THESIS FOR THE DEGREE OF LICENTIATE OF ENGINEERING

Service Sensemaking: Conceptualization and Realization

A study of an energy company in Sweden

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ABSTRACT

Faced with increasing pressure to contribute to sustainable development, many energy companies are turning to service-based models to support demand-side management and customer engagement. However, while the theoretical benefits of adopting a service-logic are well established, the practical transition is creating challenges. This is particularly true in traditional and regulated sectors like energy, where servitization efforts remain subject to challenges, due to unclear ways of working, vague service concepts, and limited customer involvement.

This thesis explores how an energy company undergoing servitization navigates this transition, with a particular focus on the creation of shared understanding around services. Drawing on a longitudinal, qualitative study and guided by engaged scholarship, I introduce Service Sensemaking, an analytical construct developed through close collaboration between researchers and practitioners. The thesis consists of two papers, each of which contributes to the exploration on how services are understood, interpreted and enacted across organizational boundaries, which is guided by the value sphere structure.

The first paper examines the organizational challenges of adopting a service logic, highlighting the need of identity and cultural change. The second paper focuses on the role of customer involvement and the underexplored connection between provider and customer value spheres by investigating service episodes. In both papers, I apply a sensemaking lens to explore the importance of developing a collective way of working and thinking on how to understand services.

Together, the findings show that servitization requires more than structural change; it depends on the ability of individuals and organizations to make sense of services in context. This includes shifting mental models, creating shared meaning, and integrating customer perspectives into everyday service practices. Service Sensemaking offers a conceptual and practical contribution to understanding how, where and when services are being understood to realize a service transformation in complex organizational settings. Thus, services are not only something actors make sense about, but also something they make sense with. In other words, working with services becomes a way to construct meaning, where services are both the subject and the ground for sensemaking.

Keywords: service management, servitization, sensemaking, sustainability, energy sector, Sweden

LIST OF APPENDED PAPERS

Paper I
Behrens, C., Halldórsson, Á., & Ollila, S. (2025). *Services as a Sensemaking Process: The case of Energy Services.*

An earlier version of Paper 1 was presented at the European Operations Management Association (EUROMA) 2023 conference, held on July 3–5, 2023, and published in the Proceedings of the 30th Annual European Operations Management Association Conference.

The version included in this thesis has been substantially revised and expanded to reflect further empirical and theoretical development. This revised version is planned to be submitted to a journal within the service management domain.

Behrens, as main author, was responsible for data collection under the advisement of Halldórsson and Ollila and responsible for conceptualization. The study design was a mutual effort, while data analysis and the paper's planning and writing were performed equally by the first and second authors.

Paper II
Behrens, C., Halldórsson, Á., & Ollila, S. (2025). *Making Sense Together: Exploring Service Episodes Through a Sensemaking Lens in Energy Services.*

An earlier version of Paper 2 was presented at the European Operations Management Association (EUROMA) 2024 conference, held on June 29 – July 3, 2023, and published in the Proceedings of the 31st Annual European Operations Management Association Conference.

The version included in this thesis has been substantially revised and expanded to reflect further empirical and theoretical development. Nonetheless, it remains a work in progress and will be revisited before journal submission.

Behrens, as main author, was responsible for data collection under the advisement of Halldórsson and Ollila and responsible for conceptualization. The study design was a mutual effort, while data analysis and the paper's planning and writing were performed equally by the first and second authors.

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We all know how difficult and challenging it is to pursue a PhD and write a Kappa. But what no one tells you, is how hard it is to write the acknowledgements. Maybe it's just me. Maybe I'm putting too much weight on this, because the people around me have shaped me and the person I've become in ways they probably don't even realize. I want to make sure they do now by putting you into print. The PhD journey carries a heavy mental load, demands a lot of effort, and it's much more manageable with the right people around you.

To my supervisors. No, let me rephrase. To my "Doktorvater" and "Doktormutter", as we say in German. These terms do much more justice to Árni Hálldórsson and Susanne Ollila. Throughout this process you've guided me not just academically, but also emotionally and personally. You took the time to understand me and my way of working, and together we found our rhythm. Our chats in the cozy ES corner, or the action lab, over the only good coffee in Vasa are some of my highlights. *Árni*, you've taught me to doubt myself less, those rare moments when you seem agitated are usually when your PhDs don't believe in themselves. You've become a mentor I wouldn't trade for anyone else. Our whiteboard sessions are legendary; I'm sure your PhDs will agree that the notes often turn into hieroglyphics once we leave your office. But we always manage somehow and produce something truly great. Your choice of metaphors and analogies is astonishing to me. With these you show so much passion for your work, and you captivate others with it. I wanted to add some examples: sensemaking as superman, Service Sensemaking as a French 75 or you randomly send me an email with no subject line (…) saying "Riddle of the day: if a wine would be a product, a cocktail would be a….? (and why?)". Yes, I instantly panicked. But I think I got it. *Sanne*, you are such an impressive woman. I've caught myself telling friends, "I want to be like her when I grow up." The way you speak about research makes me want to be doing the same. And me as a fashion girl, deeply appreciate that you prove that we can do great research and look great doing it. You find the right words to say and often summarize Árni's and my thoughts in a way that fits.
You're both incredible researchers, and your knowledge is honestly a bit scary, but I've learned so much because of it. You support and push me to always show "Carolin" in my work. Thank you both for that.

To my brother, Philip, my little one, even though you're taller and stronger than me, "if the sky comes falling down, for you, there's nothing in this world I wouldn't do".

To my sister, Isi, you taught me that unconditional love between friends can exist. The things we've been through is not possible to put into writing.

To my parents, Karin and Olaf, you taught me to always be better and to thrive for perfection. You laid the groundwork for the person I am today. Even though I am living abroad, I will always be your Sonnenschein and Mausi.

To my grandparents, Bärbel, who showed me what it means to be a fierce woman in heels, never settling for less than she deserves. Marion and Uwe, who always make me feel at home.

To my friends, those who know me well, know how important you are to me. I once read that from each life era, you carry a few people with you who stay on your journey. Since I'm writing about servitization eras in my kappa, I will structure the following based on my personal eras. Let me add a little bit of spice…

Carolin…

-as-a-toddler: Tabea, we don't remember when we met, but the bond we still have is amazing.

-as-a-gangster: Realschule, what can I say. Jana, I'm grateful our friendship still holds.

-as-a-WIPOler: Nadine, forever neighbors by heart. You showed me what I value in a friendship, and I hope that never changes. Theresa, thank you for being your bubbly and happy self.

-as-a-trainee: Carolin, I will always be little C, being with you brings me happiness and peace. Celina, holding up mirrors for each other taught me to truly (trying to) practice what I preach.

-as-a-master: Sina and Annika, you were the ones who pushed me to do a PhD.

-as-an-AYler: Lisanne, I can't imagine life without you, the bond we share is truly out of this world. Flowy and Alex, you always know how to brighten my day.

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Yes, this became two pages. Well, who can stop me.

Thanks to you all!

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1.   INTRODUCTION

This licentiate thesis is concerned with the conceptualization and realization of a new way of working and thinking for practitioners in a servitization process, and for academics studying service-related transformations. These efforts are summarized under the idea of Service Sensemaking. By shifting the focus from static definitions of services to their interpretation and understanding through a sensemaking lens (Weick, 1995), this thesis aims to enrich service management research and its underlying assumptions by integrating insights from organizational theory.

1.1.   Background

Environmental challenges, such as Sweden's energy supply-demand mismatch, are growing and are increasing the need and pressure for companies to contribute to sustainable development. In 2015, the United Nations adopted the "Transforming our world: the 2030 Agenda for Sustainable Development" resolution, which includes 17 Sustainable Development Goals (SDGs) for United Nations Member States (United Nations, 2015). One SDG is to "ensure universal access to affordable, reliable and modern energy services" (United Nations, 2015). In response, the European Union (European Parliament, 2006; Statens energimyndighet, 2013; European Commission, no date), as well as other national projects (CORDIS, 2020a, 2020b), are pushing energy companies to rethink their business models (Goldbach *et al.*, 2018) and *adopt a service-logic*, a concept that sees value as co-created with customers, not just delivered to them (Vargo and Lusch, 2008; Grönroos, 2017). Within this context and situated within the frame of demand-side management (DSM) is a call to shift to services to influence customers' energy usage as a way to balances energy demand and supply (Carley, 2012; Gellings, 2017; Hamwi *et al.*, 2021). To do this, companies are prompted to rethink their traditional ideas of value creation (Vargo and Lusch, 2017; Fisk *et al.*, 2023; Russell-Bennett *et al.*, 2023) and, more specifically, emphasize customer involvement (Storey and Larbig, 2018; Trischler *et al.*, 2018). The present research is grounded in the idea that value is created across three spheres: the provider, joint and customer sphere (Grönroos, 2015). This results in the argument that an inside-out perspective is no longer sufficient and that companies must think about outside-in management (Grönroos, 2015).

There is wide recognition of the growing role of service concepts as new revenue streams, drivers of customer happiness, and especially as a solution to sustainable development. The service literature has conceptualized this shift from products to services as *servitization* (Baines and Lightfoot, 2013; Ziaee Bigdeli *et al.*, 2017; Kowalkowski, Ziaee Bigdeli, *et al.*, 2022; Park, 2022) or, more recently, servification (Grönroos, 2023), with further concepts such as product-service-systems (Tukker, 2004a). Although there is a large body of publications, offering various solutions and approaches for how companies *should* make the shift, a new stream of literature is addressing *servitization failures* (Valtakoski, 2017). This stream highlights that while the theoretical value of as-a-service models is well-established, for reasons such as sustainability, customer satisfaction, and new revenue streams, there is a lack of "guidance, tools or techniques, that can be used by companies to servitize" (Baines *et al.*, 2009). In particular, energy companies are still facing challenges to transition (Helms, 2016; Kindström *et al.*, 2017; Lütjen *et al.*, 2017), partly due to limited empirical insights and conceptual

understandings of how companies can actually adapt their way of working towards a service logic in order not to fail (Kurtz *et al.*, 2023). The dilemma is that we know what needs to change and how it needs to change, but not how to make that change happen (the how of the how). Researchers have made calls to find successful pathways to servitization, often assuming that the process has already been successful (Vandermerwe and Erixon, 2023). However, research on companies that are in the midst of the transition is scarce. To address this limitation, the present study focuses on a company that is actively undergoing servitization, but has not yet completed the process. The research is conducted within the framework of the project *KATE: KundAnpassade Tjänster inom Energisektorn genom tjänstefiering och digitalisering*, developed in collaboration with a Swedish energy provider. While the company is responding to governmental directives encouraging a stronger service orientation, they also build internal strategic goals aimed at demand-side management through advancing their service offerings. This leads to the first problem area, which I call the *stagnation of servitization* rather than failure. While the companies process of servitization has begun, the successful transition is hindered by internal factors such as *culture, strategy or processes* (Valtakoski, 2017; Ziaee Bigdeli *et al.*, 2017; Kurtz *et al.*, 2023; Biesinger *et al.*, 2024) and structural changes within the company (Ostrom *et al.*, 2015).

This becomes especially important as servitization research is largely based on traditional manufacturing companies, which expand their offerings by adding services to their product portfolio or by providing services that support the product (Baines *et al.*, 2009; Vandermerwe and Erixon, 2023). However, in sectors such as energy, companies do not fit into this conventional structure. While these companies often operate with similar *traditional mindsets*, where customers are viewed as "loads" and not as engaged co-creators of energy-saving services (Apajalahti *et al.*, 2015), they are considered non-manufacturing firms (Lütjen *et al.*, 2017). For them to evolve, actors need to *challenge current ways of working*, not only to develop sustainably, but also to advance their service portfolio.

An important aspect of addressing the way of working and traditional mindsets is the creation of shared understanding around the basic idea of as-a-service concepts (Baines *et al.*, 2009; Burton *et al.*, 2023); this goes hand in hand with a mental model shift of actors, who are part of the transition (Vink *et al.*, 2018; Biesinger *et al.*, 2024). This leads to the second problem area that requires further attention: *understanding of services*. Because the underlying assumptions of service, particularly service-as-logic, are still vague and difficult for managers to comprehend and implement (Valtakoski, 2017; Grönroos, 2023), it is important to discuss what services are to be revisited. More specifically, the arguments for seeing services as processes (Grönroos, 2000, 2019) needs to be conceptualized using process-like concepts and terms that embed the services in an organization, not basing them on static classifications (Edvardsson *et al.*, 2005). This is due to the prevailing arguments basing services on the assumption of being mere outcomes of a process and less understood as a process themselves, which contradicts the idea of servitization being transformative. The understanding of services itself relates back to the first problem area, where the way of working represents how this understanding of services needs to be approached.

This intraorganizationally dominated view also connects to another issue. Given the focus on services, and thus naturally on the customer, companies must also adopt an outside-in perspective that puts customer involvement and their understanding of services at its center.

This leads to the third problem area that grounds my research: *interconnectivity between provider and customer connection*. While servitization and customer involvement are each well understood in theory, their interconnectedness and how they influence each other has been less explored. This is shown through publications that seem to focus on the value spheres separately. The providers' sphere is viewed through perspectives of change management and business models, while the customer sphere is shaped by a big stream coming from service marketing (Kemppainen and Uusitalo, 2021). Since my research is concerned with the way of working with services, the dimension of the customer is crucial, as their needs are the baseline for value creation (Grönroos, 2000, 2019). This becomes especially prominent in the case company, where the role of the customer in service development is under-developed, even though they are striving to engage the customer more closely in service offerings.

To summarize, companies transitioning to a service-logic must navigate internal challenges, while also engaging customers more actively in their service processes, which leads to various problem areas (Table 1).

Table 1: Summary of problem areas

Problem Area	Problem description
(a) Servitization Stagnation	Transition to service logic has started, but is hindered
	Traditional mindsets
	Way of working is unclear and no suitable guidelines are available
(b) Understanding of services	Service concepts are approach with static approaches
	Services are still often seen as mere outcomes
	Understanding of service logic remains practically difficult
(c) Interconnectivity between provider and customer	Involvement of customer is known to be necessary, but is hindered
	Connection between value spheres is under-explored
	Role of customer in service development is under-developed

Against this backdrop, and answering the call for a deeper process-oriented view on servitization (Rabetino *et al.*, 2021), this licentiate thesis, as a *longitudinal study*, investigates a company that is undergoing servitization, but faces challenges in transitioning effectively. Through ongoing collaboration, in an *engaged scholarship* manner (Van de Ven, 2007), between the practitioners and the research team, we eventually came across the idea of *sensemaking* (Weick, 1995). This emphasizes the idea of seeing services as processes rather than static outcomes (Lusch and Nambisan, 2015). With this new direction, our research took a turn. We began using sensemaking as a lens and noticed that it not only helped us investigate our phenomenon in question, but even offered new possibilities by integrating it with a service logic to explore how companies can adapt their ways of working during servitization, especially in traditional and regulated markets like energy.

Sensemaking, as introduced by Weick (1995), refers to the process whereby people and groups interpret and give meaning to complex, ambiguous or changing environments through ongoing interaction and interpretation. I saw potential to use this theory to shape the research design and create understanding around services. This was inspired by authors such as Kemppainen and Uusitalo (2021) or Biesinger *et al.*, (2024), who have explored sensemaking in a service context and also through iterations with my supervision team.

