). However, when formalized, this kind of collaboration, where the focus is value creation, is defined as an ecosystem from a structural perspective.

Based on the literature review summarized in Chapter 4.2.3, this thesis defines ecosystems as connected entities that pursue the joint development goals articulated as their strategic purpose, positioning them as structurally open, as the outcomes of the ecosystem collaboration are often unknown. Considering the focus on systemic problem-solving in an ecosystem-type of inter-organizational multi-party collaboration, it distinguishes between business, innovation, and knowledge as key drivers of value creation. This study positions ecosystems of different kinds (business, innovation, knowledge) as "open" and "long-term" structures where the primary purpose is joint problem solving, innovation, and the development of systemic solutions (Adner 2017; Aarikka-Stenroos & Ritala 2017; Jacobides et al. 2018; Thomas & Ritala 2022; Autio & Thomas 2022). Ecosystems are considered

an actionable structure where the partner organizations commit to investing resources (time, money, competencies) to co-create and co-develop solutions to jointly identified problems. Hence, the ecosystems are seen to create value through collaborative sense-making, innovation, and joint problem-solving.

Drawing from the literature summarized in Chapter 4.2.4, this thesis defines platforms as multi-sided markets that, as such, are defined structures that capture value according to set rules and are often defined by the platform owner or focal firm. It positions platforms as "defined" and "long-term". Defined reflects the views about platforms as controlled and often digitally powered entities, where the focal firms or platform orchestrators are important in defining the rules of engagement. Long-term refers to the need to balance value creation and value capture, as Schreieck et al. (2021) suggested, who imply that platform owners need to capture a sufficient share of the co-created value while ensuring the partners are motivated to stay onboard. Drawing on Chen et al. (2021), the structuring of decision-making authority and control rights to ensure effective value creation and fair value distribution is crucial for the platform's success and long-term development.

4.3 From the archetypes of collaboration onwards

The framework, Figure 12, identifies cluster networks, ecosystems, and platforms as "archetypes of collaboration". The more precise name for the framework is "archetypes of inter-organizational multi-party collaboration", but the shorter version is used for simplicity. As noted, inter-organizational collaboration refers to collaboration beyond organizational boundaries, and multi-party collaboration involves more than two partners, noting that often this kind of collaboration involves companies and public organizations. The framework establishes a frame for positioning and mapping cluster networks, ecosystems, and platforms, and that these concepts are interlinked and evolving.

This chapter discusses the framework of "archetypes of collaboration" and its dimensions. Instead of using the term "ecosystem", which many of the previous researchers refer to in this thesis, this thesis uses the term "inter-organizational multi-party collaboration" to overcome the confusion that Adner (2017, p. 39) describes:

> *"Over the past 20 years, the term 'ecosystem' has become pervasive in discussions of strategy, both scholarly and applied. Its rise has mirrored an increasing interest and concern with interdependence across organizations and activities. Along with a cohort of related ideas—business models, platforms, coopetition, multi-sided markets, networks, technology systems, supply chains, value networks—the notion of ecosystems has raised awareness and focused attention on new models of value creation and value capture".*

Learning from the above statement, the structure of the inter-organizational multi-party collaboration matters. The framework of "archetypes of collaboration" enhances the conceptual clarity by focusing on two key dimensions: structure and the lead time from value creation to value capture. Aarikka-Stenroos and Ritala (2017) have also noted the importance of structure and time. According to them, a structure definition considers the boundaries and composition of the "ecosystem entity" that is important for creating a feasible theoretical frame to explain the entity's dynamic organization, which evolves over time. *Boundaries and composition* define the contextual breadth within which the relevant set of actors, technologies, and institutions is situated, and *co-evolutionary logic* defines the interactions and processes between the actors, technologies, and institutions of an ecosystem. They continue to state that both have value: The co-evolutionary logic focuses attention on short- and long-term trajectories, where actors, technologies, and institutions coevolve through their interactions, joint contexts, and shared purpose.

As noted, when defining boundaries, collaboration may also involve competition (Ritala 2012; Bouncken et al. 2018; Planko et al. 2019; Brandenburger & Nalebuff 2021; Burström, Kock, & Wincent 2022). To reduce risks arising from collaboration and increase potential benefits, managing coopetition processes at the firm and network levels is important, as well as setting up their collaboration in such a way that minimizes or even prevents risks and maximizes the benefits of coopetition (Planko et al. 2019). Collaboration is not limited to the four forms presented in the framework of archetypes of collaboration. For example, mergers and acquisitions (M&A), joint ventures, technology transfer relationships, and strategic alliances are regarded as ways to facilitate the coordination and cooperation between firms and their complementors (Aaldering et al. 2018). In the framework of "archetypes of collaboration", networks are considered contractually limited, whereas ecosystems are more open, implying the need for different governance structures and management practices.

Structuring inter-organizational multi-party collaboration involves setting boundaries and establishing governance. Ritala (2024) identifies three organizational features of platform ecosystems that correspond to the robust action strategies. These features include the ability to provide coordination structures that orchestrate complementary inputs, instigate and maintain collective action, and unlock the generative potential of diverse communities and groups of actors. This study builds on these findings, considering them within the broader context of inter-organizational multi-party collaboration. The "archetypes of collaboration" framework suggests that in the context of platforms, governance matters for fairness, which is essential to ensure value creation and value capture. Network governance is important because the added value of a network as a form of organizing relies on

collective rather than organizational or bilateral governance mechanisms (Clauss & Ritala 2023). Furthermore, ecosystem business models and collective approaches towards characterizing roles and strategies for all actors are crucial. Despite the criticality of orchestrating the roles of keystones, a collective approach towards ecosystem orchestration with more flexible and extensible business models is essential for improving ecosystem value creation and value capture, as ecosystems' constructs and interdependencies cannot be predicted ahead of time (Khademi 2020).

Whereas the goal of a biological ecosystem is survival, the goal of a business ecosystem is value co-creation through innovation (Iansiti & Levien 2004). This thesis also suggests observing value capture. Adner and Kapool (2010) suggest that value creation and value capture in ecosystems require an approach that extends beyond the focus on how different actors will bargain over value capture. Encouraged by Adner (2017), this thesis proposes mapping different organizational forms for collaboration by observing them from the perspective of value proposition rather than focusing on the individual firm. It suggests that focusing on the value dimension involves the collaborative entity's ability to create and capture value related to the joint value proposition. The reflection on the concepts of value creation and value capture builds a basis for positioning cluster networks, ecosystems, and platforms along the two axes of structure and value.

The selected approach draws on the innovation and ecosystem literatures, focusing on measuring performance through objective and subjective means to measure outputs and processes, as Ritala and Almpanopoulou (2017) proposed. Ben Letaifa (2014) recognized the difficulty of measuring value creation and value capture in networks. Khademi (2020) concludes that, as multiple stakeholders or actors contribute to value co-creation in the ecosystem through their divergent resource integration practices, they also face similar challenges regarding ecosystem value creation and value capture. Furthermore, Chen et al.'s (2021) study of platforms concludes that value creation and value capture related to platforms largely depend on the platform owners. They suggest that as digital platforms rise to dominance, platform owners have accumulated substantial power and influence, often playing essential roles in leading key stakeholders to create value for their platform ecosystems. They also note that the power imbalances between platform owners and other stakeholders may cause concerns due to the growing power of platform owners who enjoy exclusive governance control, allowing them to shape governance processes and outcomes. Platform scholars acknowledge that it is mainly the value-creating activities that define the innovation ecosystem, and that the profit-seeking nature of commercial platform ecosystems drives them to create increasing value through interactions between assets, activities, and business contracts (Lähteenmäki & Töyli 2023). The structuring of decision-making authority and control rights to ensure effective value creation and fair value distribution is

important (Chen et al. 2021). They find that platforms with semi-decentralized governance structures usually allow community members to participate in goal setting and decision-making. Platforms harness the creativity and diversity of their community members, thus improving platform governance and performance. However, platform owners play an important role in defining the rules of engagement for these semi-decentralized structures, which can enhance platform performance when applied.

This thesis aims to make sense of the discussion related to the surrounding collaborative or interdependent value creation, a concern that has been present in the fields of management and strategy since their inception. The flow of activity – the distinction between upstream and downstream – has shaped the strategy debate from the outset (Adner 2017). Collaborative value creation depends on pooling and utilizing valuable resources that firms access and acquire through various kinds of interfirm partnerships (Ritala 2012). Collaborative value co-creation can be considered joint problem-solving that begins with identifying the needs and goals in the context of knowledge-intensive networks involving customers and suppliers (Aarikka-Stenroos & Jaakkola 2012). Their findings emphasize that customers and suppliers are critical in problem-solving. Furthermore, knowledge-intensive service suppliers contribute resources such as accumulated specialization and professional integrity, whereas customers typically contribute information about their needs and business requirements. Collaboration focus also evolves along the innovation lifecycle. Capturing value ultimately calls for achieving contractual clarity and agreeing on roles and responsibilities. This commercialization process has been studied by observing marketing as an innovation that converts it into a profit-making position in the marketplace (Aarikka-Stenroos & Lehtimäki 2014). They propose a dynamic model for moving from value creation to value capture, identifying three zones (strategic, market creation and preparation, and sales creation and development) as the key processes through which the dynamic commercialization process evolves.

Value can be measured, for example, in terms of new business, new knowledge, or joint learning and innovation, or as strategic collaboration leading to any of these outcomes. Value creation (how firms create value) has mainly interested management scholars, while value capture (how customers accept the value created for them) is the domain of marketing scholars. Yet, value creation and value capture should be addressed with a more balanced perspective, including firms and customers, and address co-creation in networks of individuals, customers, competitors, and partners (Soumaya, 2014). Alternative approaches to value creation and value capture exist. Meynhardt et al. (2014) draw attention to value as a core organizing principle, or systemic property, of a service ecosystem. Soumaya (2014)

proposes a staged approach in which the focus on ecosystem value creation and value capture shifts over time.

This thesis considers value creation and value capture as important drivers of the structure of inter-organizational multi-party collaboration. It believes that networks, ecosystems, and clusters are structures or meta-organizations (Gulati et al. 2012; Calabrese et al. 2021; Kretschmer et al. 2022) and positions these structures as "archetypes of collaboration". The framework uses the strategic purpose of inter-organizational multi-party collaboration as the unit of analysis, and lead time from value creation to value capture as the key factor for distinguishing different structures of such collaboration. Thus, it challenges Aarikka-Stenroos and Ritala's (2017) proposal of viewing the ecosystem as a new layer, resulting in an extension of the business network frameworks and the ecosystem as a novel perspective. Instead, it proposes that ecosystems are a structure, as Adner (2017) proposed.

The discussion in this chapter leads towards the need to better understand the dynamic nature of inter-organizational multi-party collaboration. It suggests the framework "archetypes of collaboration" can be considered a snapshot representing a collaboration context at a moment in time. The arrows in Figure 14 imply this co-evolutionary logic based on a shared goal or purpose (Aarikka-Stenroos & Ritala 2017). This co-evolutionary logic is further developed in the chapter, "Towards Dynamic Collaboration Capability", which considers the empirical data from real-life inter-organizational multi-party collaborations in the energy and ICT industries.

5 Case studies

This chapter documents the findings related to the second cycle of enhanced scholarship illustrated in Figure 5. It continues to address the research problem – *"How to structure and manage inter-organizational multi-party collaboration to solve systemic problems*" – in light of the strategic management, organizational science, and ecosystem literatures. This chapter introduces the empirical settings before detailing the key findings from the two case studies.

The engaged research diamond model (Figure 2) was systematically applied during the research process, as illustrated in Figure 3. The engaged scholarship methodology proved useful for systematically studying real-life collaboration in the two longitudinal case studies, which were structurally characterized as innovation ecosystems. This chapter presents the results emerging from the rich empirical data and discusses the findings related to the frameworks introduced in the previous chapters, "Strategic Context" and "Collaboration Context". As Chapter 2 details, the data collected from both case studies draw on extensive longitudinal sources, capturing several years of in-depth collaboration between the involved parties. The two cases are complementary: The EnergySampo case represents three years of collaboration with the researcher deeply immersed in the collaboration context as an orchestrator, and the LUXTURRIM5G case is based on secondary and primary data with a special focus on the value creation and value capture aspects of inter-organizational multi-party collaboration:

- **EnergySampo case** observes energy industry collaboration in Vaasa, Finland. The purpose of collaboration between the seven partners – ABB, Danfoss, Hitachi Energy, Vaasan Sähkö, VEO, VNT Management, and Wärtsilä – is to develop sustainable systemic energy solutions for a carbon-neutral society. Systemic solutions refer to integrating technologies developed by partner organizations with local partners that are actors in the energy system (i.e., energy producers, distributors, or other actors that own and operate those systemic solutions). In the EnergySampo case, the researcher learned about the ecosystem emergence from 2019 to 2021 (secondary data collection) and was part of the collaboration context as an orchestrator and researcher from 2022 to 2024 (primary data collection).

- **LUXTURRIM5G case** observes the evolution of a smart city ecosystem involving Nokia and its 27 partners during its active development phase from 2016 to 2021, followed by a post-mortem analysis in 2024, when the collaboration officially ended. The systemic problem relates to urbanization, with the aim of collaboration to improve the lives of city dwellers. This case was included to highlight the aspects related to value creation and value capture along the ecosystem lifecycle. The LUXTURRIM5G case describes a period from 2016 to 2022 (secondary data collection) and revisits its outcomes in 2024 (via primary data collection). In this case, the researcher was not directly involved with the parties and had no control over the study's execution.

The two case studies focus on different aspects of inter-organizational multi-party collaboration, providing valuable insights. The longitudinal approach provides a way to observe how structure and value focus evolve. The primary case, EnergySampo, enhances our understanding of the strategic context in light of the partner organizations' strategies and provides detailed insights into the inter-organizational multi-party collaboration by describing how different forms of such collaboration coexist and coevolve. The secondary case, LUXTURRIM5G, was first documented in the Ecosystem Handbook (Kola et al, 2020) and included in this study to specifically observe and extend understanding of the mechanisms of value creation and value capture. Together, these two cases describe the dynamic nature of inter-organizational multi-party collaboration in its real-life context and serve as input for solving the research problem articulated as "How to structure and manage inter-organizational multi-party collaboration needed to solve systemic problems".

5.1 Case EnergySampo

The researcher's engagement in the EnergySampo innovation ecosystem as the ecosystem orchestrator from 2022 to 2024 provided access to rich empirical data (Figure 9). The following chapters describe the history and roots of its partner organizations, the relationships between these organizations, and how these inter-organizational relationships evolved.

5.1.1 History and roots

The EnergySampo innovation ecosystem roots in the shared history of the regional energy industry. The first energy sector companies were established in Vaasa, Finland, in the late 1800s; since then, the Vaasa energy cluster has grown to include over 180 companies (https://www.vaasa.fi/en/energyvaasa-companies/), universities, and research institutions. The cluster's growth accelerated from the 1940s to the 1950s based on the presence of Wärtsilä, a major engine manufacturer,

and ABB, a major electric products manufacturer. During the boom of concentrating on the key processes in the 1990s, both companies shed many of their departments that developed and produced subsystems, many of which have evolved into important independent actors in the field. Furthermore, there have been spin-offs and sales of businesses from both original companies, and even of some of the first generation of supplier companies, so there are now several world class actors in the Vaasa region, all working with similar technologies, similar customers, and a large number of smaller companies in the regional cluster. Keskinen (2017), for example, has detailed the history of the energy industry in Vaasa.

EnergySampo's partner organizations include four global corporations: ABB, Danfoss, Hitachi Energy, and Wärtsilä; the city-owned energy company Vaasan Sähkö; a Nordic systems integrator VEO; and an energy sector venture fund VNT Management. The city of Vaasa partially funds the partnership's orchestration, and Vaasa and its development company, Vasek, closely participate in the inter-organizational multi-party collaboration facilitated by Merinova, a development company with a broad ownership base that includes most of the partner organizations. EnergySampo's partners defined __the structure as an innovation ecosystem (https://www.energysampo.com/about-energysampo/) with the purpose "to develop sustainable systemic energy solutions for [a] carbon neutral society". The structure of collaboration is based on the Minutes of Understanding that were mutually developed through collaborative strategizing during 2019 and signed in 2020.

EnergySampo partners' revenues range from tens of billions to hundreds of thousands of euros. Table 11 lists the types and sizes of partner organizations and their articulated purposes, which are closely linked to those of EnergySampo.

Table 11: Overview of the EnergySampo partner organizations.

Partner	Type	Size	Purpose
ABB	Global Corporation	31,2 BEUR	Enable a more sustainable and resource-efficient future with our technology leadership in electrification and automation
Danfoss	Global Corporation	10,3 BEUR	We engineer tomorrow to build a better future
Hitachi Energy	Global Corporation	60 BEUR	Advancing a sustainable energy future for all
Wärtsilä	Global Corporation	6 BEUR	Enabling sustainable societies through innovation in technology and services
Vaasan Sähkö	Local SME	199 MEUR	Bold renewal together
VEO	Nordic SME	115,8 MEUR	Reliable energy solutions for a brighter tomorrow (vision)
VNT Management	SME, VC Fund	778 KEUR	Focus on clean technology, particularly renewable and distributed power generation, and energy-saving in electrical and power electronics applications

As shown in Table 11, all EnergySampo partners are innovative companies with a clearly articulated purpose related to sustainability and a commitment to solving the climate crisis by focusing on technologies and solutions. They all work with similar energy technologies and are dedicated to bringing the latest technologies for energy production, transfer, usage, storage, and saving to the market. They have seen the vast scale of the green transition and concluded there is a need for cooperation to rebuild most of the world's energy systems.

As illustrated in Figure 7, the researcher had access to a substantial body of qualitative data during the second cycle of engaged scholarship. Notably, all key participants in the EnergySampo collaboration were senior-level executives across partner organizations. To respect confidentiality and the sensitivity of their positions, individual roles and organizations are not disclosed in the following tables, which reflect the partners' motivations and commitment to the collaboration over time.

In the initial interviews in 04/2022, multiple questions were related to the motivation to collaborate, along with the partner organization's expectations, and each partner's role in EnergySampo. The cited comments, each representing different stakeholders, highlight a shared sentiment and show the partners' commitment to collaboration that extends beyond EnergySampo. Table 12 summarizes examples of these reflections.

Table 12: Examples of the EnergySampo partners motivations and expectations documented in the initial interviews in 04/2022.

Topic	Reflections about partners' motivation and expectations in 2022
Organization's motivation	*"New technology areas need to be tested. We need to pave the way to the global markets for our portfolio companies."* *"Together, we can attract public funding and private investments."* *"We have a positive collaboration spirit, and the city is helping a lot. By working together, we have gotten positive publicity and feedback. The components are there, but large system deliveries call for collaboration."* *"We recognize that we do not have the best expertise in ALL system areas. It is much better to collaborate with customers and other partners and learn together. It is about leading by learning and learning by doing."* *"We are missing the future view of what technologies are needed for the green transition. And when building system-level solutions, we need to understand how technology links to the existing energy systems (sector coupling) and how we optimize the entire system."* *"We need skilled employees at all levels. By working together, we can ensure the Vaasa region is active and attractive in the future as well."* *"We cannot build large systems alone – none of us can – but we collaborate beyond EnergySampo."* *"We are one of the leading companies to commercialize solutions. Instead of competing, we should look for opportunities together, but we need to look beyond Vaasa for partners."* *"Future energy systems are so complex that they cannot be done by a single organization. System-level innovations call for system-level partnership."* *"With limited resources, we have no other option but to innovate together."*
Expectations	*"The (energy) production needs to be close by to enable joint R&D. We need to test the solutions; otherwise, we do not gain the experience about how the system works."* *"It is difficult to find the first customer reference for system-level solutions. Therefore, we need collaboration and joint pilots."* *"The demo solution needs to cover a bigger scope. That has a bigger impact."* *"The ecosystem value is in finding partners and subcontractors in different areas (HW&SW). Even though we are competitors, we can improve the regional attractiveness by working together."* *"The energy cluster is well-known in Finland. We have gotten a lot of positive publicity."* *"We need to demonstrate the future with technology development."* *"The partners who make system-level offers benefit from the ecosystem."* *"We have ideas. We need money. Pilots are the way to make things fly. Tangible development of new solutions is the expectation for EnergySampo."*

The motivation and commitment of the partners stem from the fact that the green transition is a problem none of the partners can solve alone. The motivations include testing new technologies, attracting funding, and, more broadly, learning together and increasing awareness to attract skilled people to the region. As far as the expectations for commercial outcomes were concerned, the partners mentioned that finding new partners and building joint pilots to demonstrate the systemic solutions

that serve as first references in 04/2022. Participation in board meetings and other events, as well as further assessment in the bi-annual interviews, demonstrated a commitment to collaboration. The discussions document the importance of aligning the purpose of collaboration with the partner organizations' strategies. Table 13 summarizes examples of the comments demonstrating the commitment of the key stakeholders from 2022 to 2024.