In the context of servitization, as a change process, sensemaking offers a valuable lens with which to understand how actors within an organization, and also across the firms' boundaries, construct meaning around service concepts, the companies, and their own identity, and the role of customer involvement. Especially in a strategic change situation, processes, strategies, tasks, structures, and actors are in ongoing motion. This highlights the importance of supporting different meanings, rather than creating one singular coherent understanding (Skålén and Strandvik, 2005). Actors rather continuously interpret and reinterpret what services mean in their specific contexts. This dynamic nature of understanding reveals the limitations of traditional, one-size-fits-all service concepts.

In this thesis, I argue that this interpretive process is shaped by existing mental models, organizational structures, and ongoing interactions between organizational members and with customers. The idea of also including the customers' processes and sensemaking is in line with the foundational idea of the value spheres influencing each other (Grönroos, 2017), although it has been scarcely researched. At this stage in the research, the transition toward a service-oriented organization will be generally defined as the shift in organizational structures, mindsets, and practices required to adopt a service logic and engage customers more actively in value co-creation. Therefore, the purpose of this research is to investigate an energy company undergoing servitization and how sensemaking as a lens can create a new way of working and thinking to support the transition. This is done by conceptualizing the idea of Service Sensemaking and how it can be realized within an energy company. In this I will be focusing on the creation of collective understanding about and through services, within three value spheres, to also support the idea of customer-oriented energy services.

1.2. Scope of the research and RQs

Figure 1 below will be the basis of this research, visualizing the pathway of my choices where the context and background are important in shaping the final scope and choices of my work. All of this is explored on the basis of an energy provider, as the sector is undergoing the transition from a product mindset to a service mindset (Park, 2022).
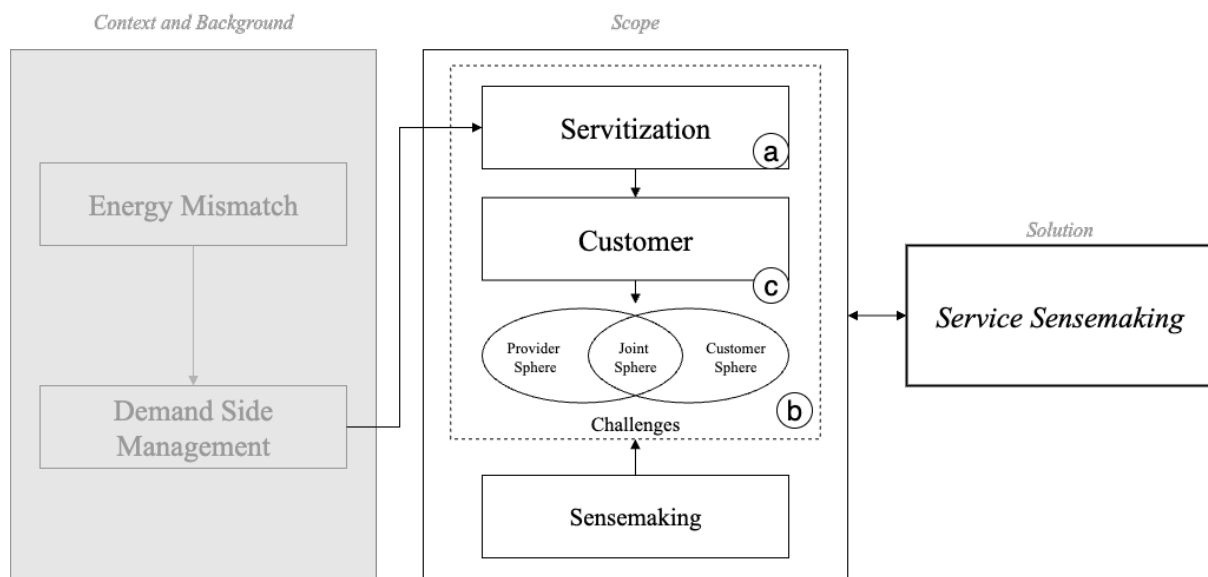

Figure 1: Logic of choices and scope

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On the left-hand side of Figure 1, the context and background are presented, explaining why my research is focusing on the understanding of services as processes with a specific emphasis on customer involvement rather than other possible perspectives. Part of this is explained in my background chapter as *energy mismatch*. This is the societal problem that has led to this research thesis. Energy companies are being pushed by European directives to adhere to demand-side management objectives, as the imbalance of energy demand and supply remains a pressing challenge. The need to develop sustainable development strategies has led these companies to pursue service-focused models that are (1) said to be a sustainable solution and (2) could potentially influence consumers behavior towards more efficient and flattened energy use patterns in line with *demand-side management* goals (Park, 2022).

This shift from product-thinking to a service logic is depicted in the figure by *servitization*. Even though we acknowledge the idea of servification (Grönroos, 2023) the larger body of publications is on servitization and will be used as reference (Baines and Lightfoot, 2013; Ziaee Bigdeli *et al.*, 2017; Khanra *et al.*, 2021). This is in relation to Problem Area (a).

To make such a shift, companies must focus on the *customer* and its involvement in their service innovation and development processes, adapting a new and greater focus on customer needs, rather than services shaped by internal processes or assumptions on what customers want. This outside-in management (Grönroos, 2015) is illustrated by the upper middle part of Figure 1 and relates to Problem Area (c).

Apart from many concepts, such as new service development, service logic, servitization or product service systems, addressing customer orientation and service development, we can still see that companies are facing *challenges* in transitioning to services (Grönroos, 2023). The discussion often revolves around what a service is not, rather than on the actual mindset shift that must take place (Vink *et al.*, 2018). This relates to Problem Area (b). Part of this challenge is the fact that practical solutions are often subject to static concepts, such as service blueprints (Bitner *et al.*, 2008), that do not reflect their dynamic nature. Given that services are inherently processual and social, I found it relevant to explore them through a process-oriented perspective that also acknowledges their social character, as a way of coming to a collective understanding of services. Therefore, we aim to explore how sensemaking, a concept that combines both the process nature and the shift in mental models, can support companies in transforming. This leads to the first, *conceptualizing*, research question, which reflects a *way of thinking*:

RQ1: How can the understanding of services be conceptualized using a sensemaking perspective?

As this research departs from the value spheres defined by Grönroos and Voima (2013) and thereby emphasizes customer involvement, it naturally brings us to investigate the conceptualization of services and sensemaking within and throughout these spheres.

Publications often focus on one sphere (Ziaee Bigdeli *et al.*, 2017; Kemppainen and Uusitalo, 2021; Garrelfs *et al.*, 2023), even though the original model clearly states that they are interconnected (Grönroos, 2015). The providers sphere often reflects the intraorganizational structures of a company, whereas the joint sphere captures the critical provider-customer-

interactions, where valuable insights are gathered and co-creation is occurring. The customer sphere represents the customer's own processes, apart from the company.

As the joint sphere is central for co-creation, I investigate my idea of "Service Sensemaking" within the most crucial interactions between a company and its customers: *touchpoints*. At the same time, I will draw on insights from the joint sphere to refine and add new characteristics to my proposed construct. This leads to the research question that investigates the *way of doing* of service sensemaking in relation to time and space:

RQ2: Where and when is the sensemaking of services taking place?

By answering RQ1 and RQ2, I aim to outline the foundations of our proposed Service Sensemaking construct. This is shaped by the idea of viewing services as processes and the importance of customer touchpoints in services processes through the integration of sensemaking.

1.3.   Delimitations

This research needs to be viewed in the light of certain delimitations, which are structured around theoretical and practical themes.

Theoretical delimitations

The starting point of this research is in service literature. Since services are discussed across fields like operations management, marketing and supply chain management, I take inspiration from all of them, as this research is concerned with the general assumptions of services. Understandings from service encounters (Bitner, 1990), service design (Andreassen *et al.*, 2016; Vink *et al.*, 2018), service blueprints (Bitner *et al.*, 2008), and delivery (Bitner *et al.*, 1997) will also be taken into consideration, but are not a focal point. The same applies to new service development (Matthing *et al.*, 2004), product service systems (Tukker, 2004a), and service innovation and development (Gustafsson *et al.*, 2020). This sums up to the focus on the understanding about and with services in general, combining all service concepts which are relevant in servitization.

The particular focus on customers is depicted by the investigation of customer touchpoints. However, a distinct empirical investigation of the customers sphere was not possible within the given scope. As my research is structured by Grönroos' (2015) services spheres, my initial idea was to view all spheres holistically and in connection. Instead, the research process led me to start investigating the provider's sphere in order to explore intraorganizational aspects, and to then move into the joint sphere, where key interactions, depicted by touchpoints, take place.

Shaped by my context, I also draw from energy literature, especially where it addresses servitization (Sernhed, 2008; Park, 2022) and demand-side management (Carley, 2012; Gellings, 2017). Servitization explains the shift to a service logic and a company being in an ambiguous situation (transition), while demand-side management offers important aspects of customer influence, mental models, and the growing customer focus in the energy sector.

Practical delimitations

In the light of data collection, the data mainly focused on organizational members concerned with service development and innovation and B2B relationships, and omits customers, consumers, or other potential service and energy providers. Thus, the thesis takes the perspective of the energy company as the owner of the problem and the actor that could benefit most from the research given their potential to significantly impact both the transition towards service strategies and enhancement of demand-side management goals. Finally, the thesis focuses on one energy provider within the Swedish market.

1.4.   Outline

After this introductory chapter, which has outlined the background, context, purpose, and research questions of this thesis, the following chapters will guide the reader through the different parts of the research process. Chapter 2 presents the theoretical grounding of the work. It starts by positioning the research within the broader field and ends by outlining the theoretical framework that has guided the study and the appended papers. Chapter 3 then describes how the research was carried out, covering the methodological choices, data collection, sampling, analysis, and reflections on research quality. Chapter 4 provides an overview of the appended papers and their individual contributions. In Chapter 5, I discuss the research questions and discuss the findings in relation to the literature. Finally, Chapter 6 concludes the thesis by summarizing the main contributions and offering suggestions for future research.

2.   THEORY AND KEY CONCEPTS

This chapter presents the key concepts and theories that guide the research conducted for this thesis. The aim is to outline the theoretical foundations and connect the different strands of literature that contribute to the positioning of this work.

2.1.   Overview

My theoretical framework is based on an integrative approach, drawing from multiple streams of literature and their underlying assumptions (Figure 2). This section introduces these perspectives and the motives behind my choices.
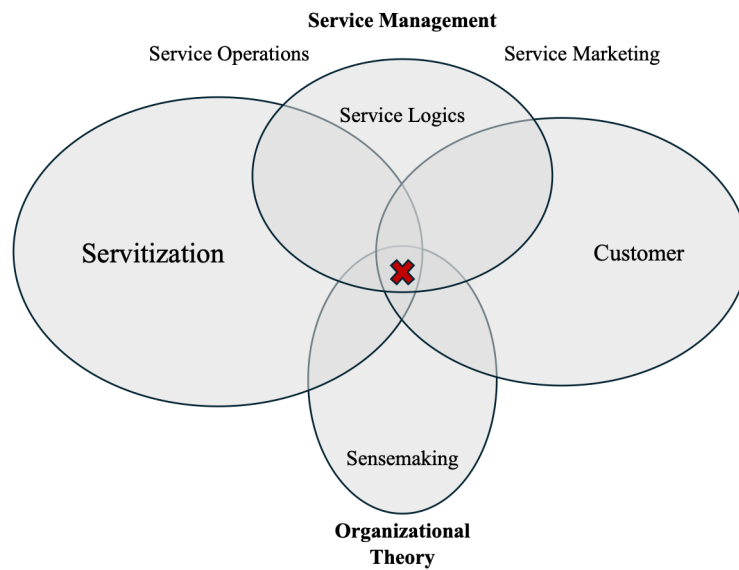
Figure 2: Overview of theoretical foundations and position of research

The theory on services has evolved into a multidisciplinary field and is shaped by contributions from over 24 academic disciplines, each of which brings its own distinct perspective to the study of services (Ostrom *et al.*, 2015). Within my scope and research boundaries, the most relevant are found in *service operations management* (Johnston *et al.*, 2021) and *service marketing* (Grönroos, 2011) (summarized under *service management*). More specifically, I will focus on energy services, in line with the KATE project within the case company.

First, the left-hand side of the figure shows service operations management concepts for analyzing how services are designed, delivered and improved within organizations, making this perspective relevant for studying internal transformations and development of service capabilities (Johnston *et al.*, 2021). Out of this field grew *servitization* literature, which emphasizes the transition from a goods logic to a service logic, where value is increasingly co-created not only within the firm but also in collaboration with customers and partners (Baines *et al.*, 2009). The larger circle on the left-hand side shows the importance of the concept within my thesis. Servitization is grounded in foundational *service logics,* depicted by the overlapping circle on the top, and highlights the need to understand services and their processes in their essence. Second, still based on service logics, service marketing provides important aspects about value creation and *customers*, which ground this thesis in a value sphere perspective (Grönroos and Voima, 2013).

As many companies continue to face internal and external barriers in transitioning to a service logic, there is a need for new approaches by drawing on insights from other fields. In this thesis I use *sensemaking from organizational theory* (Weick, 1995) because it focuses on how members interpret experiences in ambiguous situations, such as servitization. This is visualized through the overlap between sensemaking and servitization. The touchpoints between sensemaking, service logics, and customers reflect existing literature, where sensemaking has been applied within these fields or in relation to these concepts. I will elaborate on these connections later in this chapter. To summarize, I am positioning myself in the intersection of these concepts, marked by the red X, as they collectively inform my research. This positioning allows me to explore how services can be advanced to involve customers more actively and respond to demand-side management goals, by focusing on how actors make sense of and with services. The present thesis thereby contributes to service management literature by drawing on organizational theory, particularly sensemaking, to support a customer-oriented approach to energy services.

2.2. Service management

This chapter outlines the foundational concepts that support the service perspective in my research. The focus is on the underlying assumptions about what services are, and on the shift from product-based to service-based thinking.

2.2.1. Service Logics

I start by introducing the (1) distinction between a product and a service, (2) prominent logics in service management, and (3) a brief introduction to my underlying structure of value creation.

Product vs. Service

Born in marketing, the grounds of what services are, have been based on being distinct from products. It has been argued that it is necessary to use goods-based wording to describe service (Vargo and Lusch, 2008). The most common example for this is defining services based on four characteristics: intangibility, heterogeneity, inseparability, and perishability, the IHIP framework (Lovelock and Gummesson, 2004; Araujo and Spring, 2006). However, researchers have criticized the fact that service *definitions are still based on what they are not, rather than what they actually are* (Lovelock and Gummesson, 2004; Baines *et al.*, 2009; Spring and Araujo, 2009), which is in line with the critique of using overly static classifications of service (Edvardsson *et al.*, 2005).

Different logics

Consequently, service researchers have developed different logics (Table 2) of the service phenomenon, which are mainly divided into either a service-dominant logic (SDL; Vargo and Lusch, 2008) or a service logic (Grönroos, 2011; Grönroos and Voima, 2013). A main distinction between the two is based on who is driving value (co)-creation. On one hand, service-dominant logic is driven by the firm and the service provider drives value. On the other hand, in a service logic the value is driven by the customer's processes (Grönroos and

Gummerus, 2014). However, the ongoing discussion between these two points reflects a united challenge and foundational shift: both emphasize a move away from a goods-dominant logic. In this logic, value is created internally and through the exchange of often tangible goods, services and money, focused on a manufacturing tradition (Tukker, 2015; Skålén and Edvardsson, 2016). The authors and logics presented are reflects a snapshot of dominant logics in the field, acknowledging that while certain authors have shaped the discourse, they do not exclusively define or own the concept.