Table 13: Examples of the EnergySampo partners' motivations and expectations documented in the initial interviews in 04/2022.

Timing	Comments reflecting partners' commitment to collaboration
08/2022	*"Our development actions used to be the 'best kept secret' until launched: Now, we share our ideas and ask partners to collaborate."* *"Our objectives are aligned. Our actions matter, and we collaborate across organizational boundaries."* *"We have limited resources. We are ready to join pilots when they support our strategy and development actions."* *"We focus on pilots/collaboration where our Finnish divisions have something to offer."* *"Collaboration is focused on joint pilots. Our actions in EnergySampo need to be closely linked to our development and interests."* *"We hope to see our portfolio companies in the pilots going forward. That would support our objectives."*
01/2023	*"It is about credibility. We are seen as an international player in Finland. We are learning about ecosystem building; that's important for us."* *"Our portfolio companies can be part of the system-level pilots."* *"Our focus is well aligned with EnergySampo. We focus on decarbonization and future solutions for power generation. We are increasingly open as our development calls for involvement of the entire value chain."* *"Some of the ideas discussed are already under development in-house, but we believe the collaboration is valuable."*
08/2023	*"Publicly listed companies need to make money. We are involved in EnergySampo as long as the collaboration matches our interests."* *"Collaboration is a way of doing business; we play as many cards as possible."* *"There are interesting opportunities in the pipeline, for example, GigaVaasa. It is an opportunity to do something completely new."* *"Sometimes, 'system-level' means different things for different partners."*
02/2024	*"This is a long shot, but worth taking. Things just do not move fast when discussing system-level innovations and solutions."*

The comments noted in Table 13 highlight the strategic alignment of the partner organizations and their commitment to the EnergySampo ecosystem, which remained strong over time. However, while all organizations need to show financial results, the inter-organizational multi-party collaboration was considered useful, although the timeline for commercial results was not short-term.

5.1.2 Inter-organizational multi-party collaboration

While EnergySampo is formally characterized by its partners as an innovation ecosystem, a closer examination reveals fascinating insights. The broader collaborative foundation is rooted in the EnergyVaasa cluster, a gold-certified cluster coordinated by Merinova – the same organization responsible for orchestrating EnergySampo. Analyzing the cluster from the perspective of participating organizations highlights the significance of social capital, demonstrating that over time, employee mobility between local firms has fostered a dense web of interpersonal connections, reinforcing trust and collaboration across organizational boundaries.

All EnergySampo partners are key actors within the EnergyVaasa cluster. Figure 13 maps the professional paths of key executives, offering an interesting example of the inter-organizational relationships at the individual level. Although this is just one example, it reveals how senior-level employee mobility evolves over time. This demonstrates the role and importance of social ties between key stakeholders in shaping trust and sustained collaboration.

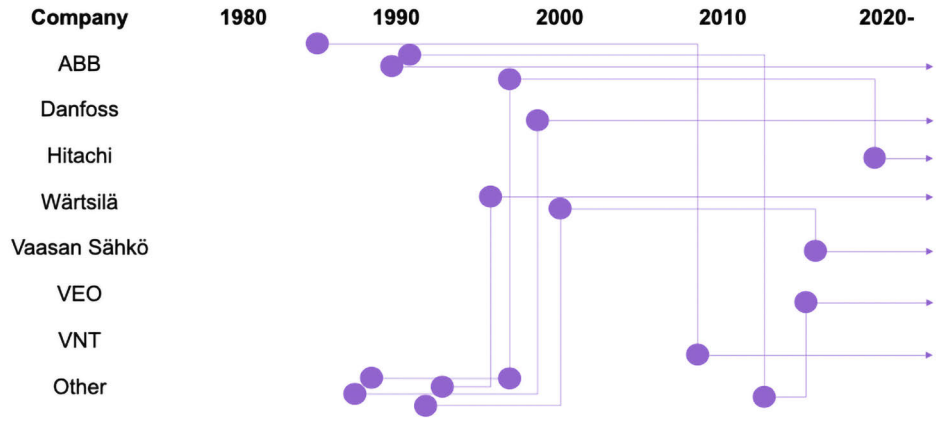

Figure 13: EnergySampo key executives' professional paths revealed a shared history beyond their current employer.

The EnergyVaasa cluster played an important role in laying the groundwork for the EnergySampo innovation ecosystem. In the interviews, many of the partners named *trust* as a fundamental element of inter-organizational multi-party collaboration. The examples of the executives' professional paths, illustrated in Figure 13, indicate the importance of shared history beyond their current employment and serve as a basis for building trust, which is essential to overcoming the challenges posed by the competitive dynamics addressed in the following

chapter. Figure 14 illustrates the more customer-focused collaboration dynamics between the EnergySampo partners at the organizational level.

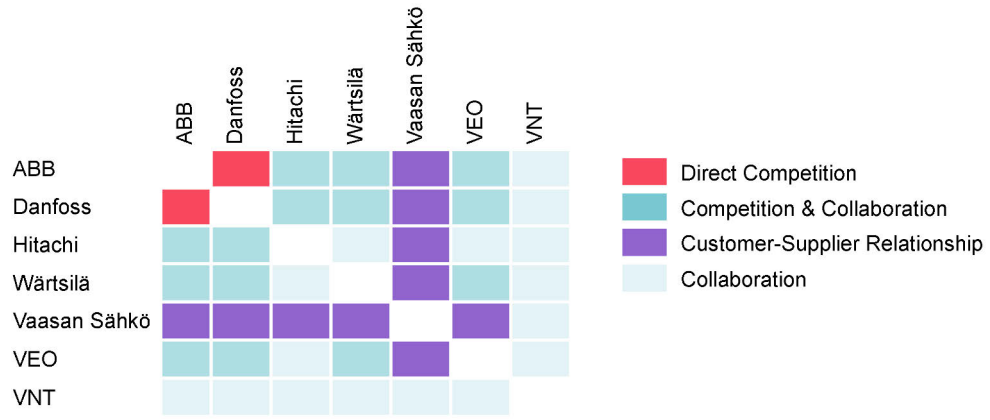

Figure 14: Different forms of inter-organizational collaboration between the EnergySampo partners.

Figure 14 highlights the complex relational dynamics within EnergySampo. First, ABB and Danfoss do not engage in short-term collaboration, reflecting the boundaries of competitive tension within the network. Second, most partners simultaneously engage in competition and collaboration, showcasing the coopetition characteristics. Third, Vaasan Sähkö, a municipally owned energy company, maintains strong customer–supplier relationships with all partners except the investor entity, VNT Management. Vaasan Sähkö plays a particularly strategic role, serving as a prototypical end user for the systemic energy solutions developed by technology and integrator partners. Most companies collaborate with the VNT Management at different levels; some have invested in the VNT's funds.

The patterns of interaction underscore the shared recognition that systemic solutions require a collective effort. Importantly, this multi-party collaboration is not oriented toward market sharing. Reflections from partners from 2020 to 2024 consistently emphasized the value of clearly defined collaborative structures aligned with a shared purpose. Table 14 presents selected anonymized quotations.

Table 14: Stakeholder reflections on inter-organizational multi-party collaboration offer insights into the underlying dynamics of such collaboration.

Focus	Partners' comments reflecting collaboration with other ES partners
Collaboration between partner organizations	*"We collaborate with everyone. We have had a long-lasting collaboration and synergy with partner 4. Additionally, we cross-sell with partner 1 and have good collaboration and potential for joint business development with partner 2. Of course, there is competition as well, as we are all global companies with large portfolios."* *"We sell to partner 4, partner 3, and partner 5. And of course, partner 6 is an important customer."* *"We are discussing with all partners, and the discussions with globally operating partners involve customers beyond Finland. These discussions are tied to specific customer projects."* *"Our partnership with partner 2 goes both ways: We integrate their solutions into our projects, and they buy integrated solutions from us. We are a subcontractor to partner 4, and the relationship is good and close. We buy from partner 1, but the relationship is more distant since our close relationship is with partner 2, and we are partially competitors as well."* *"Partner 1, partner 2, partner 3, and partner 5 are all somewhat competing with us. On the other hand, our actions influence others, and we can have competitors delivering their solutions to our projects."* *"Partner 2, partner 4, and partner 5 have ownership in one of our portfolio companies, but we collaborate with all of them."* *"Historically, we do not collaborate with partner 2 in the project business. We also have doubts about collaboration with partner 5. However, we are not tied to the Vaasa regional players alone; we have other partners as well."* *"Partner 6 represents a typical customer organization. Their portfolio companies are directly involved in the development and deployment of system-level solutions."*

From 2022 to 2024, the inter-organizational, multi-party collaboration was characterized by ongoing competitive dynamics among the partners. The topic escalated in early 2023, when the legal department of one of the global corporations mentioned the importance of compliance with the competitive legislation. During those discussions, some of the partners criticized EnergySampo, indicating that genuine collaboration between competitors is impossible and that collaboration cannot continue unless the position is clarified. The solution was developed with the Department of Law at the University of Vaasa by further clarifying the positioning of EnergySampo as an innovation ecosystem with a focus on long-term development beyond the scope of current solutions. This was documented, and the document was signed by all partners and amended to the original MoU. The amendment clearly positioned EnergySampo as a future-oriented collaboration focused on joint value creation, recognizing the need for open information sharing to meet the joint objectives. It also recognized the importance of structured relationships in delivering systemic solutions, noting they were separately structured and not included in the

scope of the EnergySampo innovation ecosystem. This discussion and the amendment played a crucial role, enabling the collaboration to continue. Table 15 summarizes examples of the discussion related to the competitive positioning.

Table 15: Stakeholders' reflection related to the competitive aspects of collaboration from 2020 to 2024.

Timing	Partners' comments reflecting collaboration with competitors
04/2022	*"We can achieve more by collaboration, but we are competitors as well, and that needs to be well-understood when structuring pilots."* *"We learn what the competitors are doing and thinking. We cannot do it alone, as we cover just a part of the value chain. Discussions about relevant activities, learning, and collaboration are valuable in general."*
08/2022	*"Despite the competition, we have what it takes to succeed: the partners and trust."* *"Every partner has their own agenda. Some of us are competitors. It challenges trust."*
01/2023	*"We need to manage the level of discussion tightly to ensure we are not breaking the competition law."* *"The statement might not change anything, but we need it to comply with the competition law. The competition needs to be open, and we must not be seen as a cartel."*
08/2023	*"Sometimes, I wonder if the partners are really committed to collaboration, or are they there just not to miss out on what others are doing."* *"We are learning about the development directions and the way our partners (and competitors) think and act. We are learning together by doing together."* *"Collaboration is important, and the discussion about competitive legislation is important, but it is old-fashioned thinking."*
02/2024	*"The competitive aspect has been present since the beginning, but we just need to trust that we can achieve more together."*

While the amendment served as the basis for continued collaboration, discussions about competitive positioning surfaced periodically, as shown in Table 15. These discussions highlighted the importance of differentiating between different structures of inter-organizational multi-party collaboration. Although EnergySampo partners identify the collaboration structure as an innovation ecosystem, a closer look at the collaboration reveals that different structures coexist between the partner organizations. However, the discussions between active business development and the development of future solutions have been clearly separated, the latter being at the core of the EnergySampo innovation ecosystem. Structurally, the difference between the two types of inter-organizational multi-party collaboration is fundamental: The purpose of business development-driven actions is to design and deliver solutions that match an articulated customer need, whereas the purpose of an innovation ecosystem is to develop future solutions. This development of future

solutions is organized as a joint development of system-level pilots, which we will observe in detail in the following chapters.

Besides the importance of structure, another critical aspect of different collaboration structures is time, or, more precisely, lead time to tangible results as new business value. When the researcher started as the ecosystem orchestrator in 04/2022, stakeholders' expectations were documented by asking, "When do you expect the ecosystem to deliver tangible results?" Table 16 summarizes some of the answers, concluding that 2–3 years is optimistic, while 5–10 years is a more realistic time span in the systemic energy business.

Table 16: Stakeholders' comments that reflect the need for long-term commitment.

Focus	Partners' expectations for the time needed to deliver tangible results
Estimated time to tangible results	*"When we started the collaboration, the time span was 20 years. The development of energy systems has been slow, but it is accelerating due to the climate crisis. We are expecting to see the first results in 2–3 years' time."* *"The H-FLEX-E system-level solution will be a sellable solution in 5–10 years' time. We have been lobbying the expected results to multiple stakeholders, but in real life, developing system-level solutions takes time."* *"The innovation ecosystem is valuable, but it takes time to develop system-level solutions and pilots."* *"In the fast-moving world, system-level change takes 5–10 years, but we should speed up development to 2–3 years."*

Notably, the quotes present only a fraction of the interview material but provide insight into the common themes and concerns. Furthermore, trust is a recurring theme that emerges in nearly all interviews and discussions. The participants highlighted the instrumental role of trust that was built from 2019 to 2020 before EnergySampo was formally established. A local innovator, Sture Udd, whose "legendary" wine and dine events at his home served as a breeding ground for the discussions, was a key stakeholder and enabler in those discussions. The interviews also highlight the importance of the social relationships that go beyond the workplace and include informal settings (e.g., bars and saunas). Considering the competitive dynamics, one interviewee summarized the role of trust that captures the joint sentiment:

"We have the odds to succeed.
We have the right organizations, people, and trust."

Structurally, the collaboration in the innovation ecosystem structure is centred around the governing body, the EnergySampo board, which meets every three weeks, organizes workshops, and holds seminars involving the key stakeholders related to the energy industry and broader society concerned about the future of

energy. Merinova, a development company with broad ownership, including the partner companies and funded by the city of Vaasa, orchestrates the EnergySampo innovation system. All partners recognize the orchestrator role as crucial, with the essential element being neutrality that balances the competitive aspect of collaboration. Table 17 reflects the orchestrator role that refers to the organization and the role of the orchestrator.

Table 17: Stakeholder comments related to the orchestrator role that was considered the key enabler of inter-organizational multi-party collaboration.

Focus	Importance of the orchestrator role
Orchestrator role	*"The orchestrator is needed to ensure the partners work according to the agreed-upon rules and values."* *"Without an orchestrator, the ecosystem would not work. Partners would pull out, and we would have just one or two companies collaborating."* *"A neutral orchestrator is needed to facilitate collaboration and ensure all partners are heard and competitor interests are balanced."* *"The orchestrator is a hygiene factor. We cannot collaborate with competitors without a (neutral) orchestrator."*

Considering the "strategic purpose", where the joint purpose is articulated in a set of objectives that guide joint execution, the EnergySampo objective-setting has been clearly articulated. While the figures associated with each objective have changed over the years, the objectives have remained unchanged. As the number of pilots is the most important objective, the progress related to this key objective is tracked by maintaining a pilot roadmap, which is reviewed in the board meetings and shared with key stakeholders.

A closer look at EnergySampo's systemic initiatives confirms they have led to the tangible results, system-level pilots, and collaboration initiatives described in Table 18. The M/S Aurora Botnia is in commercial use, sailing the seas between Vaasa and Umeå, serving as a floating testbed for partner organizations and delivering operational data for development purposes. Other pilots, the EnergySampo CCU and H-FLEX-E, are being implemented. Learning from these three examples highlights the importance of a local partner whose commercial interests are aligned and who assumes the responsibility of system integration: Wasaline, West Energy, and EPV Energy, all of which are a part of the EnergyVaasa cluster.

Table 18: Examples of system-level pilots.

Pilot/Lead Company	Strategic purpose and timeline of collaboration	EnergySampo Partners	Other Partners
Ms Aurora Botnia WasaLine	**Strategic purpose:** Creating the world's most environmentally friendly ferry – a floating testbed, Ms Aurora Bothnia **Timeline:** Development from 2018 to 2021; now, real-life testing in an operational context	ABB Danfoss Wärtsilä VEO	Rauma Marine Constructions Promeco WeTech + other cluster companies
EnergySampo CCU WestEnergy	**Strategic purpose:** The Carbon Capture pilot is a step towards climate-positive energy from waste. **Timeline:** The investment decision was made in 2021, and the production of synthetic methane is planned to start in 2025.	Danfoss Wärtsilä VEO	Merinova Woima Corporation City of Vaasa (Stormossen) Afry
EnergySampo H-FLEX-E VaasanSähkö (EPV Energy)	**Strategic purpose:** The pilot will develop, design, and demonstrate an integrated renewable energy system using the P2X2P concept in a flexible and feasible manner **Timeline:** Investment decision 2021, operational readiness planned 2025	Wärtsilä Danfoss	Merinova City of Vaasa

In addition to the industry-scale pilots, structurally defined as business ecosystems, are planned large-scale initiatives of which the EnergySampo companies are a part. These include GigaVaasa and BotH2nia Hydrogen Valley, each with a meaningful purpose and several partners involved in collaboration. Table 19 summarizes these initiatives.

Table 19: Examples of planned system-level pilots.

Pilot/Lead Company	Strategic purpose and timeline of collaboration	EnergySampo Partners	Other Partners
GigaVaasa Freyr	**Strategic purpose:** Battery factory and industrial park infrastructure calling for a broad spectrum of systemic energy solutions **Timeline:** Zoning completed in 2021, environmental permitting ongoing, estimated start of cooperation from 2025 to 2026	City of Vaasa Partner companies have many potential roles	tbd
BotH2nia Hydrogen Valley Merinova	**Strategic purpose:** Accelerate hydrogen economy development on the Finnish west coast in the eight identified value chains with a total investment of 3,6 BEUR **Timeline:** Planned operation 2025–	ABB Danfoss Hitachi Energy Wärtsilä Vaasan Sähkö VEO VNT Management	Broad partnership base (90+), including companies, cities, and research organizations

Tables 18 and 19 indicate that the pilots often cover multiple examples of integrated solutions. Piloting, for example, sustainable ship, carbon capture, and production, and the use of green hydrogen calls for collaboration beyond organizational boundaries. Partner involvement in inter-organizational multi-party collaboration varies depending on the purpose, the articulated problem to be solved, and the systemic solution being piloted. Typically, some of the companies have developed the technology together (e.g., an engine manufacturer and an electricity utility company are a quite suitable partnership for designing a Power-to-x-to-power system), or an external customer has stated the demand for the system's performance and connects with each of the partners to be involved. In addition to the examples of pilots listed in Tables 18 and 19, the EnergySampo roadmap includes multiple pilots in the planning and links closely to the partners' own collaboration efforts. The partners have especially appreciated the hydrogen valley. Reflecting the value creation–value capture dimension, the expected timeline for value capture in the form of commercial solutions is seen to be 3–5 years, which this research interprets as long-term.

Inter-organizational multi-party collaboration is not limited to the EnergySampo ecosystem. The partner companies have varying efforts related to building inter-organizational multi-party collaboration in relation to their respective businesses. Table 20 introduces some of these initiatives in light of publicly available data:

Table 20: Examples of partner-led ecosystem initiatives.

Pilot/Lead Company	Purpose and timeline of ecosystem collaboration	Partners	Further information
ABB Green Electrification	**Purpose:** Green electrification **Timeline:** 2021–2025	Broad base of partners	Link to ABB green electrification
Wärtsilä ZEM	**Purpose:** Zero mission marine **Timeline:** 2022–2027	Broad base of partners	Link to ZEM
Danforss Fossil Free Future	**Purpose:** Fossil free future **Timeline:** 2023–2027	Broad base of partners	Link to fossil free future
Wärtsilä WISE	**Purpose:** Wide and Intelligent Sustainable Energy **Timeline:** 2024–2028	Broad base of partners	Link to WISE

In addition to system-level pilots and partner-led ecosystem initiatives, several initiatives aim to create platforms for data sharing and joint development, but so far, none of the partner companies have opened their platforms for collaboration. While platforms and data sharing might have the potential to create value, one may

speculate that they have not yet emerged due to a lack of a clearly articulated use case. Furthermore, as open data sharing requires a high level of trust and new kinds of contractual frameworks are needed to share and pool one's data to create opportunities for collaborative innovation, the partners have focused on building their own platforms. However, as several initiatives for data sharing in the energy industry at the EU level (e.g., GAIA-X) and at the national level, driven by the national grid operator Fingrid in Finland, some of the companies will likely engage in collaboration to create data-driven platform business models.

5.1.3 Initial conclusions

A closer examination of the EnergySampo innovation ecosystem reveals that the inter-organizational multi-party collaboration is situated within the broader EnergyVaasa cluster. A strategic purpose and clearly defined objectives seemingly play a central role in shaping these collaborative structures. Conceptually, each partner organization has a clearly articulated purpose, or, in the case of VEO and VNT Management, a vision aligns with the overarching strategic purpose of EnergySampo. The strategic purpose and objectives of the innovation ecosystem are broadly shared with regional and national stakeholders to involve a broader base of partners. Moreover, the alignment of individual partners' ecosystem initiatives with the EnergySampo further underscores the collective commitment to system-level innovation and the development of integrated solutions that transcend organizational boundaries.

Reflecting the collaboration context and the framework of "archetypes of collaboration", where the unit of analysis is the strategic purpose for collaboration, the discussions related to the competition law in the spring of 2023 served as an "acid test" for the framework. The framework's development is a good example of how the engaged scholarship approach helps advance theory development and practical ways of working. While the idea of the framework emerged from the theoretical review, the final motivation for developing the positioning framework for the archetypes of collaboration arose from the need to clarify the scope of the EnergySampo ecosystem to ensure commitment and continuation of collaboration.

The framework of "archetypes of collaboration" was validated with the EnergySampo partners once the theoretical framing was in place in the fall of 2024. Figure 14 was shared with the board members for feedback. These feedback discussions proved helpful and confirmed that mapping collaboration along structure and time was beneficial, as well as specifying the time allocated for value creation and value capture. The partner organizations noted that the different forms of inter-organizational multi-party collaboration coexist at any given point. However, global organizations highlighted that as their networks are inherently global, managing intra-organizational collaboration has added complexity, as the links to the

ecosystem involve numerous stakeholders across their global organizations. This led to illustrating these examples listed in Table 19 in light of the "archetypes of collaboration" illustrated in Figure 15. The discussions that informed the development of this figure were useful in discovering the perspective that the different structures of inter-organizational multi-party collaboration coexist simultaneously and evolve as the solutions mature. These dialogues further underscored the importance of actively managing transitions between distinct forms of inter-organizational multi-party collaboration referred to here as "archetypes".

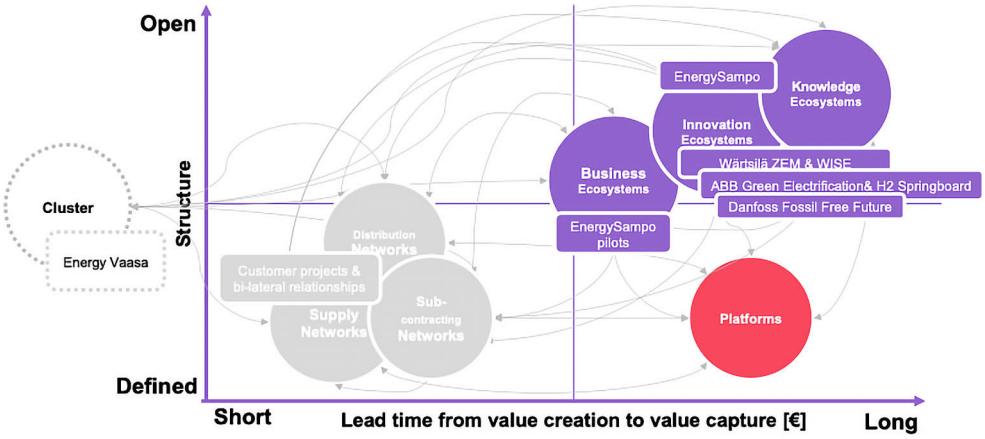

Figure 15: Different forms of inter-organizational collaboration between the EnergySampo partners.

To conclude, the EnergySampo case proved useful in observing how its seven partners navigate the real-life challenges of inter-organizational multi-party collaboration. The findings from this case suggest the different forms of inter-organizational multi-party collaboration coexist but indicate that the factors leading to selecting a given structure and change of structure need to be further explained, The EnergyVaasa cluster's role as an enabler of contract-based system level partnerships can be observed in light of the commercial relationships between partners illustrated in Figure 14. However, examining the transition from system-level solutions development (value creation) to commercial solutions (value capture) requires further focus. The M/S Aurora Bothnia is an example of such a transition, as it has evolved from development to operation. However, while the ship's development involved multiple partners (ABB, Danfoss, VEO, Wärtsilä), the collaboration does not seemingly continue in the operational phase. Therefore, to further explore the value-creation value-capture aspects of the framework of "archetypes of collaboration", the

empirical part was extended to a secondary case, LUXTURRIM5G, with a focus on the transition from value creation to value capture.

5.2 LUXTURRIM5G Case

The LUXTURRIM5G case was first documented in the Ecosystem Handbook (Kola et al. 2020). The case description, based on secondary data, was extended and complemented to address the value creation and value capture dynamics through primary data collection via interviews in the spring of 2024. The detailed description of the data collection and analysis appears in the chapter "Methodology".

5.2.1 History and roots

The systemic challenge addressed by the LUXTURRIM5G innovation ecosystem stems from rapid urbanization. The proportion of the global population living in cities is expected to increase from 55% to 70% by 2050, thus intensifying issues such as traffic congestion, pollution, public safety concerns, and health risks. Additionally, cities account for over 75% of global energy consumption and CO_2 emissions, further underscoring the urgency of developing sustainable urban solutions (Ahvenniemi et al., 2019; Heino et al. 2019). The LUXTURRIM5G innovation ecosystem was established in response to these systemic urban challenges driven by rapid urbanization and climate change. Its primary objectives were to address these challenges, promote sustainable development, and facilitate digital transformation. Its overarching purpose was to improve people's lives and enable a more sustainable future by making cities smarter with a digital backbone based on a network of smart poles enabling 5G connectivity for a variety of sensors and a secure data platform to build new data-driven services. The development evolved through four phases, which are illustrated in Figure 16 and described in detail in the following chapters.

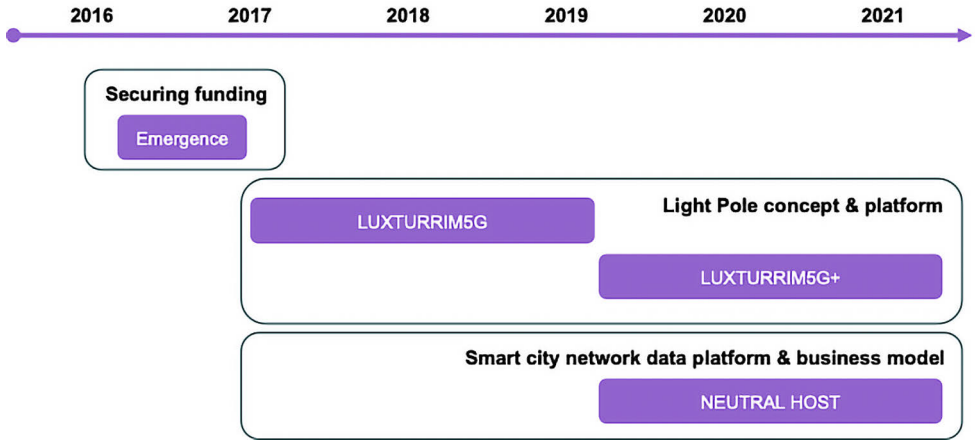

Figure 16: LUXTURRIM5G evolution from 2016 to 2021.

5.2.2 Inter-organizational multi-party collaboration

Organized as an innovation ecosystem, the LUXTURRIM5G innovation ecosystem emerged in late 2016 and evolved through three phases: LUXTURRIM5G (2017–2019), LUXTURRIM5G+ (2019–2021), and Neutral Host (2019–2021). During this time, the number of partners grew from an initial three to 28. The founding partner, global telecommunications infrastructure provider Nokia's development arm Bell Labs, the ecosystem orchestrator Spinverse, and the innovation funding agency Business Finland were part of the ecosystem the entire time. The other 25 partners had different roles in developing solutions related to the systemic solution, which includes, first, the light pole concept and, second, the smart city data platform and its related business model.

The initial idea of joint development emerged in discussions between Nokia and Exel Composites during the fall of 2016. They worked on the objectives for collaboration and defined a joint plan to apply for public ecosystem development funding. These two partners committed resources to planning and acquired services from the innovation consultancy Spinverse for writing the funding application. Furthermore, the planning phase involved discussions with potential partners; once the funding was granted in April of 2017, they were invited to join the ecosystem.

LUXTURRIM5G (2Q/2017–1Q/2019): The LUXTURRIM5G ecosystem evolved around Nokia and Exel Composites during the first funding period from 2017 to 2019. The number of partners increased from 4 to 18, with a focus on developing the technologies to serve as the backbone for smart cities. The partners had complementary capabilities: Vaisala developed sensor technology, and Ensto developed the charging solutions, while Premix, Teleste, Lammin, and Orbis focused on solutions related to 5G, leveraging their core capabilities. In addition, services

partner Sitowise were required for city planning. _The ecosystem_ also involved application developers Indagon and Rumble tools. Furthermore, research partners VTT, Aalto University, and the University of Tampere joined the ecosystem as the technology development provided opportunities to advance their research in certain areas, such as 5G radio signal propagation, antenna technology, data management, and energy efficiency. During this phase, the partners developed the first version of the ecosystem value proposition. The founding partners continued to lead the ecosystem, with Nokia in the central role. With the growing number of partners, the orchestrator's role grew in importance to ensure the partners' activities aligned with the value proposition. In retrospect, the partners were essentially developing their core assets to serve the ecosystem's value proposition.

LUXTURRIM5G+ (2Q/2019–2Q/2021): LUXTURRIM5G partners had successfully developed the initial solutions for the smart city technology platform and taken the first steps towards developing applications for it. The following phase focused on complementing the value proposition with additional technology and services and developing and productizing the smart pole concept for global markets. These activities involved creating a platform-based modular approach to integrate various sensors and devices into the smart pole. The concept pilot – a living lab type of 5G piloting environment with smart city services – was created in Espoo. From the research perspective, VTT, Aalto, and the University of Tampere continued to focus on their respective areas of technology and business. Furthermore, there were a few changes in the ecosystem structure at this point: Exel Composites, one of the founding partners, as well as Lammin and Ensto, decided to leave the ecosystem. However, several new partners joined: Tehomet replaced Exel Composites as a pole manufacturer, and Destia joined to provide the lighting services.

Neutral Host (2Q/2017–1Q/2019): The Neutral Host pilot co-occurred as the LUXTURRIM5G+, focusing on the smart city data platform and business model development. In addition to various technology partners, it involved the city of Espoo and the Finnish Transport and Communications Agency, Traficom, whose support was needed for 5G trials and the development of enabling regulations. Aalto University focused on smart city business and value network modelling, the Technical Research Centre of Finland (VTT) on data operator business architecture and operation models, and the University of Helsinki on the legal and regulatory environment. Furthermore, the technology and services partners, electricity backbone operator Caruna, and engineering companies A-Insinöörit and Link joined the ecosystem to develop their capabilities related to building smarter cities. For application developers, the interest in joining and the potential for value creation were two-fold. First, they were interested in innovating and developing solutions aligned with the ecosystem's value proposition, and second, the ecosystem appeared

as a potential commercialization channel for that future offering, in collaboration with the ecosystem partners.

Table 21 illustrates the LUXTURRIM5G ecosystem phases and the partner involvement in the different stages over the six-year period of 2016–2021.

Table 21: LUXTURRIM5G partner types, roles, and focus areas from 2017 to 2021.

Organization	Emerging	LT5G	LT5G+	Neutral Host	Partner type	Partner role	Partner focus
Nokia Bell Labs	x	x	x	x	Corporation	Ecosystem lead, Founding partner	Data platform, 5G radio technology & networks
Vaisala		x	x		Corporation	Technology partner	Air quality & weather sensors & monitoring
Ensto		x			Corporation	Technology partner	Lighting and charging
Caruna				x	Corporation	Technology partner	Energy distribution network and 5G infrastructure
Destia			x		Corporation	Technology partner	Street lighting infrastructure
Business Finland	x	x	x	x	Public	Public funding agency	National Innovation Funding
City of Espoo				x	Public	Public partner	Test environment development (smart city area in Kera, Espoo)
Traficom				x	Public	Public partner	Support for 5G trials and development of enabling regulation
VTT		x	x	x	Research	Research partner	5G RF technology, navigation, business and services opportunities, data operator business architecture and operation models
Aalto University		x	x	x	Research	Research partner	Thermal management, business opportunities, 5G radio signal measurements, smart city business and value networks modelling
University of Tampere		x	x		Research	Research partner	Light pole design & materials, 5G signal penetration to buildings
University of Helsinki				x	Research	Research partner	Legal and regulatory environment
Tehomet			x		SME	Technology partner	Pole design & manufacturing
A-Insinöörit				x	SME	Services partner	Integrated city development and utilization of 5G in construction
Exel Composites	x	x			SME	Founding partner	Light pole mechanics & composites
Spinverse	x	x	x	x	SME	Ecosystem orchestrator	Ecosystem orchestration and project management
Premix		x	x		SME	Technology partner	Specific materials for antenna radomes
Lammin		x			SME	Technology partner	Windows, RF signal propagation through building materials
Teleste		x			SME	Technology partner	Low maintenance displays & CCTV cameras, city safety and information services
Orbis		x			SME	Technology partner	Cabling connections, integration
Sitowise		x		x	SME	Services partner	3D modelling & practical city planning
Rumble Tools		x			SME	Application developer	Drone technology as a part of the smart city
Link				x	Start-Up	Services partner	Service design development
L7Drive			x		Start-Up	Application developer	Energy subsystem technologies and battery backup system
Vedia.fi				x	Start-Up	Application developer	Last mile logistic services
Agora				x	Start-Up	Application developer	Last mile delivery selvices
Sensible 4				x	Start-Up	Application developer	Autonomous driving systems
Indagon		x			Start-Up	Application developer	Location services for autonomous mobility

5.2.3 Value creation and value capture

The LUXTURRIM5G's ecosystem evolution exemplifies joint development between partners with the same goals: The partners agreed upon a problem worth solving, shared an interest in finding the solution, and all wanted to grow their business by being part of the ecosystem. The ecosystem and its partners successfully developed solutions that supported the common goals and jointly agreed-upon value proposition.

However, the semi-structured interviews of the four key stakeholders in the spring of 2024 indicated that the system business has not taken off as planned. For cities, digital transformation is a major change that requires cities to rearrange their activities and work in a new way, which takes time. The operators, in turn, still have their main focus on capitalizing on the current networks and are gradually looking at the solutions and the needs of smart cities (Ahvenniemi et al. 2020; Heino et al. 2020).

Based on the interviews conducted in the spring of 2024, all partners unanimously praised the LUXTURRIM5G collaboration. When asked if the ecosystem was successful, all agreed. However, none could demonstrate significant new revenue streams or value capture based on the development. Table 22 summarizes some of the comments:

Table 22: LUXTURRIM5G partner comments related to the ecosystem success.

Focus	Partners' comments related to "Was the ecosystem successful?"
Ecosystem success	*"It was very successful. We have not yet sold the solution, but the partner organizations have gained a lot of benefits. It was worth doing."* *"It is difficult to measure. We achieved and exceeded the targets that were set. The ambition level rose over time. We achieved broad collaboration and presented our results together at the Dubai EXPO. We achieved the end of our lifecycle as an innovation ecosystem. The trust was there to continue with commercial results, and we were able to influence regulation as well."* *"The team was great. We had a joint purpose, and we worked together towards it. We have prospects and have received requests for further information. It tells that we did something right."* *"The value that we got by showcasing the results at the Dubai EXPO was very important. For a company like us, it opened a lot of doors and helped build future business."*

The failure to commercialize systemic solutions does not necessarily indicate a lack of commercial viability, but rather that value capture from the ecosystem development activities is not straightforward and takes time. Furthermore, the individual partners are commercializing products, solutions, and services developed during the ecosystem's existence as a part of their own businesses. In the interviews,

the partners noted that estimating the figures is difficult, but they highlighted that commercialization is happening and reflected on the reasons behind the difficulties. Table 23 summarizes some of these comments:

Table 23: LUXTURRIM5G partner comments related to value capture.

Focus	Partners' comments related to direct value (of commercialized solutions)
Direct value	*"We developed the integrated solution, including smart lamp poles – the intelligent platform that can anonymize data and operate cameras and sensors. The development of the algorithm was a big thing. We sell those as part of our different systems offerings and see a lot of potential in the future."* *"The data platform is an interesting concept, including the business model and legal framework that were developed. We demonstrated the commercial solution successfully, but we were maybe too early to the market."* *"We developed our own SW to serve the platform, but we are not a solution provider. However, we believe we can acquire new customers and projects because of being part of the ecosystem development. We cannot comment on the revenue but can state that the impact is qualitative and quantitative."* *"We have developed a solution that we can provide ourselves and have sold the first commercial project, which is strategically important. In terms of revenue, it is still marginal, but there is a lot of potential."* *"It is very difficult to put a number on it. We promoted the systemic solution, but do not know how many have been sold through our partners. The need is there, but the customers cannot specify what they want."*

Overall, the partners were very optimistic about the outcomes. However, as the value capture is very difficult to measure, the partners focused on the indirect benefits. Analyzing the interview findings, one key advantage was identified as a better overall understanding of what smart cities entail, as the problem was approached from different viewpoints, not just a technological perspective. As the ecosystem involved partners such as those from city planning, lighting infrastructure, engineering, construction, and technology, together, they built a holistic understanding of the problem and developed a systemic solution. In fact, when discussing the indirect benefits, the interviewees highlighted the importance of joint learning, problem-solving, and the development of new products and solutions. Furthermore, the partners gained a lot of positive attention as the ecosystem presented the development and outcomes in joint events. In addition, all partners recognized the value of the collaboration in general. They note that the value creation for all partners was based on a joint purpose and trust, which served as the basis for developing new partnerships. Table 24 notes examples of how the partners articulated the indirect value created by collaboration in the ecosystem.

Table 24: LUXTURRIM5G partner comments related to indirect value capture.

Focus	Partners' comments related to indirect value capture
Indirect value capture	*"The ecosystem was built on trust. Together, we created a vision about what Smart Cities could be like. We learned to do things together and collaborate."* *"Reputation. Know-how. Broad contact network in industries that we did not know at all and to people we did not know at all."* *"The ecosystem's value is very difficult to measure in money. The PR value was huge. We have had 300–400 customers visiting our campus (pilot solution). We have promoted the solution, and the customers like it. It's proof of our innovativeness. We all learned a lot about smart cities and became close. The companies (that were part of the ecosystem) are our buddies, and we can build future sales on that collaboration."* *"We did not believe our company would be at the Dubai EXPO. Even though commercial success is not yet there, the benefits of publicity were huge. We were seen as forerunners."* *"Our approach and terminology have been copied, and concepts and terms we created are now showing up in requests for information (RFI)."*

Although the number of interviews was limited, the feedback and comments from the partners regarding value creation and value capture mechanisms in the LUXTURRIM5G ecosystem were aligned. Value creation was emphasized, and the partners were unanimously satisfied with a better understanding of the systemic problem, the value of joint learning and problem-solving, the development of new products and solutions, and brand recognition through joint events. However, as concluded earlier, the mechanisms of value capture remained difficult to measure.

The outcomes of the ecosystem collaboration based on publicly available materials complement the interview findings. Considering indirect value capture, the positive publicity in numerous events benefited all partners. For the research partners, the number of publications (n = 70) is a strong indicator, as the publications are directly linked to their funding. Furthermore, brand recognition may impact the invest-in activity, which was particularly important for the smaller partners. The mechanisms for value capture were identified as obtaining funding for further developing the solution and integrating the developed solutions into the existing offering.