Table 2: Service logics by authors

Authors	Term
Vargo and Lusch (2004, 2008)	Service-dominant logic
Grönroos, (2011); Grönroos and Gummerus (2014)	Service-logic
Vargo and Lusch (2004, 2008)	Goods-dominant logic
Heinonen *et al.* (2010)	Customer-dominant logic
Lovelock and Gummesson (2004)	IHIP
Grönroos (2011); Grönroos and Voima (2013)	Value spheres

Services as processes

With these logics, academics are questioning the traditional comparison to products and arguing for a *process perspective*, inherent to service (Grönroos, 2000, 2019). The notion of seeing *services as processes* is explained theoretically by the idea that a service is *helping the processes* of a beneficiary (Grönroos, 2019, 2023), that all services involve *processing something* (information, people, or goods) (Sampson and Froehle, 2006), that a service is connected to a *value (co-)creation process*, where the exchange and use of resources is described as a process (Vargo and Lusch, 2004, 2008), service consumption is a "process consumption rather than outcome consumption" (Grönroos, 1998), or, lastly, that we should use the singular of service as it reflects "the process of using one's resources for the benefit of another entity" (Vargo and Lusch, 2008). Taking this perspective gives services a *transformative* character and moves away from the idea that they are simply being delivered.

This is further supported by the distinction from the likes of Heinonen *et al.* (2010), who focused on the actors involved and distinguished between a provider-dominant logic and customer-dominant logic. They discussed the need to actively involve the customer and come to a truly customer-centric value creation. This means a business logic that revolves around a strategic mindset or mental model, where the company is involved in the customers activities, the customer is in charge of value creation, and invisible interactions are taken into account (Heinonen *et al.*, 2010). The authors opened the discussion around seeing services not purely as the interaction between the firm and the customer, but to broaden the perspective of companies into the processes of the customers, which can be connected to the idea of *value spheres* (Grönroos and Voima, 2013).

Value Spheres

The Grönroos-Voima value model defines value co-creation based on three distinct spaces: the providers, customers, and their joint sphere. The authors argue that, in these spheres, the role of the firm and the customer change depending on the nature of interaction and value formation. In the providers' sphere, the company operates independently as a facilitator of 'potential value' by producing resources that the customer can use for their value creation process. The 'real value' is then created in the customer sphere, through the use, experience, and meaning making of the customers' processes. Here, the customer is the creator of value and the firm has no access to this sphere. However, the joint sphere is where the two actors meet through direct or indirect interactions. Only in this joint space does value co-creation occur, as the firm gains temporary access to the customers' value creation process and can influence it. This can be positive or negative. The model offers a structured approach to understand how, when and by whom value is created (Grönroos and Voima, 2013).

Our take-away so far is that value creation is structured through spheres and interactions between the customer and the firm. Grönroos and Voima's (2013) model helps use see that value is not simply exchanged or delivered, but *emerges* together with the customer. Additionally, we acknowledge the *importance of a customer* focus, as the customer is the focal creator of value and is necessary to co-create. However, we have not reached an understanding of how customers and firms processes can be linked in a co-creation of services. While the joint sphere offers a conceptual space for this interaction, the practical mechanisms through which firms gain access to and influence the customers sphere remain underexplored.

In summary, the following aspects guide my research and shape my own assumptions: (1) services grew out of a product-vs-service paradigm, marking a *shift* in underlying assumptions of value; (2) services are defined by what they are not; (3) no universal definition exists; (4) services are not outcomes but processes; (5) services are transformative; (6) value is co-created in interactions between different actors and depicted by spheres; and (7) the customer is a crucial actor in value creation and needs to be engaged. Understanding the foundational assumptions of services is essential for this thesis, as it directly informs and grounds the development of my proposed analytical construct, as well as shapes the following chapters and their direction. Moreover, the grounds of the presented paradigms are rooted in traditional service-born firms (depicted by examples such as hotel booking, car rental, and tour operator). In our case, these assumptions need to be questioned. The challenge is to adapt or extend the value spheres framework to contexts where the companies are traditionally product-born, but are considered non-manufacturing.

2.2.2. *From products to services*

The above-mentioned baseline assumption, that services differ from products, also becomes visible in concepts such as *servitization* or *product service systems*. Both are grounded in the idea that companies are adding additional value, in the form of services, to their existing product portfolio (Tukker, 2004b; Baines *et al.*, 2009), often motivated by sustainability and environmental aspects (Baines *et al.*, 2009). This can be explained by the underlying idea that replacing products with services can reduce material use, seeing services as drivers for a company's sustainable efforts (Tukker, 2015; Saviano *et al.*, 2017; Hojnik, 2018). In my

understanding, concepts like servitization and PSS reflect a more practice-oriented and manufacturing-rooted response to the theoretical shift in marketing research towards a service logic. This is due to their conceptual *grounds in manufacturing* contexts and in operations management, since they have been promoted to be a competitive manufacturing strategy to gain new revenue streams (Tukker, 2004b; Baines *et al.*, 2009).

Because the two concepts are so similar in nature, Baines *et al.* (2009) combined them and provides a holistic definition: "Servitization is the innovation of an organisations capabilities and processes to better create mutual value through a *shift* from selling product to selling PSS". In relation to the discussion on service logics above, the servitization and PSS literature put the customer at the center of attention, based on the idea that customers should not be solely provided with products, but with tailored solutions based on their needs (Baines *et al.*, 2009). This *grounds servitization in service logics*, where value is co-created through interactions (Kowalkowski *et al.*, 2017). Therefore, Oliva and Kallenberg (2003) have defined the importance of "users' process-oriented services" and a relationship-based customer interaction. Accordingly, servitization is not only a response to *customer centricity*, but also a driver for a new focus on customer needs and their involvement in a company's offerings.

Servitization as an evolution

However, if we focus more closely on the definitions of servitization, in relation to PSS, we can see that it is not merely adding services to a core product (Vandermerwe and Erixon, 2023). It is about a "shift" (Baines *et al.*, 2009) and "transformational process" (Kowalkowski *et al.*, 2017) pointing towards a fundamental assumption. Servitization is a strategy that moves away from product-focused selling, towards a more *relational* and *process-oriented* form of selling. The phenomenon has developed significantly since the start of servitization research in the 1970s, which was especially driven by technological advancements and digitalization (Vandermerwe and Erixon, 2023). Servitization began as an after-sales strategy and has shifted toward services as *strategic outcomes*, placing the customer experience at the center. Over time, services have opened new markets, such as e-commerce, and become more layered and interconnected. The next big change came with the rise of the "anywhere customer", through the introduction of smart mobile devices and apps making services real time. Today, and looking ahead, practitioners and researchers are facing "anything-as-a-service" as a dominant strategy, redefining how value is created and delivered (Vandermerwe and Erixon, 2023).

These developments have expanded the scope and depth of servitization, moving it beyond its initial framing. Accordingly, I see servitization not only as a strategy or concept, but as an *evolving logic* that continues to transform how companies understand value creation, customer involvement, and their own role as service providers. This shift is not just conceptual, but reflects an *ongoing nature* of the phenomenon.

However, with these changes in the core concept come new challenges for companies undergoing this transition. In order to make a "anything-as-a-service" strategy work, companies must be able to personalize offerings for individuals, not segments; reduce waste and deliver results; create integrated service bundles; constantly refresh the service; and have a subscription-based pricing model. While all of these can be facilitated by technologies and

their capabilities, it is ultimately "up to the *people*" to make the transition (Vandermerwe and Erixon, 2023).

Servitization Challenges

This focus on the *people* and the firm has already been investigated in earlier publications. Authors have argued that the theoretical push and advancements in servitization is much faster than companies transitioning in practice (Oliva and Kallenberg, 2003). Even though early servitization research shed light on *challenges* to move towards services, and also addressed guidelines and methods on how to successfully implement service strategies (Baines *et al.*, 2009), the comprehension of the service logic and the implementation hereof *remains unspecific and difficult for managers* (Grönroos, 2023).

Reasons for this include (1) firms *do not believe* in the value of additional service offerings; (2) a firm might feel that services are *outside of their competencies*; and (3) firms might try to enter the market but *fail* to create a service strategy (Oliva and Kallenberg, 2003).

Researchers have picked up on this focus on *failure* in attempting to understand what challenges companies *have faced* when transitioning to a service logic. The emphasis here lies on the past, as the majority of papers investigate cases, where servitization has *already* failed or succeeded, looking retrospectively into the servitization journey (Skålén and Strandvik, 2005). Table 3 introduces selected studies that have specifically addressed barriers, challenges, obstacles, hinders, impediments, or the servitization paradox (hereafter collectively referred to as *challenges*). To better grasp the challenges, I have identified recurring themes that the challenges are *related to*, such as *internal* (strategy, culture, competence, resources, processes) or *external* (customer, network, market) dimensions, which are found on the left-hand side of the table. It became apparent at this point that most of the papers focus on cases of companies that have already been through the process, studying them *post* transition, whether successful or unsuccessful.

Table 3: Examples of servitization challenges

	Related to…	Kurtz et al. (2023)	Bigdeli et al. (2021)	Valtakoski (2017)
Internal	**Strategy**	• Divisional structure		
	Culture	• Service mindset	• Rejection of service identity outside service function • Perceived threat by service identity outside service function	
	Competence		• Lack of service competencies due to excessive outsourcing	• Lack of new capabilities
	Resources			• Lack of knowledge resources
	Processes	• Process excellence	• Misalignment of service and product design authority • Misalignment of service promotion and sales authority	• Lack of integrative capabilities to combine new and existing processes
External	**Customer**	• Customer intimacy	• Limited control over customer relationship • Service identity not trusted by partners and customers	• Lack of customer orientation • Too much or too little appreciation of customer knowledge • Missing importance of knowledge transfer to customer environment • Lack of trust from customer to provider • Lack of adapting services to customer-specific context
	Network	• Service network	• Lack service delivery control • Lack of willingness to use external service competencies • Service identity not trusted by partners and customers • Over-dependency on external partner's service reputation	
	Market	• Market proposition	• Lack of knowledge of service industry practices • Lack of knowledge of customer's service requirements	

Kurtz *et al.* (2023) highlighted the importance of a deeper *contextual understanding* of servitization journeys, where important backstage factors (internal) affect front-stage (external) factors. Bigdeli et al. (2021), on the other hand, focused more on the root causes of those challenges, which relate to power, competency, and identity boundaries. Valtakoski (2017) analyzed servitization from the knowledge-based perspective and identified key processes that are related to the *customers* perspective on servitization.

Beyond the papers included in Table 2, other authors have also addressed challenges, but from a different angle. For example, Burton *et al.*, (2023) analyzed digital service innovation challenges faced during servitization. Their work outlined 'impediments' to digital

servitization, that are closely related to broader servitization challenges. In addition to external technological environmental factors and technical capabilities, they emphasized business models and processes, where attempts to integrate new technologies with existing *ways of working* are hindered. They also pointed to internal firm factors, which address *firm-specific challenges* and *service culture and internal tensions* and highlight *value creation impediments*. This means there is a mismatch between (scale of) customer demand and value/costs, and suitability of offers (and value creation systems) being developed.

Taken together, the selected papers for my review provide an understanding of challenges in servitization and reveal internal and external aspects that need to be worked on. In particular, aspects around *culture, identity and mindsets* seem to be less researched, but represent "a major servitization challenge" (Bigdeli *et al.*, 2021) to address in servitization journeys. These findings emphasize social aspects in servitization, relating back to the importance of *people* in the process and the importance of how servitization is *understood and enacted* within the organization. However, despite growing research, there remains a lack of actionable tools for companies during the transition (Grönroos, 2023).

What becomes clear from this section is that companies must put a high focus on addressing servitization challenges to avoid failure. The rise of digitalization further complicates this shift as it brings new challenges related to technologies. At the same time, servitization has moved beyond the traditional view of simply adding services to product offerings. Today, rather than emphasizing the offerings themselves, anything-as-a-service adopts a holistic service-oriented logic and mindset, where companies must rethink how value is created and delivered. The question that remains is how companies can avoid becoming part of the servitization failure narrative. What kinds of support are available, not just to reach a successful outcome, but to navigate the process itself? It is this processual perspective that the present work aims to explore, focusing on the dynamics of the servitization journey and the ways of working that shape it, rather than the end state alone.

2.2.3.   *The Customer*

While the preceding chapter put a high focus on the providers' perspective, the present section shifts the focus onto the customer. Although servitization is grounded in the roots of a service-(dominant) logic, making the customer in co-creation not just beneficial but essential, their perspective has *been limitedly touched upon in servitization literature* (Valtakoski, 2017). Authors emphasize that value is not online delivered by the firm, but co-created in interaction with the customer (Vargo and Lusch, 2004; Grönroos and Voima, 2013), which means that successful service offerings cannot be designed in isolation from the customer as a "high-level of co-creation is needed" for positive outcomes of a service strategy (Grönroos, 2023).

However, in servitization publications, as is seen as a business model, the focus lies heavily on the providers (sphere) (Valtakoski, 2017). Internal transformation, capability development, and organizational structures are discussion points in a successful transition (Oliva and Kallenberg, 2003; Baines *et al.*, 2009; Kowalkowski, Bigdeli, *et al.*, 2022). A possible explanation for the separation of the topics could be Kowalkowski *et al.*'s (2015) statement that marketing research has been focusing on customer relationships, while operations management research is more focused on efficiency of operations and processes. They argued that those perspectives should

be merged. I argue that the internal focus is necessary, but also that the customer's role and involvement is underrepresented, even though they are *central to the service logic* that grounds servitization (Kowalkowski *et al.*, 2017). Therefore, I follow the call to acknowledge the two disciplines at the same time.

Assuming such a task creates a *twofold challenge* for researchers and practitioners in servitization: they must manage an internal transformation while simultaneously engaging externally with customers to co-create value. Providers struggle to meet customer expectations during servitization, as "little research exists on the boundary between the solution provider and the customer" (Burton *et al.*, 2023). This situation was also introduced by Ulaga and Kowalkowski (2022), who highlighted the need for a "customer-focused structure" that can, for example, be supported by customer success management. Generally, it refers to an organizational setup that is not only responsive to customer needs, but structurally aligned to *include them* in the value creation process, combining the aspects of servitization and customer involvement.

Taking a step back, the importance of *customer involvement* in servitization lies in the grounds of service logics (Kowalkowski *et al.*, 2017), which brings us back to the discussion on what services are (Green *et al.*, 2017). The idea of a service logic is based on the importance of customers' needs and experiences in the creation of value (Vargo and Lusch, 2008; Grönroos and Voima, 2013). Therefore, companies that wish to succeed in a transition to a service logic must keep creating processes based on customers, co-creation of value and integrating customers resources (Green *et al.*, 2017). In service research, customer involvement, participation, and engagement are often bound to specific service concepts such as delivery, innovation, and design (Bitner *et al.*, 2008; Vargo and Lusch, 2008; Grönroos and Voima, 2013; Ostrom *et al.*, 2015; Straus *et al.*, 2016; Voorhees *et al.*, 2017). However, authors have argued for a more holistic perspective and that the customer can participate in *any stage of the service process* (Dadfar *et al.*, 2013; Straus *et al.*, 2016), namely in the service specification, production and realization and usage of the service (Straus *et al.*, 2016).