While the partners agreed that value creation had occurred and further opportunities for value capture existed, they acknowledged that the systemic solutions had not taken off as initially envisioned. However, that does not mean the ecosystem partners could not capture value. In fact, the study proved that the value capture mechanisms were numerous, thus enhancing our understanding of direct and indirect value capture mechanisms related to collaboration. It is also notable that the planned new products/solutions and joint solution sales were not achieved during the ecosystem existence, but the pursuit for solution approach continues in the scope of "Smart City Innovation Cluster", a cooperative founded

in 2022, including the key partners involved in the LUXTURRIM5G ecosystem (https://www.scic.io/we-are).

Considering the more indirect nature of value capture, the partners recognized numerous benefits from the collaboration, as well as potential for future value capture based on the developed strategic purpose, trust, and access to new partners. Again, trust was highlighted as a key theme, which is further emphasized in the following comments in Table 25.

Table 25: Examples of LUXTURRIM5G partner comments related to trust.

Focus	Partners' comments related to trust
Trust	*"Trust was a big thing, and the shared view about the opportunities related to the Smart Cities. We learned to collaborate with others, which is valuable as such."* *"We gained a huge contact network with industries we traditionally had no contact with. It created trust and opened doors for other collaborations."* *"Transparency and openness are keys to success. They build trust. The interfaces between organizations need to be clear so that we can discuss the topic using their real terms and names. These sensitive topics call for trust, and that trust needs to be created."* *"The trust that was built enabled the partners to understand the opportunities related to smart cities. It was a genuine collaboration between larger and smaller partners, between engineers, lawyers, and other functions. It created a WOW effect among partners."*

Further indirect value capture was linked to brand recognition, which helped attract new customers and open new markets, as well as the research institutions' ability to obtain funding and the city of Espoo's ability to attract new businesses and people. Interviewees highlighted the learning related to regulation (namely, GDPR) as something that all partners benefited from in the scope of their existing operations. Figure 17 illustrates that, moving from value creation to value capture, the system-level approach faded after the ecosystem collaboration formally ended. However, the collaboration in the context of the Smart City Innovation Cluster continues, and the partners remain optimistic that it will someday lead to joint direct value capture.

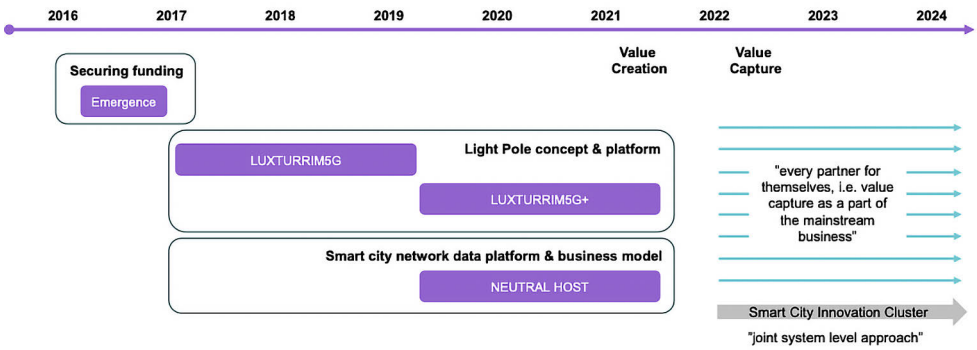

Figure 17: LUXTURRIM5G example showed value capture at the partner level rather than at the system level.

As for the reasons for not achieving the system-level objectives for the solution, the partners believed the problem they were trying to solve is valid and that a potential need still exists. Table 26 summarizes some of the comments related to the reasons for being unable to commercialize the systemic solution:

Table 26: Examples of LUXTURRIM5G partner comments related to the reasons behind the failure to commercialize systemic solutions.

Focus	Comments related to the failure to commercialize the systemic solution
Trust	*"We knew the cities were difficult customers, and that assumption was confirmed along the way. Also, funding is an issue. There is a lot of potential, but the market is not ready yet."* *"We were too early, but the market will be there in the future. But when? 5G and the transition to 6G will drive the need for this type of solution."*

To summarize, based on the LUXTURRIM5G case, the reasons for not capturing value from the system level as planned are related to the market and customer understanding and the time to market. As far as the collaboration itself is concerned, there is considerable untapped potential for further value creation and value capture based on the continuing inter-organizational multi-party collaboration.

5.2.4 Initial conclusions

Observing what has happened over two years after the formal collaboration ended revealed that the path from value creation to value capture was often not as straightforward as planned. When observing value capture in the LUXTURRIM5G innovation ecosystem, demonstrating direct value capture related to the ecosystem was difficult, even two years after the ecosystem collaboration ended. For most of

the partners, the link between value creation and value capture was indirect and thus harder to demonstrate. Considering the limited direct value capture, one could assume the collaboration failed to meet the partner's expectations. However, based on the interviews, the partners were satisfied with the results. The reasons related to success and the failure to capture value from collaboration are two-fold. First, as the partners appeared satisfied with the indirect value capture during and after the ecosystem collaboration, it can be concluded that the ecosystem collaboration succeeded. The individual companies learned about smart cities in the context of their own strategy and could leverage the results in the scope of their existing business and operations. However, as the developed solutions have not taken off as planned, an element of failure is attributed to false assumptions related to markets and customers, as well as time-to-market.

The LUXTURRIM5G case was included in this research to extend our understanding of the dynamics of transition from value creation to value capture. It does so by describing the development of a systemic solution in the innovation ecosystem structure and by focusing attention on the value capture mechanisms that occur towards the end of the development cycle of systemic solutions. In light of the secondary data documenting the numerous outcomes of the inter-organizational multi-party collaboration (https://www.luxturrim5g.com/publications), it confirms that value creation happened from 2019 to 2022. Furthermore, this case identifies direct mechanisms for value capture, such as obtaining funding for further development of the solution and integrating the developed solutions into the existing offering. In addition to the direct mechanisms of value capture, it identifies several indirect value capture mechanisms, such as brand recognition that helped attract new customers and open new markets, or the ability to attract funding or new investments.

As far as the transition from value creation to value capture is concerned, the LUXTURRIM5G case confirms that it takes time and is "long term", as the framework of "archetypes of collaboration" suggests. Considering the learnings from this case, further theory development is needed to explain such a transition.

5.3 From the case studies onwards

From the engaged scholarship perspective, the primary case, EnergySampo, provided a unique way to observe inter-organizational multi-party collaboration from within and to gather and analyze qualitative data from 2022 to 2024. This case enhanced the researcher's understanding of inter-organizational multi-party collaboration in real life, reflecting the importance of understanding the "strategic context" and the "collaboration context". The first cycle of engaged scholarship was well underway when the researcher entered the case environment with an initial understanding of the collaboration context based on the ecosystem literature. The

second engaged scholarship cycle primarily focused on direct involvement and interaction with the partner organizations. It helped shape and refine the research questions, guiding further theory development. The third cycle of engaged scholarship was initiated through the discussions, as the partners frequently reflected on the strategic foundation of inter-organizational multi-party collaboration. Methodologically, the three cycles of engaged scholarship that unfolded during the research process (Figure 3) supported the interplay between the literature review and empirical data collection and analysis while enabling triangulation, as insights were gathered from different perspectives.

The following chapter, "Towards Dynamic Collaboration Capability", synthesizes the key insights that emerged from the reflection and triangulation of the literature reviewed and the empirical data derived from the case studies. The empirical findings highlight the critical role of an aligned strategic purpose and the collaborative strategizing process in fostering inter-organizational multi-party collaboration. Moreover, the case studies describe how the proposed "archetypes of collaboration" framework manifests in practice in the contexts of sustainable energy and smart city initiatives. Trust emerged as a recurrent theme across stakeholder interviews, meetings, and workshops, and is identified as a key factor influencing structural decisions. Additionally, the complex and often nonlinear paths from value creation to value capture that were particularly evident in the LUXTURRIM5G case highlight the need for a deeper understanding of the dynamic and evolving nature of inter-organizational multi-party collaboration.

Based on the findings so far, this study predicts that strategic innovation management will be increasingly dynamic and collaboration-driven. Considering the unit of analysis of this study, strategic purpose, the emerging concept of trust, and the need to further focus on time and its dynamics, the next chapter explores further theories related to these three topics to answer the third research question: "How can inter-organizational multi-party collaboration be structured and managed?"

6 Towards dynamic collaboration capability

This chapter focuses on answering the question, "How to structure and manage inter-organizational multi-party collaboration?", by combining the findings of the three engaged scholarship cycles via an iterative and integrative approach. It builds on the key concepts and frameworks introduced in the previous chapters and introduces the dynamic collaboration capability framework, along with the theoretical and empirical abductions that underpin the structuring logic.

6.1 Building blocks of dynamic collaboration capability

The chapter, "Strategic Context", started by concluding that the strategic paradigm is changing as systemic problems and complex value propositions require inter-organizational multi-party collaboration. It began by revisiting selected strategic management and organizational science literature on theories of the firm and concluded that the resource-based and dynamic capability views provide interesting lenses for observing the changing strategic paradigm. Furthermore, it noted the importance of collaborative strategizing and proposed strategic purpose as the unit of analysis underpinning the structuring decisions related to inter-organizational multi-party collaboration.

The chapter, "Collaboration Context", applied strategic purpose as the unit of analysis and provided a perspective on understanding different structures of inter-organizational multi-party collaboration in light of recent ecosystem literature. Building on the idea of the ecosystem as a structure (Adner 2017), it introduced a positioning framework of "archetypes of collaboration". Thereafter, the chapter "Case Studies" provided interesting empirical data about how real-life collaboration unfolds in the energy and ICT industries.

The concept of dynamic collaboration capability builds upon the concepts, ideas, and empirical data in the previous chapters. It captures the dynamic nature of today's business environment by considering the co-evolutionary logic of inter-organizational multi-party collaboration that Aarikka-Stenroos and Ritala (2017)

noted, as well as the uneasy transition from value creation to value capture (Ben Letaifa 2014; Khademi 2020). Furthermore, it highlights the importance of trust (Blomqvist 1997; Blomqvist et al. 2005), an important theme that emerged from the case studies. The following chapters describe the theoretical and empirical abduction processes leading to the development of the dynamic collaboration capability framework.

6.1.1 From the theories of the firm onwards

Reflecting the theories of the firm reviewed in the chapter, "Strategic Context", the resource-based view (Barney et al. 2001; Barney 2001; Barney et al. 2021) provided a good starting point. Barney suggests beginning by addressing the value of resources with theoretical tools that specify the market conditions under which different resources will and will not be valuable. Countering the critiques towards his original 1991 article, Barney (2001) highlights the importance of understanding strategic alternatives based on the resources that firms have and notes that once a firm becomes aware of the valuable, rare, costly to imitate, and non-substitutable resources it controls, the firm should take the actions to exploit these resources. He suggests the resource-based theory can evaluate the competitive potential of the different strategic alternatives, and once a firm understands how to use its resources to implement strategies that can be sources of sustained strategic advantage, implementation follows almost automatically.

This thesis proposes that the resource-based view is a valuable lens for viewing and understanding the structuring decisions for inter-organizational multi-party collaboration. This _emphasizes the perceived importance of the concept of value and the joint value proposition (Adner 2017) underpinning the decision-making process. In fact, Barney (2001, p. 54) stated the following as a response to a critique of his original article:

> *"I would spend more time on the question of value and how to parametrize it and how value is related to market structure."*

Drawing on the discussion in the chapter, "Strategic Context", this thesis concludes that in the inter-organizational multi-party collaboration setting, different types of partners have different motivations and resources. According to Barney (2001), the resources organizations possess can be viewed in light of resource heterogeneity, immobility, rarity, imitability, and substitutability and are considered relevant in the discussions about sustainable strategic advantage. However, when solving systemic problems, a single organization rarely possesses all the needed resources. Therefore, establishing a common view about the value of resources is essential but difficult. For example, Nalebuff and Brandenburger (1997) emphasize

the importance of considering the value potential of the system perspective rather than the short-term gains for the individual company's perspective. This significant finding implies the need to view the value of resources more dynamically and to evaluate the structuring decisions through the lens of the dynamic capability view (Teece, 1997; Teece 2010; Teece 2018).

The systemic perspective and a single organization's perspective are not always aligned. This lack of alignment may be considered a risk. Furthermore, as learned from the case studies, the path from value creation to value capture is not always straightforward and takes time. For individual organizations and managers, this may mean balancing activities and limiting investment in a specific activity to levels that generate a positive return net of all costs to avoid value destruction in the short term (Ahuja & Novelli 2017). They continue to note the importance of environmental uncertainty and the difficulty in predicting how long it will be before the returns of investments will manifest. Reflecting this uncertainty or risk, from the view of a single organization, a question arises whether that risk is multiplied when multiple organizations are involved in inter-organizational multi-party collaboration. Adner (2017) identifies several risks associated with collaboration, including the *initiative risk* due to project management, the *interdependence risk* of coordinating with complementary innovators, and the *integration* risk of adopted the solution throughout the value chain.

Considering the lessons learned from real-life business environments, the following chapters examine the structuring challenge regarding risk and reward, and propose a structuring logic through theoretical and empirical abductive reasoning. Using the framework of "archetypes of collaboration" as a starting point, it introduces a step-by-step approach for making structuring decisions and serves as an intermediate step towards understanding the dynamic nature of collaboration and transitions between different types of inter-organizational multi-party collaboration.

6.1.2 Theoretical and empirical abduction leading to the structuring logic

This chapter presents a plausible logic for structuring inter-organizational multi-party collaboration, drawing inspiration from the heuristic to disambiguate types of ecosystems that Autio and Thomas (2022) presented. As Barney (2001) suggests, it addresses the value of resources using theoretical tools and evaluates different alternatives in light of resource-based and dynamic capability views.

As far as a comprehensive view of the strategic alternatives was concerned, it seemed relevant to go back and build on the author's previous work on the strategic management of innovation (Kola-Nyström 2005, p. 59). Approaching the structuring challenge in light of the resource-based and dynamic capability views, which were

deemed a good fit for observing the collaboration context, further developed this thinking. A plausible structuring logic, as illustrated in Figure 18, considers the structuring decisions through an eight-step process that begins with discovering the systemic problem (step 1). The structuring decisions are seen to evolve and consider resource availability. They proceed through in-house research and development activities (step 2) as well as M&A and joint ventures (step 3), where control over value creation and value capture resides within an organization. When observing the structuring decisions underpinning networks (step 4) and different types of ecosystems (steps 5 and 6), this study suggests there is a need to consider different structures as the problem-solving evolves from value creation to value capture – potentially leading to a platform (step 7) or networks (8) or to a single organizations' operations. The process includes eight questions that are considered useful when making structural decisions. It builds on the "archetypes of collaboration" framework illustrated in Figure 12, thus providing a crucial piece of information needed to answer the third research question.

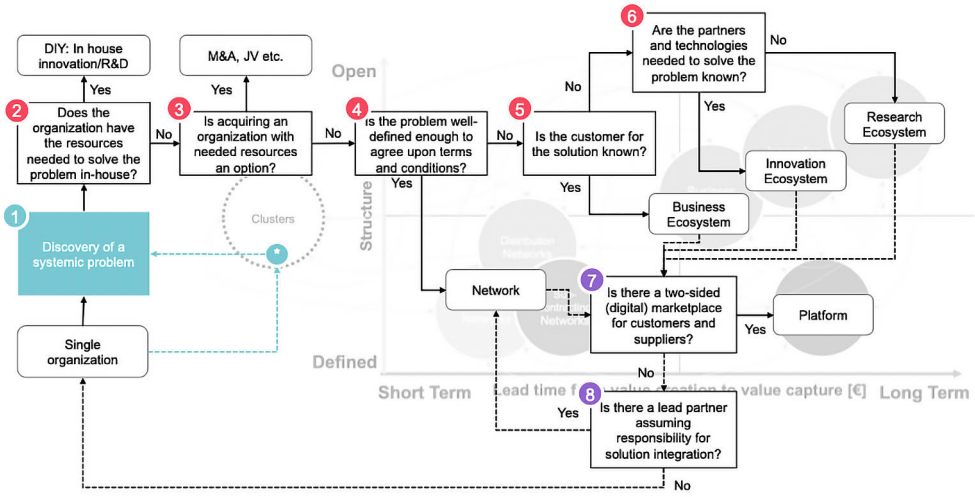

Figure 18: A plausible structuring logic extends the structuring decisions to inter-organizational multi-party collaboration.

The plausible structuring logic illustrated in Figure 18 starts from the discovery of a systemic problem worth solving. This is articulated as a strategic purpose. Once the issue has been discovered, the process considers in-house innovation, M&A networks, ecosystems, and platforms as plausible structures that pave the way for solving the systemic problem. Drawing on the resource-based view, Figure 18 maps a series of questions that highlight the reasoning behind each structure. This process

represents a plausible logic; in real life, these steps are unlikely to occur in a sequential or even conscious manner.

1. **Discovering the systemic problem:** This thesis focuses on inter-organizational multi-party collaboration, which, in essence, is about solving systemic issues that any of the partner organizations cannot solve alone. Although this focus is on the value proposition rather than the focal organization, it suggests a need for an actor to identify the problem. The case studies support this approach: In the EnergySampo case, all partners are addressing the green transition challenge in their own way (Table 11); however, they have recognized that individual organizations cannot solve the bigger system-level problem, so they call for inter-organizational multi-party collaboration. In a similar vein, the pilots (Tables 18 and 19) are focused on business-driven system-level problems involving the potential customer for the solution. Also, in the LUXTURRIM5G case, the founding partners, Nokia and Exel Composites, who identified the problem, had a consultant support them in solution scoping and structuring. Hence, the starting point of discovering a meaningful system-level problem to be solved is articulated as the following questions: "What problem are we solving?" and "Why is it worth solving?"
2. **In-house resourcing:** In-house innovation is a potential way to solve systemic problems if the organization that discovers the problem has the resources to solve it in-house. In-house innovation can mitigate the noted risks related to initiative, interdependence, and integration (Adner 2017). Especially, large organizations with a broad range of capabilities can use the resources under their control. Drawing on the resource-based view, this thesis suggests asking, "Does the organization have all the resources needed to solve the identified systemic problem?" If the answer is yes, problem-solving should be structured in-house to limit the risks associated with inter-organizational multi-party collaboration. If the answer is "no", the structuring discussion continues to step 3.
3. **Acquiring an organization with the needed resources:** Considering the challenge of solving systemic problems, M&A can be beneficial, especially if a company has identified M&A as a strategic option and/or has a successful track record in M&A. This thesis recognizes M&A as a potential strategic option to answer the question: "Is acquiring an organization with needed resources an option?" If not, the following choices lean towards inter-organizational collaboration, potentially involving multiple parties, which will be explored next.
4. **Focused problem-solving:** Drawing from the EnergySampo case, where the partner organizations engage in different forms of inter-organizational

multi-party collaboration, this study suggests considering network-type structures in focused problem-solving or outsourcing. This implies situations where it is possible to frame the solution to a systemic problem clearly enough to engage in a contractually defined relationship involving a single organization or multiple organizations. Figure 12 illustrates this as "networks". In these cases, the focal organization that discovers the systemic problem is assumed to take ownership of the structuring of inter-organizational multi-party collaboration. In other words, this study suggests that networked structures are applicable if the answer to "Is the problem well-defined enough to agree upon terms and conditions?" is yes.