Relating this back to the structure of the value spheres, these concepts often have their starting point in the provider's sphere (service specification, service innovation, service design, service development), but move into the joint sphere. Other concepts are more related to the joint sphere (production/realization, service encounter, service delivery) and other service concepts that focus more on the customer's sphere (usage, service experience, customer journey). The crucial interactions for value co-creation and customer involvement are said to happen in the joint sphere. These interactions, labeled as *moments of truth*, *customer touchpoints*, *service encounter*s, and *service touchpoints*, are said to be "all points of contact between customers and providers – and take cognitive, emotional, behavioral, sensorial and social aspects into account" as well as "any type of contact where information transfers between service providers and business customers" (Gao *et al.*, 2021). However, even with this broad definition, service scholars tend to analyze these touchpoints through the lens of a single service concept or a specific interaction (often frontline employees) (Kindström *et al.*, 2015; Garrelfs *et al.*, 2023; Karatzas *et al.*, 2023). These touchpoints can be viewed from different angles, such as types (remote, technology-mediated, and face-to-face), them being purposive (Lewis and Entwistle, 1990), their management and different actor constellations (Witell *et al.*, 2020) and with this the distinction between frontline and backstage employees, leaving touchpoints to be direct or

indirect (Ostrom *et al.*, 2015; Voorhees *et al.*, 2017). To summarize, the focus on *the customer* is explained by the importance of co-creation in services, which reflects the roots of servitization. In order to investigate crucial moments, as part of customer involvement and customer-oriented services, touchpoints serve as a base from which to investigate the joint sphere.

2.2.4. *Energy Services as a Context*

In order to better place the introduced concepts in relation to the context of my thesis, this sub-section provides background information about the energy sector.

Energy companies transition to service-logic

Like other countries, Sweden is reaching a critical point where energy demand and supply do not always align, especially during peak hours, which puts pressure on the grid. However, it is not only consumers that have to rethink their consumption patterns; enterprises and businesses are major energy users and their operations depend on running multiple energy-intensive systems simultaneously, which makes them key actors for energy providers (Hamwi *et al.*, 2021).

Demand-side management (DSM) refers to "actions, policies, or programs that aim to alter end users' electricity consumption habits, either via a reduction or a change in the patterns of electricity use" (Carley, 2012) in order to address the demand and supply mismatch in the electricity grid. Through such means as pricing models, automation, or services, a flattening of the energy consumption is intended (Paulus and Borggrefe, 2011; Carley, 2012). This change of the market is also visualized by new and smaller companies, which focus only on providing these kinds of services. They often act as intermediaries between the energy providers and customers, which is why energy companies are losing access to important customer data, thus limiting their ability to develop and innovate their service portfolio (Singh *et al.*, 2022). DSM is mentioned here as one of the strategies energy companies are using to balance the mismatch between energy demand and supply. For my research, more importantly, DSM provides an essential context for understanding *why influencing customer behavior is necessary*, highlighting the *growing need for customer involvement and closer engagement in services*.

Even though the market is in this transition, servitization within the energy sector has only been researched to a limited extent (Park, 2022). The theoretical focus often lies on manufacturing companies, where the differentiation between the product and the service is easier to distinguish (Helms, 2016). However, researchers have taken up the call to investigate the energy industry transition and have found drivers as well as barriers to implementing energy services (Helms, 2016; Kindström *et al.*, 2017; Lütjen *et al.*, 2017).

Characteristics of energy services

What exactly are energy services? Theoretically, there has been *no agreed-upon definition* of the term (Kindström *et al.*, 2017; Kalt *et al.*, 2019; Poblete and Halldórsson, 2023).

In their conceptual study, Fell (2017) provided a table of various definitions of the term before providing their own definition: "Energy services are those functions performed using energy which are means to obtain or facilitate desired end services or states". They based this definition

on dominant themes in previous energy service definitions: (1) they benefit people, (2) they are always connected to energy, (3) they are demanded by and delivered to the consumer, (4) they are connected to energy relevant technology, and especially (5) on the discussion by Jonsson *et al.* (2011), who moved away from the term "energy service" and proposed using "service" instead.

Other authors have contributed additional dimensions to the discussion. Kindström *et al.* (2017) distinguished between *direct* energy services, which tangibly affect the customer (for example, changing lights or ventilation equipment on site), and *indirect* services, which affect the customer in less tangible ways (such as selling information through an energy audit). They also differentiated between *basic* services (such as providing information and analysis) and *advanced* services (such as managing activities and performance on behalf of the customer) (Kindström *et al.*, 2017).

Poblete and Halldórsson (2023) focused on the interface between the provider and customer, highlighting the importance of not only examining the provider's role, but also the customer's involvement. First, they introduced four types of energy services, oriented around information, analysis, contract, and improvements. In line with Kindström *et al.* (2017), they classified information- and analysis-oriented services as *basic*, while contract- and improvement-oriented services are seen as *advanced* (Poblete and Halldórsson, 2023). Building on this, they then connected the type of service to the degree of customer involvement and, thus, the interface from which the service is being sourced.

Even though these contributions come from different perspectives, the only thing they seem to agree on is that there is nothing to agree on. There is no single definition of energy services, due to various use cases, the need for adaptation to customer needs, and the discussion on whether energy itself is required to call a service an energy service or not. This is further complicated by the ongoing discussion around what a service actually is, which makes it difficult to establish a new definition based on a term that is already not clearly defined.

In this thesis, I do not adopt a single definition of the term. Instead, I base the discussion on the idea that energy services can be understood as basic and advanced services. Within this frame, I refer to the four orientations: information, analysis, contract, and improvements. I also consider the distinction between direct and indirect services as a relevant lens. I also acknowledge the importance of customer involvement and the varying degrees to which it can be present in the service process.

Servitization challenges in the energy sector

So far, we know that the energy sector is undergoing an important transition to focus on energy services, a term that has no universal definition, in order to adhere to environmental goals to balance energy demand and supply. The high focus on societal and environmental aspects can be explained by policy obligations, but also by the fact that energy companies, at least in Sweden, are often municipality owned, offering public services. This makes the financial aspect less important, as they put less emphasis on profits and turnover, or are not allowed to actually make profits, as commercial actors (Kindström *et al.*, 2017). Other external drivers are the increased demand from customers for energy services, market saturation for utilities, increased competition due to new actors in the market, and especially digitalization. Internally

are companies driven by their willingness to strengthen their market position and stay competitive, strategic directions from top management, profits and turnover (Helms, 2016; Kindström *et al.*, 2017; Singh *et al.*, 2022).

However, energy companies are facing *internal and external challenges* in transitioning to a service logic. Table 4 summarizes challenges mentioned by selected authors who have specifically investigated servitization within the energy sector, to provide an understanding of what energy companies are struggling with. Throughout these papers I have noticed that these evolve *internally* around themes such as strategic barriers, cultural and organizational resistance, competence and capability gaps, lack of resources, and implementation and process challenges. *Externally,* the dominant barrier is related to the customer, while others are related to the competitiveness as well as the market itself. These dimensions are found on the left-hand side of the table, structuring the findings of the papers.

Table 4: Examples of servitization challenges in the energy sector

Related to…	Kindström *et al.* (2017)	Lütjen *et al.* (2017)	Helms (2016)
Internal — **Strategy**	• Lack of clear strategic direction from top management	• Cannibalization of current business model • Ambiguity in market strategy	• Defining the organizational strategy
Culture	• Lack of internal will to change	• Embedded product-oriented culture	
Competence	• Lack of internal competence		• Finding the appropriate service design
Resources	• Lack of financial resources	• Lack of resources	
Processes	• Internal competition between divisions/units in organization	• Low formalization of service processes	• Implementing the organizational transformation • Simultaneity (managing product and service business models concurrently)
External — **Customer**	• Lack of knowledge regarding energy efficiency • Lack of financial resources • Lack of interest regarding energy efficiency	• Customer acceptance	
Network	• Strong market competitors	• Network configuration (difficulties in aligning partners and cooperations)	
Market	• Unclear laws and regulations		
Both			• Distinct service mindsets • Different timescales of customer relationships • Shifting focus on "value-in-use" • Asset transformation

In conclusion, this chapter offers an understanding of (1) why the energy sector is an interesting and relevant sector to investigate, (2) what energy services are, and (3) which challenges energy companies in particular are facing regarding servitization.

2.3.   Sensemaking

Gioia (2006) described his interest in "understanding how people understand organizations – and how they organize to create workable organizations". Reading this quote, I found it captured an important part of the space I aim to explore. In my thesis, this understanding of an organization comes from the ambiguous situation of servitization, which naturally triggers sensemaking. As I will be borrowing the sensemaking concept from organizational theory and bringing it into service literature, this chapter lays the foundation for this theoretical conceptualization of the contribution of my research. The structure of the chapter follows the core subjects presented in Weick's (1995) seminal work, which is central to my understanding of sensemaking.

Origins

The idea of sensemaking became prominent with Karl Weick's (1969) published text "The Social Psychology of Sensemaking". In that work he proposed that changes in the environment around an individual cause a disruption in the flow of that individual processing information. This then forces the individual to go through a process that includes enactment, selection, and retention (Bajwa *et al.*, 2020) in order to balance their cognitive confusion. Therefore, the sensemaking concept is influenced by dissonance theory, which sets a focus on social psychological clashes and instability as base for change (Weick, 1995, p. 11).

Nature of Sensemaking

The nature of sensemaking is partly described by distinguishing it from similar concepts such as *interpretation* and *decision-making*, because "sensemaking is about the ways people generate what they interpret". This gives sensemaking the important nature of being an activity or a process, where *it is the activity, not the outcome, that is in focus*. Especially in failing sensemaking or interpretation, Weick saw a central difference. Failing sensemaking is consequential and existential, where individuals might question their self. This is not the case in a failed interpretation effort. Decision-making, on the other hand, differs from sensemaking because the former is about finding out what a decision is about and not what the decision should be in the end (Weick, 1995, p. 13 and following).

Seven properties of Sensemaking and Organizational Sensemaking

In order to clearly define and distinguish sensemaking, Weick proposed seven distinct properties; these are summarized and explained in Table 5 based on his publications in 1995 and 2001. The *property* is presented in the first column, followed by an explanation of the property in the second column. The third column is my adaptation and understanding of the special interest of Weick's work, which is the organization, based on his example of the garment industry. The bolded terms in the Table 5 highlight the important attributes of sensemaking that will guide my conceptualization.

Table 5: Properties of sensemaking, their meaning and their meaning for organizational sensemaking

Property	Meaning	Organizational Sensemaking
Grounded in identity construction	Sensemaking is grounded in who we think we are. The identity of individuals influences what they notice, how they interpret events, and how they act. It is about "Who am I".	Individuals' **mental models** are influenced by their beliefs about the firm's **identity**. In organizations, sensemaking is about who we are as **individuals** and as a **group**. "Who am I" becomes "Who are we". Interpretations are seen through the lens of roles, values and shared beliefs. Therefore, identity is never fixed but is **constantly** shaped.
Retrospective	We will be aware of what we have done after we have done it (**meaning is assigned after the fact**). Therefore, lived experiences guide the making of sense. We look back at past events and extract information for the future and further action.	Firm **processes** can be evaluated **retrospectively**, often immediately after actions take place, leading to new interpretations of those processes, which might change strategies. In organizations, people make sense of events by looking back after things have happened. Sometimes even shortly after, as sensemaking tends to follow action.
Enactive of sensible environments	We create our own environment, through **actions** and words, and with this create the reality we then interpret.	In organizations, when actors believe their ideas and **act** on them, they can **shape** their environment; other organizational members then notice these changes, come up with their own ideas, and act as well. If this happens repetitively, it becomes a fact and a consensus.
Social	Sensemaking is influenced by **social contexts**, **interactions** with others and our anticipated audience. It is never solitary; and shaped by our multiple selves.	In organizations, one's own capabilities and skills are **compared to those of other actors**. **Communication** between executives, direct and indirect imitation, spreads among customers, suppliers, and competitors. Organizations consist of networks, social interactions, and intersubjective shared meanings.
Ongoing	Sensemaking **never stops**. Especially in **change situations**, there will always be a continuous flow that goes back and forth between the past and the present.	In organizations, people are always **"in the middle of things"**. Projects are interrupted but never seem to start. Sensemaking happens **continuously** as people **adjust** to new developments, goals, and interactions. It is a flowing process, not a fixed event.
Focusses on and by extracted cues	When we try to make sense of an **ambiguous or confusing situation**, we often pick certain **cues** of the whole picture. These cues guide our noticing, remembering, and interpreting. Which cues are chosen is based on our beliefs, expectations, and especially past experiences.	**Cues are extracted and enacted**. In organizations, people pick up on small cues, such as feedback, market trends, and competitors' actions. These are shaped by **context** and past experiences.
Driven by plausibility rather than accuracy	Sensemaking is about "**plausibility**, pragmatics, coherence, reasonableness, creation, invention and instrumentality" (Weick, 1995, pp. 55). In other words, it is **not about "the story"** but "**a story**" (Weick, 2001, pp. 462).	Information is accurate enough and is about finding stable set of transactions that make sense. In organizations, decisions are often based on what seems stable, not on complete or precise data. People depend on **familiar patterns** and **shared understandings** to make sense of filtered information.

Organizational sensemaking is of special interest, as the context of this thesis is an organization, with focus on its sensemaking. Weick explained that sensemaking in an organizational context is not the same as everyday life sensemaking. One reason for this is that themes that individuals come across in an organization are viewed from a different perspective, or ask for different ways of acting, which we might not do if it is not in a business environment (Weick, 1995, pp. 17–82). Weick conceptualized organizations as social structures where interpretations and routines are effected by continuous communication (Weick, 1995, pp. 170). *Occasions* for sensemaking are triggered by "shocks" that people experience. These occasions "are themselves constructed, after which they become platform for further construction". The shock can then be different based on the occasions. In organizations, the most common occasions are ambiguity (shock of confusion) and uncertainty (shock of ignorance). Each of these need different solution in order to be solved: while more information is needed to resolve ignorance, a different kind of information is needed to resolve confusion. Weick also claimed that if the occasions and the shock are mislabeled, sensemaking is prolonged (Weick, 1995, pp. 83–99).

Collective sensemaking and sensegiving

Another term that is found in theory and connects sensemaking to the organization is *collective sensemaking*. It concerns a collective story or mind of organizational members who construct shared meaning and together decide on that meaning. This eventually creates their organizational reality (Boyce, 1995). Collective sensemaking is said to occur through sensemaking-sensegiving cycles, which are explained as a manager or leader *making sense* around a topic and then *passing cues* to their employees through sensegiving (Cristofaro, 2022a). Therefore, sensemaking is often initiated by prior sensegiving, which "is concerned with the process of attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition" (Gioia and Chittipeddi, 1991). The sensegiver takes a role in that moment where it is about making sense for others by supplying them with interpretations and information about, for example, a new reality. However, the sensegiver role does not have to be bound to the internal organizational structure. It can be taken on a higher level, where an organization can act in a sensegiving manner, as can its customers. It is important to note that not only the hierarchy and power of the sensegiver plays a crucial role on the sensemaking of others, but also the intention behind their sensegiving (Cristofaro, 2022a).

2.4.   Synthesis: Sensemaking and Services

Introducing *sensemaking* to service literature is not a new idea. Authors have already started integrating more psychological or organizational theories into our field (Skålén and Strandvik, 2005; Lipkin, 2016). However, only a few have specifically referred to Weick; even fewer have introduced the concept to servitization literature, and even fewer again have engaged with the foundational assumptions of both sensemaking and services.

In this chapter, I focus on how sensemaking has been brought into service literature. I emphasize publications that apply sensemaking to services, not the other way around, which narrows the scope of the potential publications. Additionally, I focus on papers that reference Weick, as his work is my main point of departure as I try to be as close as possible to the

primary work. Articles that use the term "sensemaking" without citing him are excluded. Also, I reviewed the literature constantly and added new references that have not been covered in the appended papers.

Focus on the Customers and Joint Sphere

A central paper in this chapter is the one by Kemppainen and Uusitalo (2021), as this was one of the first I came across to introduce Weick's sensemaking into the service field. Their aim is to *understand* how customers form their service experience by using sensemaking as a lens. By focusing on cognitive aspects of the service experience, they explore how services are not only experienced but also interpreted from the customer's perspective. The customer takes the role of the sensemaker. This *customer-centricity* is emphasized in their work, as their conceptualization is closely tied to customer-dominant logic, with particular interest in the customer sphere and how it is understood. Another key contribution of Kemppainen and Uusitalo (2021) is their distinction between the service experience formation (process) from the service experience (outcome), as they are focusing on cognitive processes and construction (the *how*) in the customers' space rather than the *what* of the final outcome. For future research, they suggest topics such as customer-centric service design, distinct sensemaking processes in experience formation, and the consequences of how customers make sense of services.

They reference Lipkin (2016), who has reviewed articles that approach *customer experience* at an individual level, and which perspective they have applied. One of these perspectives is sense-making-based, which is other than stimuli- and interaction-based, promoting a *holistic and dynamic view*, which emphasizes how individuals experience and interpret their world. Through this perspective, customer experience is seen as *continuous, active, and socially constructed*. It involves cognitive and emotional engagement of actors, which is based on past experiences and future anticipations. The authors suggest that managers focus on mapping out what they can and cannot control in relation to customer experiences. With this comes the identification of where managers can increase influence and where they might need to reorganize. More directly addressing the joint sphere, compared to the articles in the beginning of this chapter, Gal *et al.* (2021) examined how frontline employees *make sense* in the context of customers disrupting service processes in light of service quality. Sensemaking is used as a perspective when interviewing the frontline workers to explain how they perceive, explain, and react to "difficult customers". Their implication for practice is to implement service-related trainings, which should coordinate sensemaking and sensegiving.

Focus on the Provider's sphere

Ferraro *et al.* (2022) took a provider-centric approach and examined *strategic* change in retail and service organizations, caused by a *crisis and ambiguous situation, as these contexts* are "particularly susceptible to disruption". They investigated how decision-makers make sense in these scenarios and act accordingly. By applying sensemaking in this context, they explored how organizations *navigate ambiguity and confusion* and emphasized how environmental cues are interpreted and enacted to adjust strategy and reduce uncertainty, all of which are central sensemaking occasions in Weick's work. Further, they acknowledged the collectivity of sensemaking by viewing the organization as a group rather than a collection of individuals.

For managers, they argue that *developing sensemaking capabilities* is crucial for an organization's formations of adaptive responses to customers and employees. Finally, they call for more research on sensemaking processes in a longer time frame, by *studying sensemaking as it evolves*.

Wallin and Fuglsang (2017) focused on deliberate *change* and found that when institutional structures are *changed* because of service innovations, they undergo three iterative processes. One of these is institutional sensemaking as a *phase of the service innovation process*. This is described as the "interpretive-cognitive process though which actors develop interpretations of the institutional environment and their subject position within the field". They claim that as soon as an organization is subject to *change*, caused by service innovation and triggered by surprise or confusion, actors are making sense. With a similar focus on how actors make meaning, caused by *strategic change*, Holmlund *et al.* (2017) explored the *mental models* of actors whose established views and operations have been challenged. Sensemaking is said to create the business world and results in mental models. In doing so, the authors add to the discussion on using mental models in service contexts.

Before concepts such as service innovation and customer experience can be discussed, the firm needs to create a service culture or a service provider mindset.

This was emphasized by Biesinger *et al.* (2024), who investigated the social construction inherent in servitization and how it leads to a successful outcome. Their work responds to a lack of insight into *service-driven change processes*. While the need for this change is acknowledged, the necessary *service culture* has been defined only to a limited extent and is difficult to impact. Cultural change is linked to organizational learning at the firm level and sensemaking at the member level. By making individual *mental models* explicit and addressing conflicting ones, Biesinger *et al.* (2024) aim to create shared meaning and bridge the gap between individual cognition and organizational learning. They propose that, in order to support the development of organizational learning, digital advancements and service orientations, manufacturers in servitization must (1) *intervene* in group processes to change mental models and behaviors by addressing belief, informational, and behavioral barriers; (2) reshape mindsets and build organic *structures* through collaboration, integration, and feedback-driven adaptation; (3) *strategically* prioritize generative learning, digital orientations, and implementation of service orientations; and (4) develop learning-, digital-, and service-oriented values to guide innovation, strategic alignment, and transformation benchmarks in servitization.

In line with the need for a *cultural change* in servitization, Skålén and Strandvik (2005) used sensemaking to evaluate the success of a program that was supposed to create a *service culture* within the firm. Sensemaking was appropriate because it is said to be "one the most important contributions to contemporary organization theory" and it addresses the creation of organizational culture specifically and not only the end product (Skålén and Strandvik, 2005). To *understand*, interpret, and make sense of cues, which are central for starting sensemaking processes, the researchers referred to cognitive frames. These frames are continuously developed and as they represent the individual experiences and *mental models* that are needed to set the cue into. Skålén and Strandvik (2005) introduced four scenarios of organizational sensemaking (Table 6), which are based on the *quantity* of sensemaking within the firm

(intensity, based on extracted cues) and the level of *uniformity* of sensemaking (consistency, based on cognitive frames) (Skålén and Strandvik, 2005). These are shown in Table 6:

Table 6: Four scenarios of organizational sensemaking

Intensity / Consistency	High	Low
High	**Shared sensemaking** Everyone interprets similarly, which leads to a stable service culture.	**Feeble sensemaking** Similar sensemaking but weak interpretations
Low	**Conflicting sensemaking** Subgroups produce different sensemaking	**Fragmentary sensemaking** No sensemaking is produced

Based on the scenario, the creation of a service culture is likely or unlikely. Skålén and Strandvik found that if the created culture of employees and management differs, the establishment of a firm-wide service culture is hindered. One key finding is also that it is not about coherence of a service culture but about the *management of different meanings* around it (Skålén and Strandvik, 2005).

In summary, sensemaking in the field of services is used for or concerned with: (1) customer centricity and experiences, (2) understanding of specific concepts, (3) attributes of continuity, action and social construction, (4) a dynamic and holistic view, (5) organizational change, (6) crisis situations, (7) navigating ambiguity and confusion, (8) being a phase of service innovation, (9) mental models, (10) understanding behaviors of individuals and/or groups, (11) (service) culture construction, (12) managing different meanings, not coherence, and (13) level of intensity and consistency. All of these inform the conceptualization of my service sensemaking construct.

2.5. Theoretical take-aways

Figure 3 provides an overview of how I interpret the presented theoretical concepts in relation to my research and outlines the key takeaways I will use to address my research questions. These also represent the underlying assumptions that I will use to explore how services are being understood and grounding my idea of Service Sensemaking. Figure 3 also highlights theoretical aspects that are seen in service research across other contexts, as well as in energy-related service research (blue E) and additional aspects that appear unique to the context (blue font).
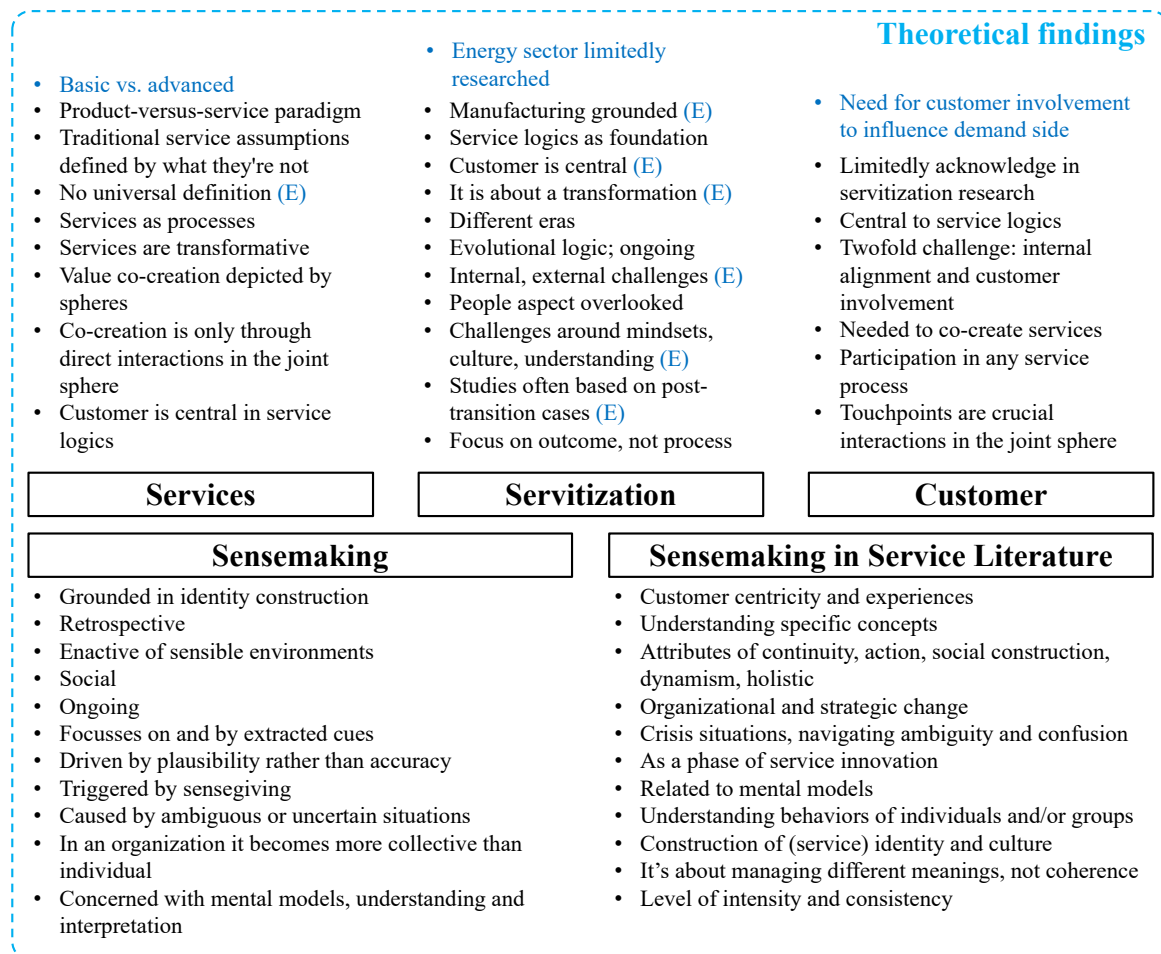

Theoretical findings

- Basic vs. advanced
- Product-versus-service paradigm
- Traditional service assumptions defined by what they're not
- No universal definition (E)
- Services as processes
- Services are transformative
- Value co-creation depicted by spheres
- Co-creation is only through direct interactions in the joint sphere
- Customer is central in service logics

- Energy sector limitedly researched
- Manufacturing grounded (E)
- Service logics as foundation
- Customer is central (E)
- It is about a transformation (E)
- Different eras
- Evolutional logic; ongoing
- Internal, external challenges (E)
- People aspect overlooked
- Challenges around mindsets, culture, understanding (E)
- Studies often based on post-transition cases (E)
- Focus on outcome, not process

- Need for customer involvement to influence demand side
- Limitedly acknowledge in servitization research
- Central to service logics
- Twofold challenge: internal alignment and customer involvement
- Needed to co-create services
- Participation in any service process
- Touchpoints are crucial interactions in the joint sphere

Services	Servitization	Customer

Sensemaking	Sensemaking in Service Literature

- Grounded in identity construction
- Retrospective
- Enactive of sensible environments
- Social
- Ongoing
- Focusses on and by extracted cues
- Driven by plausibility rather than accuracy
- Triggered by sensegiving
- Caused by ambiguous or uncertain situations
- In an organization it becomes more collective than individual
- Concerned with mental models, understanding and interpretation

- Customer centricity and experiences
- Understanding specific concepts
- Attributes of continuity, action, social construction, dynamism, holistic
- Organizational and strategic change
- Crisis situations, navigating ambiguity and confusion
- As a phase of service innovation
- Related to mental models
- Understanding behaviors of individuals and/or groups
- Construction of (service) identity and culture
- It's about managing different meanings, not coherence
- Level of intensity and consistency

Figure 3: Theoretical findings grounding Service Sensemaking

3.   METHODOLOGY

This chapter describes the overall design and process of this thesis and how they relate to the research questions. It also presents the data collection, analysis, and the research quality presented.

3.1.   Research process

This research follows an interactive and abductive design, where iterations between practice and theory have been continuous. The combination of gathered data and regular interactions with organizational members supported a process of moving between data collection and analysis. My process, with important academic and practical milestones, is shown in Figure 4.
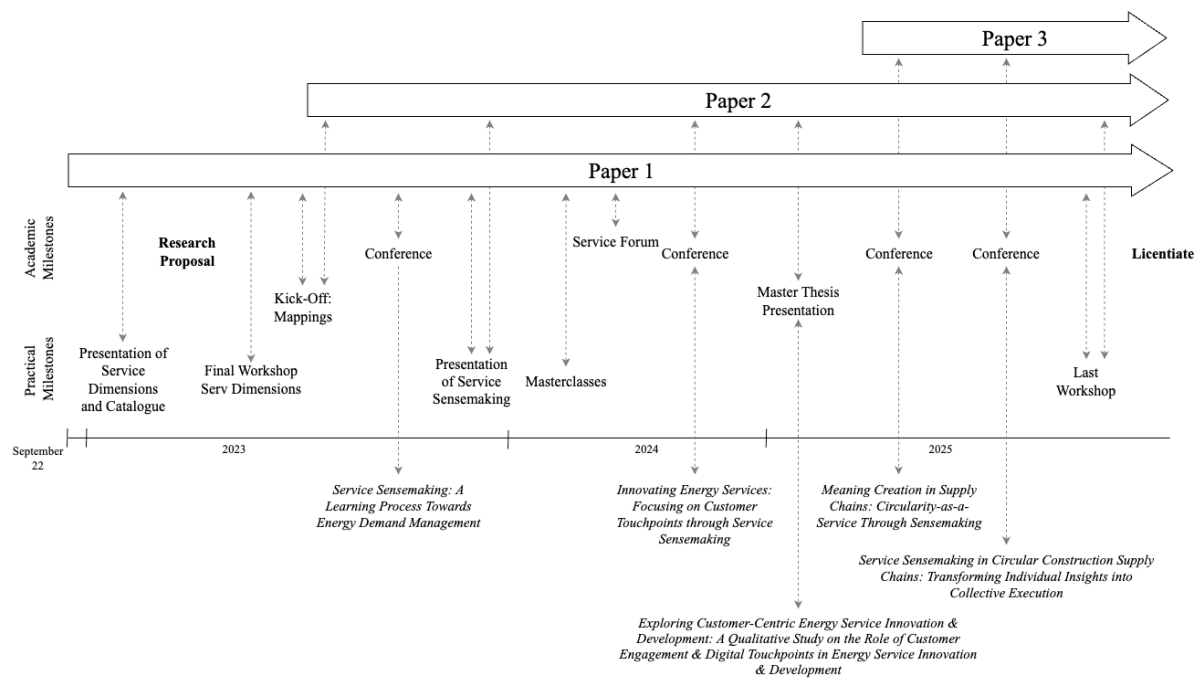

Figure 4: Research process

I began my PhD process in September 2022 and was introduced to the energy company. As my research is part of the KATE (*KundAnpassade Tjänster inom Energisektorn genom tjänstefiering och digitalisering*) project, together with a Swedish energy provider, I was regularly present on-site. The focus for the first few months was the idea of a service catalog, including service dimensions, rooted in action learning (Appendix 1). This was intended to support the service developers to communicate the value, meaning, and importance of services. However, by the time the concept was finalized in 2023, the tool itself had already lost its relevance within the organization, revealing the limitations of static approaches. Nevertheless, the process offered valuable findings into how sensemaking is happening in the company. This shifted our focus. Rather than trying to create fixed definitions around services, we began to explore how the understanding of services and the meaning around them is crucial in practice. From this point, data collection was guided much more by a sensemaking lens. A key milestone

in this transition was the kick-off of the customer touchpoint mappings (Appendix 2), which informed Paper 1 and laid the foundations for Paper 2.