At this point, applying the resource-based view became somewhat problematic. Abductive thinking led to the consideration that the resource-based analysis of the structuring decisions provides a plausible explanation when the transitions from value creation to value capture occur within organizational boundaries, by considering the risks Adner (2017) indicated. Owning the R&D implies strong control over resources. Similarly, in the case of M&A, value creation and subsequent value capture occur within organizational boundaries. Furthermore, the value capture logic also applies to networks as it is considered a "defined" form of inter-organizational multi-party collaboration. In networks, organizational boundaries are defined by contractual terms and conditions that enable clear value capture logic for the involved organizations. However, when observing the "open" structures (i.e., business, innovation, and knowledge ecosystems), the focus, as noted from the empirical data, is value creation, with less clarity on how the value capture happens. This leads to further observations of the dynamic nature of value creation in different types of ecosystems:

5. **Joint development for a known customer:** If the systemic problem cannot be clearly defined, it implies a need for more open joint development and innovation. The framework of "archetypes of collaboration" (Figure 12) illustrates three types of ecosystems defined as open structures. The key question to differentiate between business and innovation ecosystems is, "Is the customer for the solution known?" The thought process leading to this question originates from the EnergySampo case, where the overarching structure was defined as an innovation ecosystem. That innovation ecosystem manifested through pilots that also involved customers. Therefore, this thesis views them as examples of business ecosystems that focus on developing solutions for systemic problems, with a clear "customer partner" involved in collaborative problem-solving. In making the structural

decisions, this thesis proposes that in business ecosystems, the customer for the solution is known and often actively involved in the development.

6. **Joint development in a known field:** EnergySampo and LUXTURRIM5G were structurally defined as innovation ecosystems. In the EnergySampo case, the partners were joined with a shared focus on solving the green transition problem in the energy sector, while LUXTURRIM5s focused on urbanization and improving the lives of people living in cities. While the strategic purpose of both innovation ecosystems was clear, the development actions, especially in the EnergySampo caes, deliberately excluded any customer-related discussions as they were seen to potentially violate the competition law. However, as the key objective of the EnergySampo innovation ecosystem was to develop pilot ideas, with the focus on solving a more specific systemic problem related to the broader purpose, these also take the form of a business ecosystem involving customers. These specific pilots consider the competitive dynamics to avoid direct competition. In a similar vein, the partners in the LUXTURRIM5G case focused on problems underpinning urbanization and organized development to create a systemic solution involving a smart city platform. This case enhanced our understanding of the transition from value creation to value capture and suggested that the transition takes time and is often not straightforward. Based on the learnings from the case studies, this thesis indicates that innovation ecosystems are more exploratory than business ecosystems, and their focus on value creation is based on joint innovation and learning rather than value capture.
7. **Joint development in a new field:** This thesis suggests that the time from value creation to value capture is essential in defining the structure for inter-organizational multi-party collaboration. On this note, the line between innovation and knowledge ecosystems is very difficult to define, but the question, “Are the partners and technologies needed to solve the problem known?” may help explain the difference. The EnergySampo and LUXTURRIM5G case studies had close links to universities and research institutions, which conduct research related to, for example, new energy technologies and radio technologies. This collaboration was not part of the agenda of this study, but the findings indicate that knowledge ecosystems are closely related to innovation ecosystems and often involve many of the same partners. However, the differentiating factor is that research-driven knowledge ecosystems take a longer time to move from value creation to value capture and are, therefore, more loosely structured.

With the focus on value creation, the ecosystems' lead time to value capture is implied to be long. The objectives setting and definitions of both cases, Energy Sampo and LUXTURRIM5G, confirm this. As noted, based on the case LUXTURRIM5G, the path from value creation to value capture is often not straightforward. In fact, for value capture to occur, the next step in the plausible structuring logic is to observe how inter-organizational multi-party collaboration can evolve towards a more defined structure required for value capture to occur.

8. **Moving from "open" value creation driven ecosystem structures to "defined" platforms or networks for value capture:** The importance of industry platforms as products, services, or technologies developed by one or more firms that serve as foundations upon which numerous firms can build further complementary innovations (Gawer & Cusumano 2014, p. 420) implies a link between ecosystems and platforms. This thesis views the ecosystem and platform as "long-term". However, the structure differs with "open" in ecosystems referring to strategic purpose focused on creating value by joint development and "defined" in platforms referring to value capture according to set rules that the platform owner or focal firm often defines. In other words, this thesis emphasizes the role of a platform as an enabler of different ecosystems of organizations that focus on innovation and value creation, whereas the platform itself focuses on value capture. Therefore, when considering the transition from value creation to value capture, the essential question to be asked is, "Is there a platform for customers and suppliers?" Should such a platform exist, it represents a potential way to capture value. The two case studies provide valuable insights into the value creation–value capture transition. The EnergySampo case described a situation with a limited number of partners and customers. In that case, networks are a seemingly appropriate structure for capturing the value of the jointly developed solutions. As stated, the network type of structure requires defining the terms and conditions of this type of inter-organizational multi-party collaboration. In turn, the LUXTURRIM5G case aimed to develop a platform; however, two elements hindered that objective. First, the platform was perceived as being too early to the market, as it failed to attract customers. Second, none of the partners were willing to take ownership of the platform solution. In this case, developing the platform further would have required a network-type structure with a lead partner assuming the role of further platform development.
9. **Value capture by a single organization:** The LUXTURRIM5G case demonstrated that even when the partners are engaged in creating value as a systemic solution within an innovation ecosystem, the path to value capture

is anything but straightforward. As noted, the innovation ecosystem managed to develop a platform but failed to transition to value capture. However, the case showed that value capture occurred by individual organizations in the context of their existing business. Noting the latter development of the Smart City Innovation Cluster, which implies a loosely coordinated collaboration focused on their articulated systemic problem, the question arises whether the systemic solution still has potential for value capture. Therefore, this thought process implies a need for a partner or integrator to assume responsibility for the system integration. Thus, this study suggests asking, "Is there a lead partner assuming responsibility for solution integration?" to potentially simplify the path and shorten the time from value creation to value capture.

The described structuring logic considers the resource-based view as a plausible explanation for steps 2, 3, 4, 8, and 9 (see Figure 18), while expressing critical views towards the applicability of the resource-based view in steps 5, 6, and 7. Nevertheless, this study recognizes that in real life, the structuring logic will likely be less linear or straightforward than presented. Furthermore, when drafting the plausible structuring logic, it became evident that the choice of structure evolves over time, depending on the focus on value creation or value capture. Hence, the resource-based view seemingly has its limitations. This leads to exploring the dynamic nature of inter-organizational multi-party collaboration.

6.1.3 Towards dynamic structuring

Considering the dynamic nature of inter-organizational multi-party collaboration, this study proposes that making structuring decisions *is, in fact, a dynamic capability.* This proposal is rooted in the shortcomings of the resource-based view that Barney (2001) also recognized, who encouraged looking beyond the resource-based theory to the different aspects of value. Building on the previous chapter, this study highlights the need to adapt the structure when the focus shifts from value creation to value capture and proposes that organizations should develop dynamic collaboration capabilities to deliberately manage and lead inter-organizational multi-party collaboration.

The dynamic capability view (Teece et al. 1997; Teece 2010; Teece 2018) is a well-established theory that examines the sources of value creation and value capture. It notes that if control over scarce resources is the source of economic profits, then it follows that issues such as skill acquisition, knowledge management, know-how, and learning become fundamental strategic concerns. It considers that in rapidly changing markets, competitiveness is based on timely responsiveness and

rapid and flexible product innovation, coupled with the management capability to effectively coordinate and redeploy internal and external competencies. Furthermore, they define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.

The dynamic capability view identifies the foundations upon which distinctive and difficult-to-replicate advantages can be built, maintained, and enhanced (Teece et al. 1997; Teece 2010; Teece 2018). Dynamic capabilities thus reflect an organization's ability to achieve new and innovative forms of competitive advantage. The dynamic capability view advances the argument that the competitive advantage of firms lies within its managerial and organizational processes shaped by its specific asset position and the paths available to it (Teece et al. 1997) and identify them as coordination/integration, learning, reconfiguration, and transformation related to asset positions (technological, complementary, financial, reputational, structural, institutional, market) and organizational boundaries. According to Burgelman and Doz (2001), complex strategic integration is about finding the right balance over time between reinforcing the core and redirecting strategy. According to them, building a complex strategic integration capability involves a combination of organizational structure and appropriate managerial control systems and incentives, along with cognitive, political, and entrepreneurial skills. Along those lines, *dynamic collaboration capability* is defined as the ability to dynamically structure inter-organizational multi-party collaboration based on value focus.

Considering the dynamic capability view in relation to the inter-organizational multi-party collaboration calls for extending the structural decisions beyond organizational boundaries. In such consideration, the strategic purpose, as stated earlier, presents an important identity. Learning from Gulati et al. (2012) that the increase in close collaboration between formally independent firms and open communities of legally autonomous actors poses challenges for our thinking about organizational design, this study loops back to the concept of value, especially the focus on value creation and value capture that evolves over time as key factors in this consideration. The following chapter further develops this thinking.

6.2 Dynamic collaboration capability framework

As stated in the previous chapter, the dynamic collaboration capability is defined as a dynamic capability to structure inter-organizational multi-party collaboration based on a value focus. As such, replicating dynamic capability is difficult and consists of the three building blocks: strategic purpose, time, and trust. These building blocks are rooted in the concepts and frameworks identified in the previous chapters. Therefore, keeping in mind the step-by-step approach and the conclusions

of each prior phase, all of which involve an interplay between theory and practice, is essential.

- The first step – building an understanding of the strategic context – led to the concept of *strategic purpose*, which is the unit of analysis for this study and the starting point for structuring inter-organizational multi-party collaboration.
- The second step – exploring the collaboration context and defining the "archetypes of collaboration" – helped achieve conceptual clarity, essential for structuring inter-organizational multi-party collaboration, considering the concept of value and specifically, the dynamic nature of value, which is articulated as the *time from value creation to value capture*.
- The third step – case studies – provided valuable input related to the previous steps and highlighted the importance of *trust*, which nearly every interviewee mentioned in every interview; thus, it could not be omitted.

Starting from the purpose and time from value creation to value capture aligns with the systemic review of collaboration (Castañer & Oliveira 2020), which notes the goal of collaboration and its temporal aspects as key concepts. In this thesis, the goal of collaboration was adopted as a strategic purpose, referring to the theoretical findings of the chapter, "Strategic Context". Considering the empirical part, strategic purpose was important in both cases. In the EnergySampo case, collaboration between partner companies is based on a clearly articulated purpose, which is well aligned with the articulated purposes of all partner organizations, as shown in Table 11. Also, the LUXTURRIM5G case noted the importance of a jointly articulated strategic purpose. Based on the learnings from the case studies, this study suggests that an aligned and articulated strategic purpose that captures the essence of the problem and justifies why it is worth solving is fundamental.

While the chapter, "Strategic Context", discusses strategic purpose, it is worth noting that the importance of purpose for stating the fundamental reason an organization exists has been identified as an important driver for engaging customers and employees (Drucker 1994; Braun et al. 2012; Gulati 2022); as such, when recognized in the inter-organizational multi-party collaboration context, it can profoundly impact partners' commitment to collaboration. Furthermore, according to Gulati (2022), purpose can serve as a North Star to clarify priorities and inspire action in situations where trade-offs must be made. It requires leaders to lean into such deliberations in consultation with stakeholders; to look beyond short-term, win-win solutions for ones that suffice for now and promise broader benefits in the future; and finally, to effectively communicate the thinking behind those difficult decisions

to garner support. Considering this in light of inter-organizational multi-party collaboration with competing actors, trade-offs and seeking mutual wins is key to mutual success and long-term collaboration; a strategic purpose is fundamental for ensuring commitment and long-term viability advantages (Santalainen et al. 2024), which extend beyond sustainable competitive advantage because it is rooted in the institutional context. Regarding the time dimension, it is noticeable that while all forms of collaboration can be short- or long-term, the focus on value creation and value capture is essential to define the temporal element in the dynamic collaboration capability.

The third building block of the dynamic collaboration capability is identified as trust. Trust supports interfirm exchanges because it enables confident expectations and a willingness to be vulnerable (Poppo et al. 2016). Drawing on Blomqvist (2002), the concept of trust in inter-organizational multi-party collaboration is essential, especially concerning the asymmetric nature of relationships between different parties. Furthermore, Blomqvist (1997) notes a strong temporal dimension in trust and concludes its relative importance to the past and future changes over time. Observing this temporal element in the inter-organizational multi-party collaboration context, clusters provide a way to develop trust through informal interactions. In the framework of "archetypes of collaboration", networks are seen to involve contractual elements that Blomqvist (1997) states play a valuable role in serving as the rules of the game for the players. Her article also discusses the difference between trusting a person and trusting an organization. Considering the uncertainty in contract-based network structures, the importance of trust in the open ecosystem-type of structures is further emphasized.

While the importance of trust emerged from both case studies, the involvement through the engaged scholarship methodology enabled the simultaneous observation of these three building blocks in the context of the EnergySampo case. Table 27 distinguishes these three components in light of the framework's dimensions, "archetypes of collaboration".

Table 27: Building blocks of dynamic collaboration capability in light of the different "archetypes of collaboration".

"Archetype of collaboration"	Strategic Purpose	Time from value creation to value capture	Trust
Cluster	Industry-driven collaboration through co-location and co-innovation Loose alignment of purposes through information sharing	Clusters develop and evolve based on industry co-location and policy actions and create value, but value capture happens in other forms of inter-organizational multi-party collaboration	Developed through closeness, joint events and experiences potentially lead to further collaboration over time Interpersonal trust preceding organizational trust
Network	Customer-driven collaboration through the delivery of systemic solutions Organizational purposes are aligned with customer needs	Short-term (1–2 years): Customer-driven collaboration is often expressed as an RFQ specifying the desired scope for collaboration, leading to collaboration with an agreed-upon scope and price	Established by defined structures and shared responsibilities that enable deeper collaboration within the boundaries of competitive regulation Contractual terms and conditions establishing boundaries of trust
Ecosystem	System-level development towards a mutually agreed-upon purpose that reflects the purpose of partner organizations	Long-term (3–5 years): System-level pilots that are ongoing take longer to develop as they require joint innovation and development. Hence, the time to value capture is longer.	Joint development of system-level solutions with higher levels of uncertainty calls for a higher level of trust.
Platform	System-level development towards a mutually agreed-upon purpose that may or may not reflect the intent of partner organizations	Platform development takes a long time, as it calls for the development of new business models, stakeholder roles and digital enablers	Contractual relationship fosters trust between the platform partners and enables collaboration and secure data sharing

Table 27 summarizes the building blocks of dynamic collaboration capability, identified as strategic purpose; the time from value creation to value capture; and trust in light of the findings from the EnergySampo case. In that case, the joint history of the key stakeholders and co-location in Vaasa, Finland, are powerful enablers for trust. The element of trust is fundamental as the partners are also competitors. Brandenburger and Nalebuff (2021) define this as coopetition, noting that besides active cooperation, wherein one embraces competitors in partnership to the benefit of all, there is coopetition where competing companies engage in partnerships as a more effective response to changed environmental threats and opportunities related to systemic problems. In the EnergySampo case, it is notable

that for any specific customer-oriented project where system sales occur, the competitive legislation restricts the cooperation between competitors, and trust is based on contractual agreements. Hence, network-driven structures are primarily driven by customer needs, which are often expressed as a Request for Quote (RFQ), where the potential system-level requirements define the structure of collaboration and respective partner relationships. With a focus on long-term solutions, the limitations of competition law do not apply to ecosystem structures; however, trust is even more important, as the structure is more open. Ecosystem collaboration involves EnergySampo partners as well as research actors and smaller companies and is focused on developing systemic solutions and their components, basic technologies, products, and operation models that the new systems require. The EnergySampo pilots (Tables 18 and 19) are examples of trust-based initiatives that enable development and serve as demonstrators for the technologies and solutions.

Considering the findings emerging from the theoretical discussions and case studies, the dynamic collaboration capability is, as stated, defined as the ability to structure inter-organizational multi-party collaboration dynamically, depending on the value focus. While strategic purpose is at the core of that capability, trust is an essential factor in enabling open collaboration, which is only possible if trust exists between the partner organizations and those working within them. This aligns with Teece et al.'s (1997) view, which posits that capability refers to configuring internal and external resources to create competitive advantages over time. Figure 19 illustrates the dynamic collaboration capability.

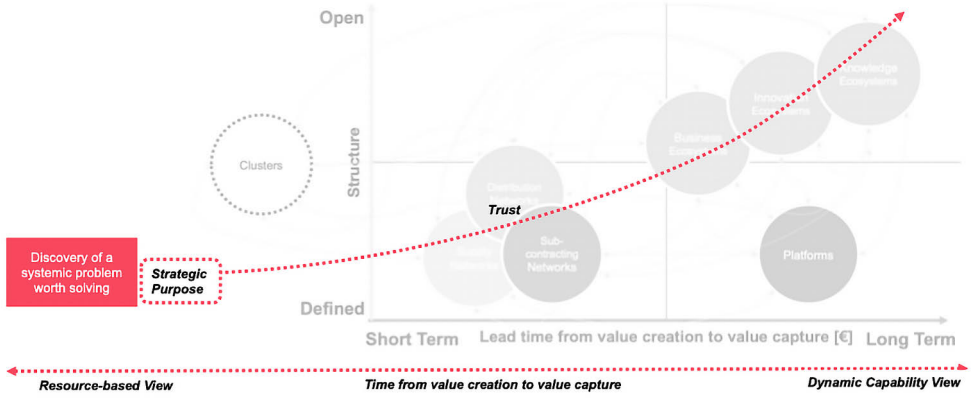

Figure 19: The dynamic collaboration capability framework.

In essence, the proposed dynamic collaboration capability framework is conceptually rooted in strategic management and organizational science. It implies that while individual partners are responsible for developing better technology components, inter-organizational multi-party collaboration structures exist to integrate and scale those solutions globally through network-like structures and develop entirely new solutions to systemic problems through ecosystem-like structures. Furthermore, this study proposes that once developed, trust enables evolution towards platforms and backwards to networks and clusters, as shown using the plausible decision-making logic illustrated in Figure 18 and described in Chapter 6.1.2.

The dynamic collaboration capability framework addresses the third research question by introducing new perspectives on structuring and managing inter-organizational multi-party collaboration.

- First, this thesis suggests that the essence of structuring and management lies in understanding that different structures serve different *strategic purposes*. It highlights the importance of clusters in fostering a shared history among diverse types of organizations. Furthermore, it suggests that more defined network-type structures are needed to respond to customer needs and requirements and notes the importance of trust developed through defined collaboration, which may pave the way for an ecosystem type inter-organizational multi-party collaboration that may or may not involve platform-type structures.
- Second, this thesis proposes that differentiating between the focus on value creation and value capture, and viewing how these evolve over time, helps distinguish between different structures and manage transitions between them. This differentiation is important from a management perspective, as cluster networks, ecosystems, and platforms require different management practices.
- Third, this thesis highlights the importance of trust as the key enabler binding the different actors engaged in the inter-organizational multi-party collaboration and focuses attention on the elements needed to build and reinforce trust.

Finally, all these leads to the suggestion that the dynamic collaboration capability is an important driver of the future success of any organization, as the systemic problems prevailing in today's business environment call for solutions that a single organization cannot create.

7 Discussion and conclusions

This thesis was triggered by the identified need to solve systemic problems that single organizations cannot solve alone (Calabrese et al. 2021; Ritala 2024), leading to the development of new frameworks to structure and manage the inter-organizational multi-party collaboration needed to solve those problems. This setting reflected important research gaps from the viewpoints of strategic management, organizational science, and the innovation and ecosystem literatures. To study this broad topic, this thesis proceeded through three cycles of engaged scholarship (Van de Ven 2017) as detailed in the previous chapters. This chapter summarizes the discussions related to the contributions of this thesis from the scientific and practical perspectives and introduces ideas for further research.

7.1 Contributions of this thesis

The research problem studied in this thesis was articulated as "How can inter-organizational multi-party collaboration be structured and managed to solve systemic problems?" To ensure novel insights into this broad and complex research problem, this thesis approached it from different viewpoints. The literature reviews focused on the strategic management, organizational science, innovation, and ecosystem literatures. They served as a basis for identifying research gaps and formulating the problem into researchable questions articulated as follows:

1. *How does strategic management change when solving systemic problems?*
2. *How can inter-organizational multi-party collaboration be structured?*
3. *How can inter-organizational multi-party collaboration be structured and managed?*

Formulating the research problem into these questions allowed it to be addressed in light of prior theory and empirical data. Methodologically, the engaged scholarship diamond model, illustrated in Figure 2 (Van de Ven 2017), enabled a systematic approach and helped the researcher stay focused amid an interdisciplinary research endeavour. Figure 3 (p. 20) illustrates the research process, describing the

sequence of theory building, research design, problem formulation, and problem-solving. The figure illustrates how the research proceeded and how the research questions were addressed along the three cycles of engaged scholarship, providing a detailed illustration of the interplay between different literatures and empirical data collection and analysis. Thus, it provides valuable insights into how the contributions of this research were developed.