The first external presentation of the Service Sensemaking construct was at a conference in 2023, followed by a presentation to and dedicated sensemaking masterclasses with practitioners. Since then, the construct has been further developed and critically discussed at conferences and with the practitioners. Together with the energy provider, and within the scope of Paper 2, I have also worked with master's students, which provided further insights into customer touchpoints and their role in organizational sensemaking.

While this licentiate thesis is based on one study, leading to two papers, we have also initiated data collection for a third paper, in the context of construction plastic waste management. This study will take a more traditional supply chain perspective, involving multi-actor constellations and network dynamics. However, due to project-related delays, it was not possible to include it in my licentiate.

Lastly, studying a company in transition, where employees' roles and organizational structures have changed, resulted in data of ongoing processes. This has extended the timeline for developing the papers, as they were constantly updated and adjusted.

3.2.   Research design

At this stage, my thesis is built on an abductive, qualitative research design to answer the research questions. Both appended papers are grounded in an interactive and action-oriented approach, which included iterative circles between theory and empirical data (Bell *et al.*, 2022). With this I am following calls in service research to reduce the gap between academic results and its use in practice (Elg *et al.*, 2020). This is done in the context of an energy company that is in the midst of its servitization process. I aim to generate knowledge that is not only academically valuable, but also relevant and applicable to solving practical challenges (Van de Ven, 2007; Van De Ven, 2018); in this case, the investigation of the understanding of services as means for customer involvement for greater demand-side management goals. By closely following a company in transition, more specifically servitization, and working together with practitioners, I adhere to the idea of an engaged scholarship design (Van de Ven, 2007; Van De Ven, 2018).

Engaged scholarship can be practiced in many different ways, including action research, as discussed in Van de Ven (2007). The idea of working with the practitioners as part of an action research design evolved during the first and initial interactions with the company as the research team analyzed and revised the discussions with the project group. This was made possible by the multidisciplinary research team members who, in the spirit of Peluchette and Gerhardt's (2015) statement that "scholars from different disciplines have the opportunity to integrate perspectives to shed new light on persisting and emerging questions", helped shape this idea. There is recognition of the need for process data, which prompted me to consider theories from researchers such as Van de Ven and Ann-Langley, especially since "qualitative methods are well suited to the study of dynamic processes, especially where these processes are constituted of individuals' interpretations" (Maitlis, 2005).

The choice of method is further supported by the synthesis of engaged research methods with sensemaking (Soffe *et al.*, 2011; McKenzie *et al.*, 2014). This is explained by the five following factors. (1) Active engagement with the environment: Within sensemaking theory, individuals

are said to shape their environment based on taking action, which then influences their future action; in action learning, those actions (learnings) are directed towards real-world problem-solving activities. (2) Reflection and meaning-making: Action learners, as well as sensemaking individuals examine their own experiences in a retrospective meaning-making process and also in a reflective process. (3) Social and collective: In sensemaking theory, the sensemaking process of each individual is dependent on and influenced by actual or imagined interactions with others. In action learning, this aligns with the idea of participants learning through collaborative and diverse perspectives within a group. (4) For both approaches, it is necessary to interpret cues and given information, which can be extracted from one's surrounding to be able to make sense of a situation or be able to make informed decisions. (5) Plausibility vs. accuracy: Both sensemaking and action learning emphasize the plausibility of information and encourage insightful questioning and critical evaluation to reveal biases and improve decision making (Soffe *et al.*, 2011). Furthermore, authors highlight the importance of sensemaking and meaning-making for successful engaged scholarship (McKenzie *et al.*, 2014).

To contextualize the study and identify relevant theoretical assumptions, I conducted an ongoing literature search using Scopus, Web of Science, and Chalmers Library. The search was exploratory and iterative, aiming to capture central assumptions rather than exhaustively covering the entire field, focused on terms such as services, servitization, sensemaking, and Weick. Accordingly, the literature search can be constituted not as a systematic literature review, but rather as integrative (Bell *et al.*, 2022), and has served as a foundation to frame the research problem, the interview guides and creating the state-of-theory for empirical data collection.

At this point, I would like to exemplify how the search for the use of sensemaking in service literature looked, as this is a central aspect of my theoretical framework.

To find relevant papers beyond specific service concepts, I searched across journals that contain *service* in their title. I further narrowed the search by including *"Weick"*, as I wanted to ensure that the articles referred to the primary theory I am borrowing from and not to others. One search string on Scopus looked like this: *(TITLE-ABS-KEY ("sensemaking" OR "Sense-making" OR "sense making") AND SRCTITLE (service) AND REF (weick)) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "ch") OR LIMIT-TO (DOCTYPE , "re"))*. For another search, I focused more on servitization literature and PSS to understand how Weick's sensemaking has been used in the field.

To ensure quality and coverage, I tried to be as close as possible to a systematic literature review process. This is to come to central papers, which are now part of my theoretical conceptualization. That means that, after deduplication, the remaining articles were screened based on their titles and abstracts to assess their relevance to the research objective. Articles were excluded at this stage if their titles and/or abstracts indicated a primary focus outside the scope of service management. Also, I acknowledged if articles were published by or in suspected predatory publishers or journals; such articles were also excluded. Following the title and abstract screening, the full texts of the remaining articles were reviewed to confirm eligibility. Papers were excluded if, upon full-text review, they did not address the research questions of my thesis.

3.2.1. Paper 1

The first paper focuses more closely on the idea of action learning and action research (ALAR), presenting a holistic method that not only investigates and addresses real-world challenges, but also actively involves participants in a continuous cycle of learning and improvement (Zuber-Skerritt, 2001; Zuber-Skerritt, 2002; Coghlan and Coughlan, 2008), in the scope of engaged scholarship (Van de Ven, 2007).

The unit of analysis is the service understanding on the intraorganizational level (providers sphere), which is related to identity construction and change, which guided our data collection and analysis.

3.2.2. Paper 2

In this paper, we took a more holistic approach to engaged scholarship, not focusing specifically on action research or action learning. Even though we still focused on actively engaging with practitioners and triggered learning instances, through focusing on engaged scholarship we highlight the co-production of knowledge, both academically and practically (Van De Ven, 2018; Ellström *et al.*, 2020). The unit of analysis in this paper is the perspective on the service understanding in the joint sphere, which is investigated by examining customer touchpoints, which guided our data collection and analysis.

However, with both papers I acknowledge that learning and knowing is grounded in social situations; they are collaborative and depend on sensemaking and meaning making (McKenzie *et al.*, 2014).

3.3. Sampling and data collection

Participant selection was conducted based on a collaborative research objective between an energy provider and the university. The company, which is located in western Sweden, sells and distributes electricity, district heating, district cooling, natural gas, etc., and is owned by a municipality.

The sampling started with a *homogeneous expert* group who shares the motivation of the research project and the expertise in energy service development and innovation (Etikan *et al.*, 2015), leading to the main involved department: Utveckling och Digitalisering (engl. Development and Digitalization). Their main aim is to develop and innovate energy services based on customer needs and bring forward the strategic change towards advanced services within the company's portfolio. More specifically, the expert group is relevant for the study because of (a), its closeness to the topic of energy services; (b) its aim of innovating and developing services; and (c) its focus on customer closeness to be able to support demand-side management. Over time, this initial group has evolved as additional organizational members joined the team or the project group subsequently. This group, referred to as the *project group,* was crucial to define, as the primary strategy for data collection was to engage and observe the day-to-day or routine activities of practitioners (Vink *et al.*, 2018).

The *sampling* strategy was, apart from the *convenient* accessibility to the practitioners, *purposive* (Bell *et al.*, 2022). There was a deliberate choice of participants and their knowledge for the purpose of the research goal and thereby utilization of accessible resources. This was then followed by a *'snowballing'* approach, which involved letting the project group guide us towards colleagues who (a) might be willing to participate, (b) are related to relevant service

processes, (c) are crucial for the project group and their work, and (d) have valuable insights into service episodes. This resulted in interviews where those colleagues then revealed others whom we should talk to (Gill, 2020). All involved organizational members can be found in Table 7, which is ordered based on their time of participation.

Table 7: List of participants and their part of the project group

No.	Role	Project Group
1, 2	Business developer in service development	Initial
3	Senior manager in service development	Initial
4	(Consultant) Business developer in service development	
5	Service developer in specific areas	Subsequent
6	Senior manager online channels	
7	Product specialist	
8, 9	Customer advisor	
10, 12	Business developer in service development	Subsequent
11	Product manager	
13	Senior manager customer and business power grid	
14	Senior manager development (R&D)	
15	Business innovation consultant	
16	Customer segment manager	
17	Business manager in product and service areas	

As I was able to have exclusive access to the company and their facilities, sitting together with the practitioners throughout their day, the sampling was in line with *participant observations,* which focused on situations the practitioners acted in (Flick, 2014). This was for a period of around 30 months (from September 2022 to April 2025), with more and less intense periods of involvement, which included completing approximately 200 hours of observations, including informal conversations mainly with the project group. During this time I took field notes that captured concrete information about the way of working, service processes, sensemaking instances, challenges for servitization, product versus service discussions, practitioners' way of thinking and general notes on the energy sector. These observations were compiled in a diary of approximately 26 pages, which reflects my thoughts and additional small analysis of certain observations in hindsight. To support this process, eight meetings (lasting between 45 min and 110 min), 21 semi-structured interviews (30–80 min), seven workshops (60–180 min) and three masterclasses (60–150 min) were conducted. In some cases, follow-up interviews were also conducted with the same organizational member later to clarify meaning or get an update on the topic. Table 8 shows what these entailed and who I talked to.

A *semi-structured interview* approach was chosen because it made it possible to adapt the sequence of questions during the interview as well as follow up questions that seem necessary (Bell *et al.*, 2022). Especially in the chosen research design this approach seemed valuable as practitioners started sensemaking instances throughout the interviews, leading to information that I, as the interviewer, could pick up on.

Table 8: Data collection, content, and involved practitioners

Collection method	Description and Content	Organizational Members
Interviews (Bell *et al.*, 2022)	Semi-structured interviews, which are partly recorded and transcribed. Started with general interviews about service processes and their overview, service characteristics for possible service dimensions and catalog, followed by a strong focus on service episode mappings and the product-versus-service paradigm. Organizational members are seen as interviewees.	Project group, and additional organizational members that are connected to service processes.
Workshops (Storvang *et al.*, 2018)	Workshops entail more active participation from the organizational members, where state of theory and practice are being discussed and analyzed. The emphasis lies on what is and what might be. In these instances, we as researchers, and mainly the project group, were involved in discussions and exchange of ideas. Initially, the main focus was on service dimensions. The output was mainly in observation and written notes, some of which were recorded. Organizational members are seen as participants.	Project group
Meetings (own definition)	I define meetings as coordinated group discussions, which can be similar to focus groups, but do not align with the basic definition of a focus group (Bell *et al.*, 2022). Meetings in this case mean instances where, for example, we introduced the project, talked about next steps and upscaling, regular check-ins, kick-out or off before certain periods of the year (e.g., before/after summer/Christmas), and organizational meetings. Even though the purpose was not specifically data collection, the discussions that emerged led to valuable observations and data. Organizational members are seen as participants.	Project group
Masterclasses (own definition)	The masterclasses are similar to the workshops, where theory and practice come together and discuss. The difference lies in the more direct introduction of the sensemaking concept, as well as in the output that was generated. The first three masterclasses led to concept mapping data, while the last masterclass led to "sticky notes" that were directly inputted from the practitioners themselves. Organizational members are seen as participants.	Project group and crucial members regarding service processes, such as R&D, marketing, customer relations.

Due to the interactive and immersive research design, each interview simultaneously to the empirical findings for Papers 1 and 2. While questions around product-versus-service paradigm were central to Paper 1, topics such as service episodes were more relevant for Paper 2. This integrated approach was partly chosen due to the limited availability of practitioners.

3.4.   Data analysis

In engaged scholarship (ES), data analysis not a distinct stage but is rather an ongoing process throughout the research. It is shaped by iterations between practitioners and academics. Organizational members play an active role in this and have a high level of involvement, either in transforming findings into a meaningful analysis or by responding to and refining the analysis presented by the research team (Small and Uttal, 2005). In line with the diamond model, I built the study as shown in Table 9.

Table 9: Study activities grounding the analysis based on ES diamond model

Study activity	Meaning	Application
Problem formulation	Situate, ground, diagnose and infer the problem up close and from afar. Engage those who experience and know the problem.	The identified practical problem started with the misalignment on what services are versus products, which hindered development and innovation of customer-oriented services, in line with demand-side management. Later, this evolved towards a perspective on identity and interpretation.
Theory building	Create, elaborate, and justify a theory by abduction, deduction, and induction. Engage knowledge experts in relevant disciplines and functions.	Service Sensemaking was developed in close iterations between literature and practice (abduction). Academic experts were involved in organizational theory and service management.
Research Design	Develop variance or process model to study theory. Engage methods, experts, and people by providing access and information.	Service development experts, and later service-process-related actors, were involved to gather data. Through the lens of sensemaking, services are seen as processes.
Problem solving	Communicate, interpret, and negotiate findings with the intended audience. Engage them to interpret meanings and uses.	Findings are presented regularly and discussed with the practitioners, engaging them in workshops and masterclasses.

Against this background, the data analysis followed an abductive reasoning, where we started with real-life observations and iteratively adopting theories from our theoretical framework (Dubois and Gadde, 2002) to depict the sensemaking of and with services. The interview data were coded a priori based on a semi-structure interview guide, the questions of which were compiled based on initial groundwork on the state of practice and theory. Later, inductive coding as well as memoing, guided by emerging patterns, allowed us to break down and label the data further (Charmaz, 2014; Miles *et al.*, 2020). These labels were discussed extensively by the authors and practitioners to identify emergent theoretical themes and synthesize inductive findings in order to theorize. For this, I adopted a process-oriented approach to theorization (Langley, 1999), due to the longitudinal research design.