Chapter 3, "Strategic Context", discusses the first research question: "How does strategic management change when solving systemic problems?" This broad research question originated from the strategy literature , noting an important change in the strategic discussion: The paradigm is changing from business being increasingly about "peace" rather than "war" (Nalebuff & Brandenburger 1997), meaning in an increasing number of contexts, the firm is no longer an independent strategic actor, but its success depends on collaboration with other firms (e.g., Adner 2017; Deken et al. 2018; Jacobides, Cennamo, & Gawer 2018). Theories of the firm were discussed first, as they helped to understand the changing paradigm in the light of availability of resources, structural decisions and the concept of value (Alvarez et al. 2020; Barney et al. 2021; Teece et al. 1997). Furthermore, different strategy concepts were reflected considering their applicability to provide direction for inter-organizational multi-party collaboration. As a result, this thesis suggests that while there seems to be a broad consensus about this paradigm shift, the strategic management discussion revolves around concepts such as mission, vision, purpose, and strategic intent (Alshameri et al. 2012; Bart et al. 2001; Braun et al. 2012) that are mainly considered from a single organization's perspective. On that note, answering the research question required an analysis of the strategy concepts and processes through which strategies are developed.

This thesis shifts the focus from a single organization to a focal value proposition, as Adner (2017) proposed, highlighting the importance of embracing diversity in strategic discussions. When multiple organizations join forces to solve systemic problems, the different partners' perceptions of how strategy is defined and manifests inherently differ. These differences influence the strategic discussion underpinning inter-organizational multi-party collaboration and require broader and more inclusive approach.

The first contribution to the strategic discussion relates to simplifying the conceptual field surrounding the way strategy is articulated. As a result of reviewing core strategy concepts of mission, vision, and purpose, then building on Hamel and Prahalad's (1994) concept of strategic intent, this thesis proposes 'strategic purpose' as a novel strategic concept that serves as a foundation of inter-organizational multi-party collaboration. Importantly, strategic purpose is not considered to replace the mission and vision statements of the individual organizations but to serve as the strategic foundation for inter-organizational multi-party collaboration and the unit of

analysis for defining structures for such collaboration, as discussed in the Chapter 4 "Collaboration Context". Second, this thesis examines the processes of collaborative strategizing (Clarke & Fuller 2010; Ritala & Tidström 2014) and builds upon Mintzberg's (1994, p. 12) thinking on strategy execution. This contribution relates to viewing collaborative strategizing as a continuous process where different organizations build more comprehensive view of their environment and related opportunities. Essentially, strategic purpose and the collaborative strategizing process contribute to the strategic management discussion outlined in Chapter 3, "Strategic Context", by simplifying the conceptual field related to strategy and illustrating the process through which collaborative strategizing unfolds, and by doing that answering the first research question.

In accordance with the engaged scholarship approach, these contributions were discussed with key stakeholders in September and October 2024. These discussions provided important insights into the practical application potential of using concepts/constructs related to strategic purpose and collaborative strategizing. Table 28 summarizes the stakeholder feedback regarding these concepts.

Table 28: Examples of stakeholder comments related to the concept of strategic purpose.

Concept	Examples of the stakeholder comments
Strategic Purpose	*"70% of what we do relates to renewable energy. We are aligned with the strategic purpose of EnergySampo. The same applies to the large corporations – they have their own strategy processes. If the outcome differs a lot from the purpose of collaboration, it just does not work."* *"Corporations want to keep their mission, vision, and purpose simple to articulate the direction to their employees. The purpose of collaboration works both ways and may have had an impact on the individual companies' strategies as well."* *"Articulating the strategic purpose is important but difficult, as each partner and internal division has their own interests."* *"A strategic purpose statement is important for articulating that what we do is for good; at the same time, it is good business. It is not greenwashing; it impacts our employees' and partners' behavior for real."* *"The strategic purpose included direction, differentiation, and drive that are very important for collaboration."* *"We use the term 'strategic rationale' in-house, but it is well aligned with purpose, incorporating elements of vision. It is also important to note that each division may view things differently so that I can speak on behalf of myself and my division."*

The stakeholder discussions formed an essential part of the engaged scholarship research process, ensuring transparency towards the research setting and key stakeholders. These discussions further enhanced our understanding of the strategic management concerning inter-organizational multi-party collaboration. First, there was broad acceptance of the framework of strategic purpose for individual

organizations and inter-organizational multi-party collaboration perspectives. It deserves mention that the EnergySampo and LUXTURRIM5G partners interviewed (n = 10) are senior leaders in their respective organizations and are familiar with the strategy concepts. The discussions with them revealed that although the strategic management field is thoroughly studied, there is still room for new frameworks that fit the era of inter-organizational multi-party collaboration (e.g., strategic purpose). Hence, this thesis can be said to fill the research gap related to the conceptual field surrounding strategic management, specifically in the context of inter-organizational multi-party collaboration.

Second, the importance of collaborative strategizing was broadly supported, with the notion that it takes time, involves a broader set of actors and benefits the collaborative entity as well as the partner organizations. Furthermore, some of the partners noted that the collaborative strategizing, as described in Figure 13, can be observed within corporate boundaries, involving multiple divisions. Furthermore, the interviewees noted that a broader understanding of the systemic problem they are solving together may lead to more effective organizational strategies. This significant finding stresses the importance of inter-organizational multi-party collaboration in strategic management. To conclude, this thesis confirms the benefits of collaborative strategizing and notes that although it takes time, it is a mutually beneficial learning process and encourages organizations to engage in collaborative strategizing in a systematic manner. Table 29 summarizes these findings, which the stakeholder comments reflect.

Table 29: Examples of stakeholder comments related to the collaborative strategizing process.

Process	Examples of stakeholder feedback
Collaborative Strategizing	*"In our case, it may be as much as 50% that is not realized. In terms of EnergySampo, we did not quite know what we were after. The process of collaborative strategizing has benefited us both ways. The strategic purpose of collaboration is clearer, but our own strategy has also evolved."* *"Combining individual companies' interests to solve a common problem is not easy. It calls for continuous discussion in light of the individual companies' strategies."* *"If the dialogue does not work, it is a showstopper."* *"This makes sense. We need more discussions to discover more pilots. Collaborative strategizing takes time; we are still in the early stage."* *"This discussion is not limited to EnergySampo; rather, it involves the entire energy cluster."* *"Collaborative strategizing is leading us towards broader collaboration. For example, the Hydrogen Valley is a great initiative, as there we are not competing but building broader opportunities together."* *"In LUXTURRIM5G, the collaborative strategizing was very important. We learned together, as we tried different things. Learning together was the key thing."*

Chapter 4, “Collaboration Context”, addressed the second research question: “How can inter-organizational multi-party collaboration be structured?” and contributes to the innovation and ecosystem literatures. It begins with a comprehensive review of the ecosystem literature and covers the related concepts. After the thorough literature review illustrated in Figure 11, this thesis proposes using the term “inter-organizational multi-party collaboration”, which refers to collaboration that extends beyond organizational boundaries and involves more than two partners. As a result of the interplay between theory and rich empirical data from the two case studies, this study proposes “archetypes of collaboration” as a novel framework for clarifying the ambiguity surrounding current parallel and overlapping concepts related to ecosystems, networks, platforms, and clusters (Möller and Halinen 2017; Aarikka-Stenroos and Ritala 2017; Autio and Thomas 2022). The proposed framework builds on the concept of strategic purpose, which is considered important in defining a structure as “open” or “defined”. Adner’s (2017) article, “Ecosystem as a Structure”, influences this thinking. Adner’s work also highlights the role of joint value proposition, which is observed in light of Castañer's and Oliveira's (2020) conceptual study of collaboration concepts, where they note the importance of temporal aspects. These were further developed to include the aspects of value creation and value capture (Adner 2017, Ben Letaifa 2014, Khademi 2020), which are considered important when making structural decisions. This discussion, related to value creation and value capture, may also be seen to reflect organizational ambidexterity, with a focus on exploration and exploitation (Andriopoulos and Lewis 2009; Boumgarden et al. 2012; Smith 2014), raising thoughts about different structures of inter-organizational multi-party collaboration in the broader strategic management discussion.

Again, the discussions with key stakeholders provided important empirical insights to the theoretical discussions. Table 30 summarizes the stakeholder feedback related to the framework of archetypes of collaboration. In general, the framework provided the needed conceptual clarity. Especially, in the EnergySampo case, the distinction between a cluster network and different types of ecosystems was considered helpful. Furthermore, the interviewees noted that several company-specific digital platforms were under development but stated that joint platform development was considered challenging. Some also noted the existence of product platforms, which were beyond the scope of this thesis.

Table 30: Examples of stakeholder comments related to the framework of "archetypes of collaboration".

Framework	Examples of the stakeholder feedback
Archetypes of collaboration	*"This is a logical way to articulate different types of collaboration. As far as platforms are concerned, companies have their own platforms. We have not managed to create a platform together."* *"We started with the broad spectrum, aiming at the joint business, but later understood that ecosystem collaboration is the new way of creating value. Platforms would speed up the development, but we are not there yet."* *"The model makes sense. It would be interesting to apply it considering multiple locations and our global presence."* *"The model is very logical. It helps us position ourselves as an ecosystem. Some of us are still in the bottom-left (networks)."* *"The bubbles are logically positioned, but the platform is somewhat problematic. Technical and product platforms differ from the broker-type of platform defined here."*

Chapter 5, "Towards Dynamic Collaboration Capability", presents two important contributions. It builds on the previously described frameworks and reflects them in light of the two case studies: the EnergySampo and LUXTURRIM5G cases. Starting from the resource-based view (Barney et al. 2021), this study tested the framework of the "archetypes of collaboration" with a series of questions that imply the decision-making logic leading to different structures of inter-organizational multi-party collaboration. This plausible decision-making logic highlighted that while the different structures included in the framework of archetypes of collaboration are logically positioned, these structures must evolve over time. This thinking pointed towards the dynamic capability view (Teece et al. 1997).

Autio and Thomas (2022), who introduced a heuristic to disambiguate types of ecosystems, inspired the plausible structuring logic. This thesis applies a similar logic to describe the evolution that begins with discovering a systemic problem and progresses towards different structures of inter-organizational multi-party collaboration, identified as cluster networks, ecosystems, and platforms. Observing how focus shifts over time suggests that different structures serve different strategic purposes. Moreover, it highlights that when the focus shifts from value creation to value capture, this can lead to more structured collaboration (platforms, networks, or own operations of individual companies) or towards clusters, as happened in the LUXTURRIM5G case.

Furthermore, drawing from the first quote in Table 31, a more comprehensive view of the different structures of inter-organizational multi-party collaboration might lead to broader discussions about identified problems and potential structures for solving those problems, not just dropping development ideas if there are no

resources in-house. As the stakeholder comments noted, the plausible decision-making logic might be extended to intra-company strategic management discussions in large global corporations with a portfolio of activities encompassing different structures of inter-organizational multi-party collaboration. Lastly, the expected timeframe and perceived risk level are also important considerations. This implies that having a portfolio of inter-organizational multi-party collaboration initiatives might be a way to reduce risk from an individual partner organization's perspective.

Table 31: Examples of stakeholder comments related to the plausible decision-making logic.

Process	Examples of stakeholder feedback
Decision-making logic	*"The logic is interesting. In our case, if we do not have resources in-house, we typically stop development right there."* *"The understanding of the starting point for development and the business environment matters. Development is different if you lack the capability to look beyond your own organization. Time needed for development, and the scope of collaboration are also interesting variables in this context."* *"As a company, we are present in all of these. We have an M&A agenda; we supply to different partners and collaborate with others. There is the additional global dimension to it; the view is different in different parts of the world."* *"The starting point. Is it a problem or an idea? In any case, this helps position different portfolios in terms of the risk and time needed to develop them further."* *"This process helps structure decisions. It fits the engineer's way of thinking."*

Drawing from three cycles of the engaged scholarship, the final contribution of this thesis, "dynamic collaboration capability framework", was constructed to answer the third research question: "How can inter-organizational multi-party collaboration be structured and managed?" The framework proposes that the capability to structure inter-organizational multi-party collaboration based on strategic purpose is a dynamic capability, spanning from value creation to value capture, with trust as a key dimension. These dimensions build on the findings in the previous chapters, highlighting the value and importance of a cross-disciplinary approach. The strategic management perspective is captured in the unit of analysis: strategic purpose. From the innovation and ecosystem management perspective, the framework of "archetypes of collaboration" highlights the importance of conceptual clarity, which is captured by noting the evolution of different structures based on their focus on value creation and value capture. Furthermore, the importance of trust (Blomqvist 1997; Blomqvist et al. 2005; Fulmer & Gelfand 2012; Brattström et al. 2019) emerged from the discussions with stakeholders. While most partners emphasized the importance of trust, they also acknowledged the difficulty of open

collaboration, where the lead time from value creation to value capture is lengthy, as noted in Table 24. From the strategic management and structuring perspectives, this implies that in solving systemic problems, being in the "defined" networks position in Figure 14's "archetypes of collaboration" may not always lead to the desired results and thus needs to be complemented with more open structures. However, benefiting from the more open ecosystem structures is seen to require the trust that evolves over time.

As far as the third research question related to structuring and managing is concerned, the mapping of different structures, as defined and open depending on their value focus, helped frame the discussions and actions. For example, the discussions concerning competition law in the EnergySampo case showed there are significant limitations related to the "network" type of structures, as these types of structures typically involve discussions about specific customers and solutions. Furthermore, noting an orchestrator's role in the EnergySampo and LUXTURRIM5G cases is important. In both cases, the orchestrator was mentioned as an important enabler of trust through the role of a "neutral" discussion partner mediating the interests of various stakeholders. Table 32 summarizes the examples of stakeholder feedback reflecting these topics.

Table 32: Examples of stakeholder comments related to the dynamic collaboration capability framework.

Framework	Examples of stakeholder feedback
Dynamic Collaboration Capability	*"Everything starts from trust. Trust is the foundation of collaboration, which creates value for everyone. A true win-win for all partners."* *"There are three different levels: Short-term and defined is where most of the companies are. The further in time (on the right), the harder it gets, as the uncertainty and risks are higher. This is a very good way of illustrating how it goes."* *"This is how it goes. A strategic purpose is needed to articulate a clear direction. We have been too much in the lower-left (defined-short-term). We need trust and openness to solve the complex systemic problems."* *"The legal aspect is important. When we talk about trust, we need to define our position in terms of competition law. The orchestrator role is important in the development actions that are further in the timeline (ecosystems), as there may be competition between different stakeholders."* *"We are in all positions at the same time, and we need to have the right level of (legal) paperwork. In ecosystems, we need to agree about the IPRs already when developing the solutions."* *"It is good to observe the time aspect and note the difference between value creation and value capture. We need to get more pilots in the pipeline, and that does not happen if we do not share ideas."* *"When looking at the ecosystem collaboration, leadership needs to be based on trust."*

From the practical perspective, the contributions of this thesis made sense to the stakeholders. The strategic purpose and importance of collaborative strategizing were noted to occur in the context of inter-organizational multi-party collaboration but were also seen as conceptually relevant within larger corporations and the broader stakeholder community. Differentiating between cluster networks, ecosystems, and platforms, as the framework of "archetypes of collaboration" suggested, was also found helpful in mapping different types of inter-organizational multi-party collaboration. In addition to the inter-organizational forms of collaboration, the global corporations saw potential value in using the framework to map their internal and external activities. In this case, the different "archetypes" were useful in mapping the activities in different locations and for potentially prioritizing these activities. Finally, considering the dynamic collaboration capability framework, the discussions noted the importance of strategic purpose and trust as drivers of structuring inter-organizational multi-party collaboration and for managing the expectations of the outcomes. Particularly, the focus on value, namely value creation and value capture along the different "archetypes", seemingly made sense and helped manage inter-organizational multi-party collaboration dynamically.

Figure 20 illustrates the research problem and the research questions, connecting them to the contributions of this study.

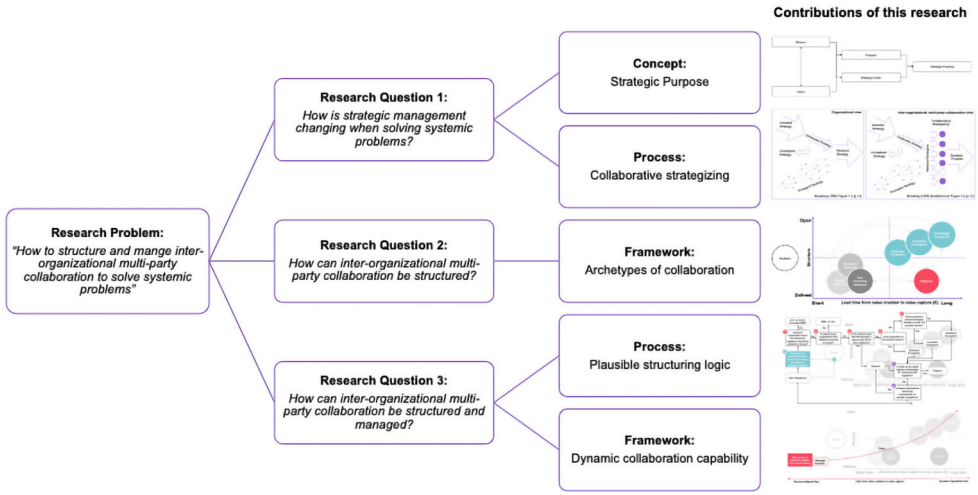

Figure 20: Research problem, research questions, and the contributions of this thesis.

This chapter summarizes the contributions of this research. The first contribution – the concept of strategic purpose – aimed to simplify the conceptual field of strategic management and organizational science, while embracing the diversity of different

organizations involved in inter-organizational multi-party collaboration. The second contribution further developed these theories by introducing novel insights into the collaborative strategizing process. The third contribution emerged from the ambiguity surrounding the concept of ecosystem, leading to the development of a framework of archetypes of collaboration to help reduce the ambiguity surrounding the different concepts of inter-organizational multi-party collaboration. Subsequently, the fourth contribution presents a plausible structuring logic as a series of questions, which highlight the dynamic nature of different structures in inter-organizational multi-party collaboration, leading to the final contribution's development: the dynamic collaboration capability framework.

Drawing from the contributions of this research summarized in this chapter, the following chapters suggest topics for further research from strategic management, organizational science, and ecosystem perspectives.

7.2 Suggestions for further research

Starting from the research problem and the research gap, the study of strategic management and organizational science is seemingly going through a paradigm shift from organization-centric to inter-organizational multi-party collaboration-centric (Jacobides 2019; Nalebuff & Brandenburger 1997). In today's business environment, with a focus on systemic problems, the strategic discussion is shifting from organization-focused to value proposition-focused (Adner 2017). This implies the need to better understand inter-organizational multi-party collaboration in its various forms while considering the motivations of different parties, thus opening opportunities for future research in exploring the concept of strategic purpose. Testing the acceptance of its applicability in replacing mission and vision statements in organizational and inter-organizational multi-party collaboration contexts would be particularly interesting. Unveiling further details about how the collaborative strategizing process unfolds in different types of organizations, particularly considering the cultural aspects, would also be interesting (Groysberg et al. 2018).

Organizing inter-organizational multi-party collaboration based on the strategic purpose of such collaboration and using structure and lead time from value creation to value capture provided a novel perspective on the topic. To further enhance our understanding of the dynamics, the value creation and value capture focus could also be explored from the perspective of organizational ambidexterity, where the exploration and exploitation often create tension (Andriopoulos and Lewis 2009).

Two case studies, both set in Finland, explored and validated the framework of "archetypes of collaboration". As inter-organizational multi-party collaboration likely presents itself differently in different geographical and cultural settings, the study of different national and international contexts would be of interest. Second,

while the partners in both cases presented different types of organizations, large multinational corporations, SMEs, and start-ups, seeing how the inter-organizational multi-party collaboration impacts the organizational structures of individual partner organizations would be interesting. Third, individual attitudes and behaviours, particularly given that all the stakeholders are male, the aspect of gender, or, more generally, diversity, would be an interesting topic for further research. This is particularly interesting as solving systemic problems calls for individuals from different backgrounds to work together.

The structuring logic that highlighted the dynamic nature of structuring for inter-organizational multi-party collaboration is highly conceptual, based on abductive thinking and considering the "most plausible scenarios". However, it would be of interest to observe how structuring decisions are made in real life through a more detailed study focusing on individual organizations and individuals, especially considering their emotions and the multifaceted concept of trust (Blomqvist 1997). Drawing from her findings, the cultural aspect of trust would also be of interest, considering the research took place in Finland and involved only Finns.

Finally, the framework of dynamic collaboration capability builds on the assumption that leaders make conscious choices when structuring inter-organizational multi-party collaboration and then manage it systematically. While the virtues of leading innovation have been studied before, along with the role of the orchestrator (Hurmelinna-Laukkanen & Nätti 2018), multiple viewpoints of management are related to the ecosystem emergence and evolution, which could be of interest for further study.

Overall, the topics addressed in this thesis open interesting domains for further study. Table 28 provides detailed examples of these, considering each contribution of this study: strategic purpose, the collaborative strategizing process, the framework of archetypes of collaboration, and the conceptual decision-making logic that leads to the concept of dynamic collaboration capability. Furthermore, noting from the LUXTURRIM5G case, it is interesting to note the changes in structure after the ecosystem collaboration ended. While no empirical evidence suggests the trust that enabled collaboration during the ecosystem's existence eroded after the collaboration formally ended, one might suspect the orchestrator role is a key enabler of that trust. Hence, the orchestrator's role along the life cycle of inter-organizational multi-party collaboration would be of interest. Table 33 summarizes some of the areas identified for further study.

Table 33: Contributions of this thesis and ideas for further research.

Contribution	Further research opportunities
Strategic Purpose	Considering the perceived paradigm shift in strategy, where it is becoming value proposition-centric rather than collaboration-centric, further exploring the motivations of different partner organizations would be interesting. Testing the acceptance of the strategic purpose as a concept that could replace the mission and vision statements and streamline the conceptual field by doing so is an interesting domain for further research.
Collaborative Strategizing	Considering the collaborative strategizing process, further exploring how it unfolds in different types of organizations would be interesting. As the multinational large corporations face the added complexity of aligning their strategy processes, it would be interesting to study these processes and discover if and how collaborative strategizing in inter-organizational multi-party collaboration is included in the individual organizations' contexts.
Archetypes of collaboration	Testing the applicability of the framework would be interesting, especially considering the following viewpoints: 1. The role of geographical and cultural understanding 2. The impact of inter-organizational multi-party collaboration on the organizational structures of the involved partners 3. The importance of individual behavior (i.e., gender and diversity)
Decision-making logic related to archetypes of collaboration	While the decision-making logic is highly conceptual, elaborating it in real-life situations to reflect managers' and leaders' attitudes and feelings would be interesting when making the structuring decisions. Studying the behavioral aspects and emotions along the process would be an area of particular interest.
Dynamic Collaboration Capability	The dynamic collaboration capability framework, which emerged as an outcome of engaged scholarship, has not been formally tested or applied in real life. Considering the framework's conceptual nature, it calls for further exploration involving the organizational and individual aspects related to dimensions of strategic purpose, time, and trust. Furthermore, the orchestrator role would be interesting to explore, particularly from the perspective of enabling trust.

While this thesis contributes to the strategic management, organizational science, and ecosystem literature, considering the resource-based and dynamic capability views, the paradigm shift also provides a rich opportunity for other scientific traditions. For example, adopting the transactional costs perspective would most likely result in interesting research on accounting for the value created and captured in inter-organizational multi-party collaboration. Furthermore, transitioning from qualitative to quantitative methodologies may open up entirely new directions for further understanding the relationship dynamics and related causalities.

7.3 Practical implications

This research occurred from 2020 to 2025. The five-year period involved continuous engagement with practitioners in the case companies and a broader set of stakeholders in Finland, as well as internationally. Considering engaged scholarship as an overarching methodology, its strengths lie in the opportunity to study complex problems in their real-life settings. The value of this thesis lies in its ability to fill the identified significant research gap to better understand the structuring and management of inter-organizational multi-party collaboration to solve systemic problems. It proposes that structuring inter-organizational multi-party collaboration is a dynamic capability that brings new dimensions to the management discussion related to such collaboration. The outcomes are considered particularly valuable for large organizations that engage in partnerships at multiple levels. Considering the key stakeholders were senior leaders from large global corporations and smaller companies, and the outcomes were validated with them, implies significant potential for applying the outcomes in real-life situations.

Strategic purpose has significant potential for closing the gap between strategy formulation and execution by simplifying the conceptual field related to different organizational settings that are part of the inter-organizational multi-party collaboration context. In turn, collaborative strategizing benefits the partner organizations by providing them a validation point related to their own strategy and potentially clarifying their strategic focus through dialogue with partners. Furthermore, as the empirical findings in both case studies imply, collaborative strategizing may lead to a better understanding of the systemic problem being solved. These diverse viewpoints may support partner organizations' strategy processes and even result in better strategies in the individual partner organizations.

The partner organizations found the "archetypes of collaboration" particularly helpful. Clear positioning of different types of inter-organizational multi-party collaboration implies different managerial traits and behaviours that can be more consciously applied. Furthermore, recognizing the differences between different structures of inter-organizational multi-party collaboration may help organizations better manage their product, solution, and innovation portfolios. In a similar vein, the plausible structuring logic increased clarity in the structuring innovation process as its own R&D, M&A, and different forms of inter-organizational multi-party collaboration, or even helped develop innovations that would otherwise be dropped out of the development funnel. Furthermore, the learning aspect of dynamic collaboration capability is important. It implies that the informal co-location in clusters and the more structured collaboration in networks develop trust, fueling the ecosystem collaboration needed to deliver more complex value propositions and solve systemic problems. Furthermore, building on strategic purpose and applying the value creation–value capture logic along the development lifecycle may help

deliberately manage transitions between different structures over time, ensuring strategic management of innovation portfolios and managing expectations related to inter-organizational multi-party collaboration. Considering the transitions from value creation to value capture, the potential for platforms was recognized but noted to be organization centric. However, identifying them in this context may pave the way to inter-organizational multi-party collaboration and joint platforms. Table 34 lists the potential practical implications related to each contribution.

Table 34: Potential practical implications of this thesis.

Contribution	Practical implications of this study
Strategic Purpose	Strategic purpose has significant potential for simplifying the conceptual field related to strategic management, as it accommodates the different views of diverse organizations involved in inter-organizational multi-party collaboration.
Collaborative Strategizing	Collaborative strategizing focuses attention on systemic problems and enhances clarity of the scope and objectives of the inter-organizational multi-party collaboration. Furthermore, it may benefit partner organizations by providing more diverse views of the systemic problems they are solving, potentially clarifying their strategic focus.
Archetypes of collaboration	The “archetypes of collaboration” were found particularly helpful by the partner organizations. Its practical implications are potentially many. The clear positioning of different structures of inter-organizational multi-party collaboration implies different managerial traits and behaviors that can be more consciously applied. Furthermore, recognizing the differences between different forms of inter-organizational multi-party collaboration may help companies better manage their product, solution, and innovation portfolios, ensuring organizational ambidexterity.
Plausible structuring logic	The logical process increased clarity in the structuring innovation process as own R&D, M&A, and different forms of inter-organizational multi-party collaboration. Furthermore, applying the value creation–value capture logic along the development lifecycle may help deliberately change structures over time, ensuring strategic management of innovation portfolios.
Dynamic Collaboration Capability	The dynamic collaboration capability and its dimensions, strategic purpose, time from value creation to value capture, and trust were considered important. Considering the study’s objective, paying attention to these dimensions may be a key focus to ensure long-term competitiveness for a broader set of actors. The logical positioning of different inter-organizational multi-party collaboration implies that more informal collaboration in clusters and structured collaboration in networks pave the way to ecosystem collaboration needed to solve systemic problems. The value creation–value capture logic helps understand the role of platforms, which, in this study, were more organization-centric.

7.4 Final remarks

The importance of this thesis lies in its contributions that enhance our ability to harness the "power of we" in solving systemic problems of significant societal and economic importance. It argues that the strategic paradigm is shifting from organization-centric to collaboration-centric, and that collaboration often involves multiple diverse organizations. Framing business as peace instead of war suggests that the ability to structure and manage this inter-organizational multi-party collaboration is a dynamic capability that can help companies of different sizes and public organizations work together.

This study predicts that strategic innovation management will be about simultaneously managing cooperation and competition by building dynamic collaboration capability based on strategic purpose, trust, and time from value creation to value capture. Developing dynamic collaboration capability involves structuring inter-organizational multi-party collaboration based on strategic purpose and deliberately managing transitions between different structures as systemic solutions evolve over time.

From the theoretical perspective, the frameworks introduced in this thesis provide valuable insights into the body of strategic management, organizational science, and innovation and ecosystem literatures, and open interesting areas for future research. From the practical management and leadership perspectives, it can help managers and leaders focus on their strategic purpose, thus engaging the hearts and minds of people and organizations to solve systemic problems together. The collaborative strategizing, as seen in the EnergySampo and LUXTURRIM5G cases, can help better understand the changing strategic context and support strategy processes within individual organizations, resulting not only in better collaborative strategies but improved the quality of strategies within these organizations. Above all, the contributions of this research can help manage expectations of different organizations, structure inter-organizational multi-party collaboration to meet those expectations, and better manage portfolios of such collaboration, ensuring efficient use of resources and development of the dynamic capabilities needed in today's business environment by harnessing the "power of we".

References

Aaldering, Lukas Jan, Jens Leker, and Chie Hoon Song. 2018. "Analyzing the Impact of Industry Sectors on the Composition of Business Ecosystem: A Combined Approach Using ARM and DEMATEL." *Expert Systems with Applications* 100 (June):17–29.

Aarikka-Stenroos, Leena, and Elina Jaakkola. 2012. "Value Co-Creation in Knowledge Intensive Business Services: A Dyadic Perspective on the Joint Problem Solving Process." *Industrial Marketing Management* 41 (1): 15–26.

Aarikka-Stenroos, Leena, and Tuula Lehtimäki. 2014. "Commercializing a Radical Innovation: Probing the Way to the Market." *Industrial Marketing Management* 43 (8): 1372–84.

Aarikka-Stenroos, Leena, and Paavo Ritala. 2017. "Network Management in the Era of Ecosystems: Systematic Review and Management Framework." *Industrial Marketing Management* 67 (November):23–36.

Aarikka-Stenroos, Leena, and Birgitta Sandberg. 2012. "From New-Product Development to Commercialization through Networks." *Journal of Business Research* 65 (2): 198–206.

Aarikka-Stenroos, Leena, Birgitta Sandberg, and Tuula Lehtimäki. 2014. "Networks for the Commercialization of Innovations: A Review of How Divergent Network Actors Contribute." *Industrial Marketing Management* 43 (3): 365–81.

Abbate, Tindara, Anna Codini, Barbara Aquilani, and Demetris Vrontis. 2022. "From Knowledge Ecosystems to Capabilities Ecosystems: When Open Innovation Digital Platforms Lead to Value Co-Creation." *Journal of the Knowledge Economy* 13 (1):

Abdelmoneim Mohamed, Abeer, and Tracy Jones. 2014. "Relationship between Strategic Management Accounting Techniques and Profitability – a Proposed Model." *Measuring Business Excellence* 18 (3): 1–22.

Adner, Ron. 2017. "Ecosystem as Structure: An Actionable Construct for Strategy." *Journal of Management* 43 (1): 39–58.

Ahuja, Gautam, and Elena Novelli. 2017. "Activity Overinvestment: The Case of R&D." *Journal of Management* 43 (8): 2456–68.

Ahvenniemi, Hannele, Joni Turunen, Pekka Torvinen, Markku Heino, Ville Kotovirta, Pekka Wainio, and Juha Salmelin. n.d. "How to Design a Smart and Sustainable City? LuxTurrim5G Solution."

Alshameri, Faleh, G. Robert Greene, and Mukesh Srivastava. 2012. "Categorizing Top Fortune Company Mission And Vision Statements Via Text Mining." *International Journal of Management & Information Systems (IJMIS)* 16 (3): 227.

Alvarez, Sharon A., Udo Zander, Jay B. Barney, and Allan Afuah. 2020. "Developing a Theory of the Firm for the 21st Century." *Academy of Management Review* 45 (4): 711–16.

Andriopoulos, Constantine, and Marianne W. Lewis. 2009. "Exploitation-Exploration Tensions and Organizational Ambidexterity: Managing Paradoxes of Innovation." *Organization Science* 20 (4): 696–717.

Autio, Erkko, Satish Nambisan, Llewellyn D. W. Thomas, and Mike Wright. 2018. "Digital Affordances, Spatial Affordances, and the Genesis of Entrepreneurial Ecosystems." *Strategic Entrepreneurship Journal* 12 (1): 72–95. https://doi.org/10.1002/sej.1266.

Autio, Erkko, and Llewellyn D.W. Thomas. 2022. “Researching Ecosystems in Innovation Contexts.” *Innovation & Management Review* 19 (1): 12–25.

Bacon, Emily, Michael D. Williams, and Gareth Davies. 2020. “Coopetition in Innovation Ecosystems: A Comparative Analysis of Knowledge Transfer Configurations.” *Journal of Business Research* 115 (July):307–16.

Baldwin, Carliss Y. n.d. “Organization Design for Business Ecosystems.”

Barnett, William P., and Robert A. Burgelman. 2007. “Evolutionary Perspectives on Strategy.” *Strategic Management Journal* 17 (S1): 5–19.

Barnett, William P., and Morten T. Hansen. 2007. “The Red Queen in Organizational Evolution.” *Strategic Management Journal* 17 (S1): 139–57.

Barney, Jay B. 2001. “IS THE RESOURCE-BASED ‘VIEW’ A USEFUL PERSPECTIVE FOR STRATEGIC MANAGEMENT RESEARCH? YES.” *Academy of Management Review*.

Barney, Jay B., David J. Ketchen, and Mike Wright. 2021. “Bold Voices and New Opportunities: An Expanded Research Agenda for the Resource-Based View.” *Journal of Management* 47 (7): 1677–83.

Barney, Jay, Mike Wright, and David J Ketchen. 2001. “The Resource-Based View of the Firm: Ten Years after 1991.” *Journal of Management*.

Barreto, Ilídio. 2010. “Dynamic Capabilities: A Review of Past Research and an Agenda for the Future.” *Journal of Management* 36 (1): 256–80.

Bart, Christopher K., Nick Bontis, and Simon Taggar. 2001. “A Model of the Impact of Mission Statements on Firm Performance.” *Management Decision* 39 (1): 19–35.

Bartkus, Barbara, Myron Glassman, and R Bruce McAfee. 2000. “Mission Statements: Are They Smoke and Mirrors?” *Business Horizons* 43 (6): 23–28.

Ben Letaifa, Soumaya. 2014. “The Uneasy Transition from Supply Chains to Ecosystems: The Value-Creation/Value-Capture Dilemma.” *Management Decision* 52 (2): 278–95.

Birkinshaw, Julian, Nicolai J Foss, and Siegwart Lindenberg. n.d. “Combining Purpose With Profits.”

Blomqvist, Kirsimarja. 1997. “The Many Faces of Trust.” *Scandinavian Journal of Management* 13 (3): 271–86.

Blomqvist, Kirsimarja, Pia Hurmelinna, and Risto Seppänen. 2005. “Playing the Collaboration Game Right—Balancing Trust and Contracting.” *Technovation* 25 (5): 497–504.

Bouncken, Ricarda B., Viktor Fredrich, Paavo Ritala, and Sascha Kraus. 2018. “Coopetition in New Product Development Alliances: Advantages and Tensions for Incremental and Radical Innovation: Coopetition in New Product Development.” *British Journal of Management* 29 (3): 391–410.

Bovaird, Tony. 2004. “Public–Private Partnerships: From Contested Concepts to Prevalent Practice.” *International Review of Administrative Sciences* 70 (2): 199–215.

Bowen, Shannon A. 2018. “Mission and Vision.” In *The International Encyclopedia of Strategic Communication*, by Robert L Heath and Winni Johansen, 1st ed., 1–9. Wiley.

Brandenburger, Adam, and Barry Nalebuff. 2021. “The Rules of Co-Opetition.” Harvard Business Review, January-February 2021

Braun, Susanne, Jenny S Wesche, Dieter Frey, Silke Weisweiler, and Claudia Peus. 2012. “Effectiveness of Mission Statements in Organizations – A Review.” *Journal of Management & Organization* 18 (4): 430–44.

Burgelman, Robert A., Yuliya Snihur, and Llewellyn D. W. Thomas. 2022. “Why Multibusiness Corporations Split: CEO Strategizing as the Ecosystem Evolves.” *Journal of Management* 48 (7): 2108–51.

Burström, Thommie, Sören Kock, and Joakim Wincent. 2022. “Coopetition – Strategy and Interorganizational Transformation: Platform, Innovation Barriers, and Coopetitive Dynamics.” *Industrial Marketing Management* 104 (July):101–15.

Calabrese, Mario, Antonio La Sala, Ryan Patrick Fuller, and Antonio Laudando. 2021. "Digital Platform Ecosystems for Sustainable Innovation: Toward a New Meta-Organizational Model?" *Administrative Sciences* 11 (4): 119.

Campbell, Andrew, and Sally Yeung. 1991. "Brief Case: Mission, Vision and Strategic Intent." *Long Range Planning* 24 (4): 145–47.

Casper, Steven. 2007. "How Do Technology Clusters Emerge and Become Sustainable?" *Research Policy* 36 (4): 438–55.

Castañer, Xavier, and Nuno Oliveira. 2020. "Collaboration, Coordination, and Cooperation Among Organizations: Establishing the Distinctive Meanings of These Terms Through a Systematic Literature Review." *Journal of Management* 46 (6): 965–1001.

Cennamo, Carmelo. 2018. "Building the Value of Next-Generation Platforms: The Paradox of Diminishing Returns." *Journal of Management* 44 (8): 3038–69.

Cennamo, Carmelo, and Juan Santalo. 2013. "Platform Competition: Strategic Trade-Offs in Platform Markets: Platform Competition." *Strategic Management Journal* 34 (11): 1331–50.

Cennamo, Carmelo, and Juan Santaló. 2019. "Generativity Tension and Value Creation in Platform Ecosystems." *Organization Science* 30 (3): 617–41.

Chen, Liang, Jingtao Yi, Sali Li, and Tony W. Tong. 2022. "Platform Governance Design in Platform Ecosystems: Implications for Complementors' Multihoming Decision." *Journal of Management* 48 (3): 630–56.

Chen, Ping-Chuan, and Shiu-Wan Hung. 2016. "An Actor-Network Perspective on Evaluating the R&D Linking Efficiency of Innovation Ecosystems." *Technological Forecasting and Social Change* 112 (November):303–12.

Chen, Yan, Jack I. Richter, and Pankaj C. Patel. 2021. "Decentralized Governance of Digital Platforms." *Journal of Management* 47 (5): 1305–37.

Chesbrough, Henry W., and Melissa M. Appleyard. 2007. "Open Innovation and Strategy." *California Management Review* 50 (1): 57–76.

Clarke, Amelia, and Mark Fuller. 2010. "Collaborative Strategic Management: Strategy Formulation and Implementation by Multi-Organizational Cross-Sector Social Partnerships." *Journal of Business Ethics* 94 (S1): 85–101.

Clarysse, Bart, Mike Wright, Johan Bruneel, and Aarti Mahajan. 2014. "Creating Value in Ecosystems: Crossing the Chasm between Knowledge and Business Ecosystems." *Research Policy* 43 (7): 1164–76.

Clauss, Thomas, and Paavo Ritala. 2023. "Network Governance Institutionalization: Creating Mutual Value by Harnessing and Avoiding Conflicts in Interorganizational Networks." *Journal of Business Research* 163 (August):113880.

Dameri, Renata Paola, and Paola Demartini. 2020. "Knowledge Transfer and Translation in Cultural Ecosystems." *Management Decision* 58 (9): 1885–1907.