3.5.   Research quality

Since engaged scholarship has experienced some controversies regarding its research quality, each step of the research design was monitored and evaluated by the researchers and practitioners' group, which is why new practical insights emerged with every interaction, affecting theoretical redirection. These insights, reflecting research quality with their application in this study, can be seen in Table 10 (based on Ellram and Tate, 2015; Elg *et al.*, 2020; Stenfors *et al.*, 2020).

Table 10: Research quality

Criteria	Meaning	Application in this study
Dialogic and process validity	Multi-actor approach depicted by working in a diverse research team and speaking to various service stakeholders.	• Research team consisting of supply chain management professor; professor focusing on organizational behavior, innovation management and knowledge management; PhD student focusing on service supply chains. • Various stakeholders from energy provider (business developers, sales, managers, consultants, IT, R&D).
Process validity	Results through cycles of reflection and problematization. Creating face-to-face interactions between researchers and practitioners.	• Various face-to-face interactions through engaged scholarship and sensemaking approach. • Shown by various interviews, workshops, meetings, observations, masterclasses and researchers working on site together with practitioners. • Showing how variables change during study.
Catalytic validity	Iterative research design where actors reassess their roles and perspectives, leading to openness towards changes throughout the study.	• Supported by various iterations where both researchers and practitioners have to revise the last interaction and act. • Through workshops the practitioners were open to adjust processes. • Sensemaking instances lead practitioners to think and reinterpret the flux and services.
Credibility	Relationship among theory, data collection, analysis, and results.	• Method and theory are aligned, as is data collection (multiple methods with rich available data). • Data coding and analysis. • Development of propositions. • Review of findings with practitioners.
Transferability /external validity	Some results can be generalizable or transferred to other contexts and represent the phenomenon.	• Thick descriptive data with multiple respondents and methods. • Service Sensemaking can be adapted to other industries going through a servitization process.
Dependability	Traceability of methodological decisions.	• Case study data base with multiple data sources (different departments and participants). • Existing interview guides, observation notes, recordings • Common use of engaged scholarship research design • Multiple researchers involved in the process.
Confirmability	Link between data and findings and their objectivity	• Interviews were recorded and transcribed. • Data validation. • Presentation findings to participants.

4. SUMMARY OF APPENDED PAPERS

This chapter summarizes the two appended papers. First, the background and purpose will be introduced, followed by the findings and contribution of each paper.

4.1. Paper 1

This paper is concerned with the provider's sphere.

4.1.1. *Background and purpose*

Energy companies are prompted to transition to service models to address the energy demand and supply mismatch. Paper 1 investigates how sensemaking within organizations plays a crucial role in the process of a company becoming more service-oriented, highlighting the need to understand the underlying perspective on services. The paper addresses the implication of understanding services as processual entities rather than static outcomes. Empirically grounded in the energy sector and building on the increasing need to reduce energy use, this paper presents a new way of thinking about energy services. It looks at the continuous interpretation and understanding of services, helping us see them as ongoing processes and understand their role in transforming energy companies towards a service mindset. Therefore, the purpose of this paper is to explore how applying a sensemaking lens to services can support organizations in overcoming traditional mindsets effecting a service-led transition. It emphasizes how services are understood by shifting attention to the interpretive processes that shape them, offering a new way of working and thinking.

4.1.2. *Findings and contributions*

Paper 1's point of departure is the providers' sphere, which has evolved throughout the research process. The initial idea was to view the value spheres as a whole and in connection; however, the findings led to focus in this paper on intraorganizational aspects, which align with the identified challenges that need to be addressed in servitization literature.

The data collection started with a focus on the terms service and product, which was mentioned as the main flux to move further with the service-strategy and more specifically to be better at customer involvement into service processes. This flux was met by creating service dimensions and a service catalog to solve the terminology issue (Appendix 1). However, this solution seemed to be too static and was irrelevant as soon as it was introduced. The findings then directed the study to an identity, culture and mindset flux, not yet allowing us to include customer aspects. Employees are often aligned with the company's products definition, but they are not aligned regarding whether they should become a service provider or stay in their traditional way of selling. This prompted the sensemaking lens, which then additionally shed light on the situation that the company is stuck in a product-paradigm, even though they are not a traditional manufacturing company, which effects customer involvement and, consequently, the creation of customer-oriented services. Organizational members claimed that part of this is missing guidance from top management, hinting at sensegiving, the start of sensemaking processes.

The sampling was then broadened, which further confirmed the identity issue and led to the assumption that a one-size-fits-all tool is not sufficient to solve the new flux. Sensemaking

seems to be a helpful concept with which to address many different issues at the same time. Workshops revealed that collectively making sense around services helps break current mindsets and leads to actions for each individual. In this, collective understanding seems key and gives enough room for actors to interpret and act. By investigating basic service assumptions, viewed through a sensemaking lens, this paper contributes with the first idea of Service Sensemaking as a transformative approach. Leading to the first underlying assumptions of the construct: (1) multi-level and multi-actor; (2) continuous, yet situational; (3) customer as an integral part of service processes; and (4) service duality and services as processes. With this, the product versus service discussion is put to rest, confirming the process character of services, by introducing a process concept such as sensemaking to service literature. The study contributes to the value sphere perspective by focusing on their interdependency but claiming that they are difficult to bound. Even though the provider-dominant perspective has been claimed as problematic, the paper highlights that aligning the providers' sphere is crucial to then investigate and connect the joint and customers' spheres.

4.2.   Paper 2
This paper is concerned with the joint sphere and hints at the customer's sphere.

4.2.1.   *Background and purpose*
Demand-side management is concerned with the influence of the customers behavior. To influence customers, providers must interact with them to co-create value in the form of customer-oriented services. This is in line with the idea of sensegiving, which is supposed to influence others mental models to a wished outcome. As sensegiving is the starting point for sensemaking, we wanted to focus on situations where sensegiving is in the fourth ground in the interaction with the customer. This brought us naturally to the service episodes the company has with its customers. Therefore, we asked managers to draw maps of their episodes with the customer to understand where, when, and how the energy provider interacts with its customer, all in relation to their definitions of a service process. These crucial interactions are depicted by service episodes, as they have been deemed to be most important for co-creation of value as well as customer involvement. the *purpose* of this paper is to open up the *joint sphere* by investigating service episodes as crucial co-creation interactions between customers and providers through a sensemaking lens. In doing so, the study shows how sensegiving unfolds in practice and how these interactions contribute to reshaping mental models, highlighting co-creation not only as a one-time interaction but also as a process that guides and enables changes in behavior and interpretation. When reviewing the findings we must keep in mind that this paper took the perspective of the business developers, innovating and developing services, and trying to involve the customer more to create services the customer actually needs.

4.2.2.   *Findings and contributions*
This paper advances Service Sensemaking by examining where service-related sensemaking occurs beyond intraorganizational boundaries, shifting focus closer to the customer. Given the centrality of customer involvement in customer-oriented services, the study explores provider–customer interactions, depicted by service episodes, through a sensemaking lens.

The findings highlight the important role of sensegiving in these episodes, particularly in shaping and influencing mental models. As the trigger for sensemaking, sensegiving provides a foundational reference point for how meaning is constructed around services.

One of the key findings is that sensegiving is not only initiated by the provider toward the customer but also occurs in the opposite direction. Customers directly or indirectly engage in sensegiving themselves, shaping how services are understood and interpreted by the provider. This highlights the bidirectional and ongoing nature of sensemaking of services, where meaning is not simply delivered, but created together. The paper proposes that service episodes should be understood as sensemaking nodes; that is, places where meaning is negotiated, shared, and shaped. Service episodes are therefore not only mere touchpoints but are much more complex than what is typically suggested in the literature. They do not occur in a single department or follow a linear path. Instead, they appear across various parts of the organization, such as sales, customer service, and service development, and at different stages of the service process. This also suggests that customer touchpoints are not bound to one specific service concept, such as delivery, encounter or design, but instead span multiple service processes, therefore our use of the term service episodes.

While customer service and sales teams interact with customers regularly and directly, those responsible for developing new and old services are often the furthest away from the customer, which makes it difficult to involve customers in the service process and they only indirectly receive important customer data for their work. However, all teams share a common goal, which is to gather valuable customer data.

The study shows that while theoretically defined characteristics of customer touchpoints do exist in practice, they do so in many dimensions. A touchpoint can be face-to-face, direct, regard advanced services, and have high customer involvement, or it could be the complete opposite. Service episodes, therefore, are not dyadic, not easily pinpointed, and not bound to a single moment or actor. Instead, they are iterative, collective, and social in nature. This raises the question of whether the unit of analysis of the value spheres should be brought down to a more micro-level, where the idea of different spheres not only exists on the organizational level, but also on much more and smaller scaled instances between the actors and customers. This leads to a view where multiple joint spheres exist in parallel.

Another important observation is ambiguity around who the customer is. This became particularly clear in through interviews, where different departments had different mental models of the customer. For instance, the project group working with more advanced, overarching services had a different view of the customer than those in product or digital departments. This variation complicates the identification and analysis of service episodes and blurs the lines regarding where and when the joint sphere starts and ends.

From this paper, additional key assumptions of Service Sensemaking are depicted: it is social, collective, and bidirectional, it can be found in service episodes, and it offers a new way to understand how services are developed, communicated, and experienced in relation to customers. Touchpoints are seen as service episodes, creating services is interactional, and sensegiving is a mechanism to shape customers mental models in order to innovate services.

5. DISCUSSION

Service Sensemaking offers a conceptual and practical contribution to understanding how, where, and when services are being understood to realize a service transformation in complex organizational settings. In this, services are not only something actors make sense about, but also something they make sense with. In other words, working with services becomes a way of constructing meaning, where services are both the subject and the ground for sensemaking. The discussion is centered around the main theoretical and empirical findings (Figure 5) and their relation, informing Service Sensemaking. In the following sections I will answer the research questions based on these findings and links presented in the figure. They not only summarize my underlying assumptions but also inform the discussion by giving important dimensions on a new perspective on how to go about the understanding of services.
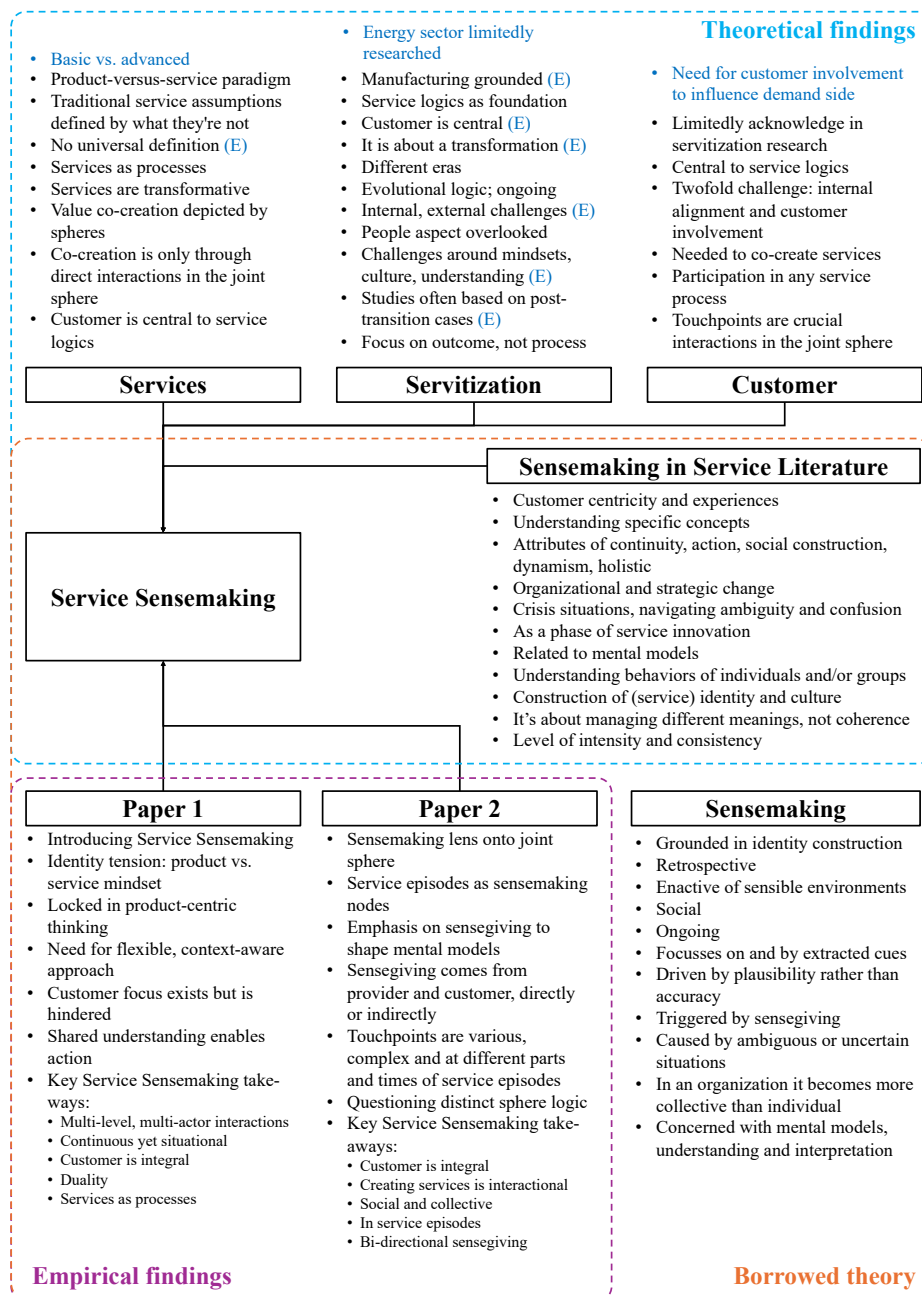

Figure 5: Theoretical and empirical findings conceptualizing Service Sensemaking

5.1. How can the understanding of services be conceptualized through sensemaking?

"We do make sense constantly, but not around and with services" (Workshop participant). I wish to start this discussion with a quote from the latest workshop that we held with the practitioners as it shows the need for Service Sensemaking. In a situation where services are in constant flux, and servitization brings organizational members into an ambiguous situation, sensemaking offers a dynamic lens to conceptualize not just what services are, but *how* they evolve, transform, and what opportunities they can hold. By moving away from the traditional product-versus-service debate, we open up space to focus on the *ongoing process* of *understanding and interpreting* them *collectively*. The organization's efforts to shift toward a service logic have faced challenges. Their current ways of working and thinking are missing tools that recognize both the dynamic nature of services and the organization's own pace of change. Traditional tools like service blueprints seem not to be the answer in terms of addressing the deeper challenge of what energy services actually are and how they are understood. I conceptualize the understanding of services through sensemaking by introducing Service Sensemaking. I then discuss its key components, which are presented in the following subsections.

Ongoing nature of services and sensemaking

The understanding of services has started to shift from static definitions to *processes*, especially in service marketing literature (Grönroos, 1998, 2019; Sampson and Froehle, 2006; Vargo and Lusch, 2008). However, the arguments still often build on the traditional product-versus-service debate, holding on to the idea of static definitions. By adopting a sensemaking lens, we can explain services and their understanding through a concept that is processual, moving beyond binary distinctions like product versus service. From this perspective, what is considered a service is not fixed, but must be made sense of in relation to its environment. The categorization itself becomes an enactment of a sensible environment, one of the key properties of sensemaking, highlighting that service understanding is shaped by the context and actively constructed.