Deken, Fleur, Hans Berends, Gerda Gemser, and Kristina Lauche. 2018. "Strategizing and the Initiation of Interorganizational Collaboration through Prospective Resourcing." *Academy of Management Journal* 61 (5): 1920–50.

Delgado, M., M. E. Porter, and S. Stern. 2010. "Clusters and Entrepreneurship." *Journal of Economic Geography* 10 (4): 495–518. https://doi.org/10.1093/jeg/lbq010.

Delgado, Mercedes, Michael E. Porter, and Scott Stern. 2014. "Clusters, Convergence, and Economic Performance." *Research Policy* 43 (10): 1785–99.

Delgado, Mercedes, Michael E. Porter, and Scott Stern. 2016. "Defining Clusters of Related Industries." *Journal of Economic Geography* 16 (1): 1–38.

Denney, Steven, Travis Southin, and David A. Wolfe. 2021. "Entrepreneurs and Cluster Evolution: The Transformation of Toronto's ICT Cluster." *Regional Studies* 55 (2): 196–207.

Drucker, Peter F. 1994. "The Theory of the Business."

Easter, Sarah, Kim Ceulemans, and Dara Kelly. 2021. "Bridging Research-Practice Tensions: Exploring Day-to-Day Engaged Scholarship Investigating Sustainable Development Challenges." *European Management Review* 18 (2): 9–23.

Eisenhardt, Kathleen M. 2024. "Building Theories from Case Study Research." The Academy of Management Review, Oct., 1989, Vol. 14, No. 4 (Oct., 1989), pp. 532-550

Eriksson, P., & Kovalainen, A. (2016). Qualitative Methods in business research, 2nd ed., London: SAGE Publications Ltd.

Feger, Clément, and Laurent Mermet. 2017. "A Blueprint towards Accounting for the Management of Ecosystems." *Accounting, Auditing & Accountability Journal* 30 (7): 1511–36.

Fombrun, Charles, and W. Graham Astley. 1983. "BEYOND CORPORATE STRATEGY." *Journal of Business Strategy* 3 (4): 47–54. https://doi.org/10.1108/eb038989.

Graça, Paula, and Luís M. Camarinha-Matos. 2017. "Performance Indicators for Collaborative Business Ecosystems — Literature Review and Trends." *Technological Forecasting and Social Change* 116 (March):237–55.

Granstrand, Ove, and Marcus Holgersson. 2020. "Innovation Ecosystems: A Conceptual Review and a New Definition." *Technovation* 90–91 (February):102098.

Groysberg, Boris, Jeremiah Lee, Jesse Price, and J Yo-Jud Cheng. 2018. "HOW TO MANAGE THE EIGHT CRITICAL ELEMENTS OF ORGANIZATIONAL LIFE." HARVARD BUSINESS REVIEW JANUARY–FEBRUARY 2018

Gulati, Ranjay. 2022. "The Messy but Essential Pursuit of Purpose." Harvard Business Review March–April 2022

Gulati, Ranjay, Phanish Puranam, and Michael Tushman. 2012. "Meta-Organization Design: Rethinking Design in Interorganizational and Community Contexts." *Strategic Management Journal* 33 (6): 571–86.

Gupta, Anushri, Panos Panagiotopoulos, and Frances Bowen. 2020. "An Orchestration Approach to Smart City Data Ecosystems." *Technological Forecasting and Social Change* 153 (April):119929.

Hautz, Julia, David Seidl, and Richard Whittington. 2017. "Open Strategy: Dimensions, Dilemmas, Dynamics." *Long Range Planning* 50 (3): 298–309.

He, Yongqing, Bo Zou, Jieyi Pan, and Zhenxing Bu. 2023. "How Can Traditional Service Enterprises Achieve Platform Innovation? – An Exploratory Longitudinal Case Study." *Nankai Business Review International* 14 (1): 51–76.

Heino, Markku, Pekka Wainio, and Juha Salmelin. 2022. "LuxTurrim5G – Building the Digital Backbone for a Smart City."

Hellström, Magnus, Anastasia Tsvetkova, Magnus Gustafsson, and Kim Wikström. 2015. "Collaboration Mechanisms for Business Models in Distributed Energy Ecosystems." *Journal of Cleaner Production* 102 (September):226–36.

Hurmelinna-Laukkanen, Pia, and Satu Nätti. 2018. "Orchestrator Types, Roles and Capabilities – A Framework for Innovation Networks." *Industrial Marketing Management* 74 (October):65–78.

Huxham, Chris. 2025. "Pursuing Collaborative Advantage" The Journal of the Operational Research Society, Jun., 1993, Vol. 44, No. 6, Interface between OR and the Social Sciences (Jun., 1993), pp. 599-611.

Ihrig, Martin, and Ian C MacMillan. 2017. "How To Get Ecosystem Buy-In." *HARVARD BUSINESS REVIEW*, March-April 2017

Jacobides, Michael G. 2019. "The Delicate Balance of Making an Ecosystem Strategy Work." Harvard Business Review, November 2019

Jacobides, Michael G. 2019. "In the Ecosystem Economy, What's Your Strategy?" Harvard Business Review, September-October 2019

Jacobides, Michael G., Carmelo Cennamo, and Annabelle Gawer. 2018. "Towards a Theory of Ecosystems." *Strategic Management Journal* 39 (8): 2255–76.

Jucevičius, Giedrius, and Kristina Grumadaitė. 2014. "Smart Development of Innovation Ecosystem." *Procedia - Social and Behavioral Sciences* 156 (November):125–29.

Kantabutra, Sooksan, and Gayle C. Avery. 2010. “The Power of Vision: Statements That Resonate.” *Journal of Business Strategy* 31 (1): 37–45.

Keskinen Simo 2017, Synergiailmiöiden tutkimuksellinen perusta – tutkimuskenttänä energia-ala ja teolliset yritykset, University of Vaasa

Kerr, William R., and Frederic Robert-Nicoud. 2020. “Tech Clusters.” *Journal of Economic Perspectives* 34 (3): 50–76.

Khademi, Behrooz. 2020. “Ecosystem Value Creation and Capture: A Systematic Review of Literature and Potential Research Opportunities.” *Technology Innovation Management Review* 10 (1): 16–34.

Kola Sari, Koivukoski Ulla, Koponen Laura, Heino Markku 2020, Ecosystem Handbook, Alma Talent

Kola Sari 2021, Open Innovation: Understanding value creation in ecosystems, networks and platforms, Conference paper R&D Management Conference July 2021

Kola Sari 2022 Emerging ecosystem in the mobile industry: Case LUXTURRIM5G, Conference paper R&D Management Conference July 2022

Kola Sari, Kekäle Tauno 2023 Strategic Innovation Management: Developing Dynamic Collaboration Capability, Conference paper R&D Management Conference June 2023

Kola Sari, Tukiainen Taina 2024 Innovation Ecosystem’s Hidden path to Value Capture, Conference paper R&D Management Conference June 2024

Kola-Nyström Sari 2005 IN SEARCH OF CORPORATE RENEWAL: How to Benefit from Corporate Venturing? Lappeenranta University of Technology

Kretschmer, Tobias, Aija Leiponen, Melissa Schilling, and Gurneeta Vasudeva. 2022. “Platform Ecosystems as Meta-organizations: Implications for Platform Strategies.” *Strategic Management Journal* 43 (3): 405–24.

Lähteenmäki, Jarno, and Juuso Töyli. 2023. “Platform Based Innovation Ecosystems: Value Network Configuration Perspective.” *Journal of Innovation Management* 11 (1): 68–

Langley, Ann, Clive Smallman, Haridimos Tsoukas, and Andrew H. Van De Ven. 2013. “Process Studies of Change in Organization and Management: Unveiling Temporality, Activity, and Flow.” *Academy of Management Journal* 56 (1): 1–13.

Lee, Kyoungsun, Yuri Park, and Daeho Lee. 2018. “Measuring Efficiency and ICT Ecosystem Impact: Hardware vs. Software Industry.” *Telecommunications Policy* 42 (2): 107–15.

Martin, Dick. 2014. “The Power of Purpose.” *Journal of Business Strategy* 35 (3): 55–58.

McIntosh, Jessa. 2010. “Linking Organizational Pride to Purpose.” *Employment Relations Today* 37 (2): 39–45.

McKeown, Greg. 2012. “If I Read One More Platitude-Filled Mission Statement, I’ll Scream.” Harvard Business Review, October 2012

Mintzberg, Henry, Ahlstrand, Bruce W., Lampel, Joseph: Strategy Safari, A Guided Tour Through the Wilds of Strategic Management, The Free Press, New York, 1998

Möller, Kristian, and Aino Halinen. 2017. “Managing Business and Innovation Networks—From Strategic Nets to Business Fields and Ecosystems.” *Industrial Marketing Management* 67 (November):5–22.

Nalebuff, Barry J., and Adam M. Brandenburger. 1997. “Co-opetition: Competitive and Cooperative Business Strategies for the Digital Economy.” *Strategy & Leadership* 25 (6): 28–33.

Nambisan, Satish, Shaker A. Zahra, and Yadong Luo. 2019. “Global Platforms and Ecosystems: Implications for International Business Theories.” *Journal of International Business Studies* 50 (9): 1464–86.

OECD/UNDP (2025a), Investing in Climate for Growth and Development: The Case for Enhanced NDCs, OECD Publishing, Paris, https://doi.org/10.1787/16b7cbc7-en.

OECD (2025b), OECD Economic Outlook, Volume 2025 Issue 1: Tackling Uncertainty, Reviving Growth, OECD Publishing, Paris, https://doi.org/10.1787/83363382-en.

Oh, Deog-Seong, Fred Phillips, Sehee Park, and Eunghyun Lee. 2016. “Innovation Ecosystems: A Critical Examination.” *Technovation* 54 (August):1–6.

Osterwalder, Alexander, Tendayi Viki, and Yves Pigneur. 2019. "Why Your Organization Needs an Innovation Ecosystem." Harvard Business Review, October 2019

Ozalp, Hakan, Carmelo Cennamo, and Annabelle Gawer. 2018. "Disruption in Platform-Based Ecosystems." *Journal of Management Studies* 55 (7): 1203–41.

Planko, Julia, Maryse M.H. Chappin, Jacqueline Cramer, and Marko P. Hekkert. 2019. "Coping with Coopetition — Facing Dilemmas in Cooperation for Sustainable Development: The Case of the Dutch Smart Grid Industry." *Business Strategy and the Environment* 28 (5): 665–74.

Planko, Julia, Maryse M.H. Chappin, Jacqueline M. Cramer, and Marko P. Hekkert. 2017. "Managing Strategic System-Building Networks in Emerging Business Fields: A Case Study of the Dutch Smart Grid Sector." *Industrial Marketing Management* 67 (November):37–51.

Porter, Michael E. 1991. "Towards a Dynamic Theory of Strategy." *Strategic Management Journal* 12 (S2): 95–117.

Porter, Michael E. 2000. "Location, Competition, and Economic Development: Local Clusters in a Global Economy." *Economic Development Quarterly* 14 (1): 15–34.

Porter, Michael E. 1990. "The Competitive Advantage of Nations." Harvard Business Review, March-April 1990

Porter, Michael E, and James E Heppelmann. 2015. "How Smart, Connected Products Are Transforming Companies." Harvard Business Review, October 2015

Porter, Michael, and Nicolaj Siggelkow. 2008. "Contextuality Within Activity Systems and Sustainability of Competitive Advantage." *Academy of Management Perspectives* 22 (2): 34–56.

Prahalad, C K. Hamel Gary 1989, Strategic Intent, Harvard Business Review, 1989-05, Vol.67 (3), p.63-76

Prahalad, C K. Hamel Gary 1994. "Strategy as a Field of Study: Why Search for a New Paradigm?" Strategic Management Journal, vol 15, 5-16

Rainey, Larissa. 2014. "The Search for Purpose in Life: An Exploration of Purpose, the Search Process, and Purpose Anxiety." Master of Applied Positive Psychology (MAPP) Capstone Projects. 60.

Rietveld, Joost, and Melissa A Schilling. 2020. "Platform Competition: A Systematic and Interdisciplinary Review of the Literature." Journal of management, 2021-07, Vol.47 (6), p.1528-1563

Ritala, Paavo. 2012. "Coopetition Strategy – When Is It Successful? Empirical Evidence on Innovation and Market Performance." *British Journal of Management* 23 (3): 307–24.

Ritala, Paavo. 2024. "Grand Challenges and Platform Ecosystems: Scaling Solutions for Wicked Ecological and Societal Problems." *Journal of Product Innovation Management* 41 (2): 168–83.

Ritala, Paavo, and Argyro Almpanopoulou. 2017. "In Defense of 'Eco' in Innovation Ecosystem." *Technovation* 60–61 (February):39–42.

Ritala, Paavo, and Annika Tidström. 2014. "Untangling the Value-Creation and Value-Appropriation Elements of Coopetition Strategy: A Longitudinal Analysis on the Firm and Relational Levels." *Scandinavian Journal of Management* 30 (4): 498–515.

Schreieck, Maximilian, Manuel Wiesche, and Helmut Krcmar. 2021. "Capabilities for Value Co-Creation and Value Capture in Emergent Platform Ecosystems: A Longitudinal Case Study of SAP's Cloud Platform." *Journal of Information Technology* 36 (4): 365–90.

Scott, Richard W., Organizations, Rational, Natural and Open Systems, 5th Edition, Prentice Hall, 2003

Sidhu, Jatinder. 2003. "Mission Statements:" *European Management Journal* 21 (4): 439–46.

Slintak, Karel, and Jan Dvorsky. 2019. "Montenegrin Journal of Economics." *Montenegrin Journal of Economics* 15 (2).

Speldekamp, Daniël, Ayse Saka-Helmhout, and Joris Knoben. 2020. "Reconciling Perspectives on Clusters: An Integrative Review and Research Agenda." *International Journal of Management Reviews* 22 (1): 75–98.

Straub, Richard. 2019. "What Management Needs to Become in an Era of Ecosystems." Harvard Business Review, June 2019

Teece, David J. 2010. “Business Models, Business Strategy and Innovation.” *Long Range Planning* 43 (2–3): 172–94.

Teece, David J. 2016. “Dynamic Capabilities and Entrepreneurial Management in Large Organizations: Toward a Theory of the (Entrepreneurial) Firm.” *European Economic Review* 86 (July):202–16.

Teece, David J. 2018. “Business Models and Dynamic Capabilities.” *Long Range Planning* 51 (1): 40–49. https://doi.org/10.1016/j.lrp.2017.06.007.

Teece, David J., Gary Pisano, and Amy Shuen. 1997. “Dynamic Capabilities and Strategic Management.” *Strategic Management Journal* 18 (7): 509–33.

Teece, David, Margaret Peteraf, and Sohvi Leih. 2016. “Dynamic Capabilities and Organizational Agility: Risk, Uncertainty, and Strategy in the Innovation Economy.” *California Management Review* 58 (4): 13–35.

Thomas, Llewellyn D. W., and Paavo Ritala. 2022a. “Ecosystem Legitimacy Emergence: A Collective Action View.” *Journal of Management* 48 (3): 515–41.

Thomas, Llewellyn D. W., and Paavo Ritala 2022b. “Ecosystem Legitimacy Emergence: A Collective Action View.” *Journal of Management* 48 (3): 515–41.

Työ- ja elinkeinoministeriön julkaisuja • Yritykset • 2022:37, Kestävä talouskasvu ja hyvinvointimme tulevaisuus, Loppuraportti

Uusikartano, Jarmo, Hannele Väyrynen, and Leena Aarikka-Stenroos. 2020. “Public Agency in Changing Industrial Circular Economy Ecosystems: Roles, Modes and Structures.” *Sustainability* 12 (23): 10015.

Valkokari, Katri. 2015. “Describing Network Dynamics in Three Different Business Nets.” *Scandinavian Journal of Management* 31 (2): 219–31.

Van de Ven, Andrew H. (2007) Engaged Scholarship, A Guide for Organizational and Social Research

Van De Ven, Andrew H., and Paul E. Johnson. 2006. “Knowledge for Theory and Practice.” *Academy of Management Review* 31 (4): 802–21.

Van De Ven, Andrew H., and Marshall Scott Poole. 2005. “Alternative Approaches for Studying Organizational Change.” *Organization Studies* 26 (9): 1377–1404.

Vernay, Anne-Lorène, Beatrice D’Ippolito, and Jonatan Pinkse. 2018. “Can the Government Create a Vibrant Cluster? Understanding the Impact of Cluster Policy on the Development of a Cluster.” *Entrepreneurship & Regional Development* 30 (7–8): 901–19.

World Economic Forum 2024, The New Era of Industrial Strategies: Tackling Grand Challenges through Public-Private Collaboration WHITE PAPER JANUARY 2024

Yin, Robert K. (2014). Case Study Research Design and Methods (5th Ed.). Thousand Oaks, CA: Sage.

Zhu, Feng, and Marco Iansiti. 2019. “Why Some Platforms Thrive... and Others Don’t.” Harvard Business Review, JANUARY–FEBRUARY 2019

Appendix

Appendix 1. EnergySampo questionnaire 1 (used in initial discussions 04/2022).

#	Question	Objective
	Background	Establish rapport/positive feeling
1	Name	
2	Position	Getting to know each other
3	What's your role in the EnergySampo?	
	EnergySampo in general	**General feeling about the collaboration**
4	Why is the collaboration needed?	Reflection on purpose, without asking
5	What's your organizations' role in EnergySampo?	General perception about collaboration
6	What should be considered in the future development of collaboration?	Future themes
7	When do you expect the results of collaboration to materialize?	Expectations about the time span
	Purpose/Value Proposition	**Understanding positioning**
7	What is the EnergySampo purpose/value proposition?	Perception about purpose
8	Who is the customer?	Ecosystem positioning
9	Who owns the customer/customer relationship?	Value creation/value capture focus
	Structuring	**Understanding leadership**
10	Openness: Is the ecosystem open or closed?	Openness and criteria for entry
11	Is an orchestrator needed? Why?	Expectations for the orchestrator
12	Does the current way of working match with the purpose/value	Expectations for the future development
	Partners and expectations	**Understanding evolution**
13	Is the current set partners sufficient? Should more partners be involved?	Understanding partner base
14	How should the ways of working evolve in the future?	Understanding ways of working
15	How do you see your/your organizations' role in the future of	Understanding about the roles
	Final thoughts	**Open question**
16	Does anything else come to mind?	Everything else that need to be

Appendix 2. EnergySampo questionnaire 2 (used in bi-annual discussions 2H/2022–2H/2024).

#	Questions	Objective
	EnergySampo	
1	How do you feel about ES objectives & execution?	General feelings
2	How do ES objectives show in your organizations objectives setting?	Commitment to common objectives
3	Do you believe that ES can impact the industry in Finland/globally?	Importance of the collaboration
4	What kind of expectations/advice would you give at this point?	Input to orxhestration
	Open question	**Open**
5	Does anything else come to mind?	Free expressions & key issues

Appendix 3. LUXTURRIM5G questionnaire (primary data collection 05/2024).

#	Theme/Question	Motivation
Käynnistely		
1	Name	Warm-up
2	Role	
3	What was your role in the LUXTURRIM5G ecosystem?	
Ecosystem value creation		
4	What has happened after the LUXTURRIM5G ecosystem closing?	Value Creation
5	What were the highlights during the ecosystem existense?	
6	What could have been done better?	
7	What you could have done better?	
Ecosystem value capture		
8	What was the solution that the ecosystem developed?	Value Capture
9	What was your company's role in that development?	
10	What kind of commercial products/solutions were developed?	
11	How significant the product/solution is today?	
12	How significant the product/solution will be in the future?	
13	What kind of indirect benefits did the ecosystem create?	
14	Considering the above, was LUXTURRIM5G successful?	
Open questions		
15	Does anything else come to mind?	Open discussion
16	Any advice for other ecosystems?	

TURUN
YLIOPISTO
UNIVERSITY
OF TURKU

Painosalama, Turku, Finland 2025

ISBN 978-952-02-0291-0 (Painettu)
ISBN 978-952-02-0292-7 (PDF)
ISSN 2343-3159 (Painettu)
ISSN 2343-3167 (Sähköinen)