This becomes especially clear in the *ongoing nature of services and sensemaking*. The understanding of services can be characterized as *ongoing*, as the focus is no longer on their outcome, but on the sensemaking (Weick, 1995) of their value creation process (Vargo and Lusch, 2004, 2008) and consumption of a service process (Grönroos, 1998). The depiction of servitization through different eras further shows that the notion of what a service is (for example, value-added services vs. "anything-as-a-service") *changes over time* (Vandermerwe and Erixon, 2023), leading to a constant need to understand services themselves. Servitization is a journey, not a destination (Skålén and Strandvik, 2005; Kurtz *et al.*, 2023) and it can also be seen as an evolution. This is reinforced by *services being constantly adapted based on feedback, customer input,* internal evaluation and being shaped by their specific context and situation (Behrens et al., 2025a). Since sensemaking is grounded in *retrospective* experience (Weick, 1995), services are understood not only during their creation and delivery, but also after the fact, through reflection and reinterpretation. The fact that services are processes and ongoing has also become evident through the research design itself, as (static) solutions

developed in the early research phases proved inefficient just weeks later, showing how services are adjusted and needed to be understood constantly (Behrens et al., 2025a). This *need for constant reinterpretation* is temporal but also *relational*. By investigating service episodes, it became clear that those episodes are not just dyadic but rather bi-directional and customer-involving (Behrens et al., 2025b). These observations confirm the arguments for services being processes instead of outcomes, and align with the fundamental idea of sensemaking itself being a process, which is concerned with the activity rather than the outcome (Weick, 1995, p. 13 and following).

Grounded in identity

Subject to their ongoing nature and moving even further away from static definitions toward a more dynamic view, is grounding the understanding of services in organizational and professional *identity construction*. This involves individual organizational members identity and how they relate to the organization's identity, which they both interpret and actively shape through their collective sensemaking.

In servitization, the importance of organizational identity, both individual and collective, becomes prevalent when authors focus on the challenges companies are facing, such as service-based strategy hindrances, service mindsets and culture, misalignments between groups and departments, and missing capabilities (Valtakoski, 2017; Bigdeli *et al.*, 2021; Kurtz *et al.*, 2023). These challenges can be traced back to identity roots (Bigdeli *et al.*, 2021), which is one of the seven sensemaking properties (Weick, 1995).

While the challenges are well-documented, they are often in the context of companies success or failure narrative (Oliva and Kallenberg, 2003; Kowalkowski *et al.*, 2017; Valtakoski, 2017). The change of culture regarding services has been described by what it should be. The servitization literature is especially concerned with the end result of the process. The firm should be more service-oriented (Skålén and Strandvik, 2005). However, this view misses the current capabilities and resources, as well as the company's culture, and it remains unclear how companies and managers can comprehend service logics in this transition (Grönroos, 2023) in order not to fail. This is especially the case since the way in which organizations and individuals make sense about what a service is or what it is not is strongly connected to their view of who they are as professionals or as an entire organization. Therefore, conceptualizing the understanding of services in *identity construction* helps to address such issues. It offers a way to explain how actors form mental models around services and where misalignments occur. This became especially apparent in the case company, when organizational members recognized, through interventions, that while the terminology around services was internally aligned, the mindset of being a service provider was not. The project group then saw potential in addressing how services are understood and why that understanding matters through such means as workshops. They also realized that communication towards other organizational members is crucial in order to create shared understanding. Especially given that my research is focusing on a company in transition, Service Sensemaking keeps in mind the company's current state and culture and how this can be supported by a flexible tool in order to end at the desired state of a service company. Our findings show that, in the end, the term of service or product matters less than having a *collective understanding* and comprehension of what

services are (Grönroos, 2023) in one's *own context* and how it can align to individual goals (Behrens et al., 2025a). This shared sensemaking is shaped by intense and consistent sensemaking instances, which is necessary for creating a stable service culture (Skålén and Strandvik, 2005).

Given that Sensemaking is about plausibility and not accuracy (Weick, 1995), it fits into this context where one-size-fits-all does not seem to be the answer. There is no universal definition of service, only interpretations that make sense within a given environment (Behrens et al., 2025a; 2025b). This is especially relevant in social constructs, such as an organization, where different departments, with their own identity, experience and goals, must work together in a service process. These are shaped by the identity enacted and communicated by the firm (Weick, 1995). Here, the management of those different meanings is in the foreground, rather than one coherent service culture (Skålén and Strandvik, 2005). Ultimately, it is about creating *a* service culture and not *the* service culture.

Sensegiving and Collectivity

In this context, the role of the *sensegiving* becomes important. As sensegiving is shaped by the hierarchical relationship between the sensegiver and the sensemaker (Cristofaro, 2022b), and companies often create divisional structures towards service mindsets (Kurtz *et al.*, 2023), teams can end up creating different mental models around services, which can lead to rejection of a service identity (Bigdeli *et al.*, 2021). This rejection is also triggered by a lack of strategic direction (Kindström *et al.*, 2017), emphasizing the importance of management's sensegiving (Behrens et al., 2025a). Inherent in this is the *collective* nature of sensemaking (Cristofaro, 2022b). By conceptualizing the understanding of services through sensemaking, I argue that services are *collective* as well. This is grounded in how sensemaking within service research is concerned with guiding multiple actors in value co-creation (Carrillo *et al.*, 2019). These actors are involved in service processes through both direct and indirect interactions, internally across the organization (Behrens et al., 2025a) and externally towards the customer (Behrens et al., 2025). Therefore, services are constructed in a social and collective space and never just by one individual (Behrens et al., 2025a; 2025b).

In summary, the understanding of services can be conceptualized through sensemaking by shifting focus from defining what a service is to *continuously make sense of it*. Rather than treating services as fixed entities, the sensemaking lens sees them as evolving *sensemaking processes* shaped by *interpretation, identity construction, and contextual importance*. Additionally, Service Sensemaking is subject to important sensegiving actions and focuses on collectivity.

I ground Service Sensemaking in both established and newly formed service assumptions, while trying to remain as close as possible to Weick's (1995) original work, as I stated in the beginning of my work. To ensure this, I revisit Weick's seven properties of sensemaking and interpret them through the lens of my service assumptions, grounded in my *theoretical and empirical findings (cursive)* from Figure 5. Table 11 presents this interpretation and shows how each property informs and is reflected in Service Sensemaking. In doing so, I aim to validate

the construct by demonstrating how these foundational properties are not only relevant, but actively shape the way services are understood through sensemaking.

Table 11: Conceptual parallels between sensemaking and services grounding Service Sensemaking

Property	Service Sensemaking
Grounded in identity construction	The beliefs of organizational members about the firm's *identity* as a *service provider*, or not, shapes their own identity. Creating a *service culture* to become a service provider is both an *individual* and *collective* identity. This is *constantly* shaped through social interactions.
Retrospective	Past experiences with service processes and *change* scenarios shape organizational members' *mental models* and *cognitive frames*. In turn, these shape how they make sense and act in relation to *servitization*.
Enactive of sensible environments	Organizational members construct the environment from which they extract cues. The service environment shapes and is shaped by service processes, creating *dynamic and interactive sensemaking loops*. This sensible environment is *co-constructed* through interactions and throughout the *value spheres,* where mutual actions and interpretations actively shape the reality.
Social	Sensemaking *of and with services* takes place in *interactions* that can be internal (between organizational members) and external (with customers in service episodes). It is about individuals acting within a group and collectively making sense. Individual sensemaking does not exist without *social interactions*. This can occur at the level of departments, division, or management. Value is *co-created* in interactions, depicted by *spheres*. Each sphere has their own sensemaking as well as interconnected sensemaking.
Ongoing	The understanding of services is *continuous and evolving*. Services are not mere outcomes, but *processes* that carry effects. Similarly, sensemaking never stops. It is concerned with the activity of making sense and not the outcome of it. *Services* involve new innovations, developments, goals and interactions that are fluid and not fixed, especially as they are *evolving* over time. In this, *cognitive* processes and frames are never static and are continuously developed, elaborated, and redefined.
Focuses on and by extracted cues	Transitioning to services is a situation of *change*, leading to *ambiguity and confusion*. This triggers the need for sensemaking. Organizational members extract cues from the process based on their own histories and make sense around them. These cues can be deliberately guided by management through *sensegiving*, which influences organizational members interpretation. Sensegiving is subjected by the intentions of the sensegiver and can support or resist a shift toward a service-oriented strategy.
Driven by plausibility rather than accuracy	The understanding of services, and the success of servitization, is not about a consistent and accurate definition of what services are. It is about allowing *multiple plausible meanings* to co-exist. These meanings need to be managed, not resolved into one truth. It is not about the service but a service.

Service Sensemaking offers a new *way of thinking and working* that guides collective understanding of and with services. While organizations already engage in various sensemaking processes, my construct focuses specifically on making sense with and around services. It is context-aware and supports the transformation of mental models from multiple actors, allowing for different interpretations to coexist, while still creating a shared understanding of services.

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5.2. Where and when is the sensemaking of services taking place?

Having established how the understanding of services can be conceptualized through sensemaking, the next step is to explore where and when this sensemaking, more specifically Service Sensemaking, takes place. Here I want to uncover the moments, space and interactions in which services are interpreted and redefined.

5.2.1. Where

Existing literature using sensemaking in the service field has predominantly focused on one sphere in isolation. The spheres are the providers' sphere, with a focus on internal processes, service culture, and mindsets (Skålén and Strandvik, 2005; Wallin and Fuglsang, 2017; Ferraro *et al.*, 2022; Biesinger *et al.*, 2024); the customers sphere, with a focus on the customers sensemaking processes and customer experiences (Lipkin, 2016; Kemppainen and Uusitalo, 2021); and the joint spheres, which have been touched upon by Carrillo *et al.* (2019) and Gal *et al.* (2021), focusing on front-line and customer interactions as well as multi-actor perspectives. So far, however, the combination of these perspectives has been less acknowledged, especially in servitization literature (Valtakoski, 2017), despite recognition that the customer is crucial for any service logic (Vargo and Lusch, 2004; Heinonen *et al.*, 2010; Grönroos, 2011; Grönroos and Voima, 2013). I argue that understanding *where* Service Sensemaking takes place requires moving beyond these distinct boundaries (Grönroos, 2011; Grönroos and Voima, 2013), in order to create customer-centric services. By applying a sensemaking lens to this structure, I interconnect the provider's sensemaking, the customers sensemaking, and their joined sensemaking, and challenge the separation of the spheres proposed by Grönroos and instead offer a more overreaching view, where the alignment within the providers sphere is crucial and inherently connected to the customer (and their sphere) and their involvement in service processes through the joint sphere. Consider the metaphor of two large cogwheels instead of spheres, where the provider and customer are interlinked through sensemaking wheels that drive each other. A conveyor belt wraps around them, representing the ongoing, processual nature of services. Inside each large wheel are smaller ones, symbolizing groups and individuals that influence movement both internally and externally. Together, the cogwheels and belt represent ongoing motion and the need to have shared understanding in order to advance services and influence customers behavior.

First, Service Sensemaking happens *intraorganizationally* between organizational members. Consistent with servitization literature, the provider creates a service culture in order to successfully transition (Valtakoski, 2017; Bigdeli *et al.*, 2021; Kurtz *et al.*, 2023), especially in the energy sector (Helms, 2016; Kindström *et al.*, 2017; Lütjen *et al.*, 2017). This becomes especially important in order to involve customers, by communicating a shared understanding of services towards them (Behrens et al., 2025a; 2025b). Our findings show that it is crucial to act as "one" company, as the organization's identity directly influences how customers perceive and make sense of services (Behrens et al., 2025a; 2025b). This also shifts the so far high-level unit of analysis, where the providers sphere is depicted by a company, at a more granular level. Services and the servitization journey are formed and enacted by various actor constellations. These constellations can shift depending on the particular service offering and the underlying processes involved (Behrens et al., 2025a; 2025b). Therefore, sensemaking not

only occurs solely at the organizational level, but also within and between actor constellations and groups. Recognizing this, the misalignment of divisions and multiple actors have been identified as hindrances to successful servitization.

Second, Service Sensemaking happens *interorganizationally* between organizational members and customers. The joint sphere and the customer sphere are often treated as a single unit as well, where the focus lies in isolated customer touchpoints related to specific service processes (Bitner *et al.*, 2008; Vargo and Lusch, 2008; Grönroos and Voima, 2013; Ostrom *et al.*, 2015; Straus *et al.*, 2016; Voorhees *et al.*, 2017; Kemppainen and Uusitalo, 2021). The mapping of service episodes revealed a much more complex network of different interactions, that are not only bounded to one-to-one interactions nor to a specific service process. In the context of customer-driven energy services, we observed the involvement of many actors internally (Behrens et al., 2025a), as well as several customers externally (Behrens et al., 2025b). These overlapping interactions show that smaller, dynamic "spheres" are constantly forming within and across the traditional boundaries. For example, while one organizational member communicates a message to a customer, another may deliver a different message, about the same service, the next day. In this we see service episodes as crucial sensemaking nodes, which can be direct or indirect and have different purposes (Behrens et al., 2025b). Investigating service episodes reveals how the joint sphere is not a fixed space, but a moving interface where meanings around services are created and developed.

In line with identity construction, I also found that the construction of internal identity (providers sphere), influences and is influenced by the customer (Behrens et al., 2025b). Where service episodes are subject to being "cognitive, emotional, behavioral, sensorial and social" (Gao *et al.*, 2021).

Customers receive sensegiving from the firm to make sense of the service, but they also respond with their own interpretations. This reciprocal process shapes how the firm, in turn, makes sense of the service and its components to adjust the service offer to later start the loop again (Behrens et al., 2025a; 2025b). This conceptualizes Service Sensemaking as not only provider-driven but customer-involving and co-created. Here, the collective nature of Service Sensemaking becomes clear, as interactions between customers and organizational members occur not only one-directionally and one-to-one, but also bi-directionally and many-to-many. With this, Service Sensemaking does not contrast customer- and provider-dominant logics (Heinonen *et al.*, 2010); rather, it integrates them. By involving the customer in sensemaking processes through and about services, the aim is to influence their behavior to an intended change of energy usage.

In sum, Service Sensemaking happens intraorganizationally, between organizational entities, and interorganizationally, through various service episodes of organizational members and customers.

5.2.2. *When*

The question of *when* Service Sensemaking takes place is less clearly definable than *where*. This is because sensemaking is described as never-ending (Weick, 1995), and rather as a continuous effort to interpret and re-interpret. I extend this idea to services, which are also

ongoing and processual by nature, as described above. This grounds Service Sensemaking in the idea that it is not tied to a specific moment, but is *always* happening, supported by our findings that the understanding of services occurs intra- and interorganizationally, and is constantly shaped by customer needs (Vargo and Lusch, 2004; Heinonen *et al.*, 2010; Grönroos and Voima, 2013; Green *et al.*, 2017; Behrens et al., 2025b).

The fact that Service Sensemaking occurs in any process related to services highlights the importance of multi-actors in those processes and the need to *always* manage different meanings (Skålén and Strandvik, 2005). This is further grounded in the idea that servitization is subject to different eras (Vandermerwe and Erixon, 2023). However, another perspective on the eras is that the entire company does not move through these eras uniformly. Instead, our findings show that different parts of the organization can exist in multiple eras simultaneously. This became evident when some organizational members talked about basic services (such as value-added-services, maintenance) while other discussions centered around more advanced services (such as digital interfaces). Recognizing that there is no clear start or end to Service Sensemaking, and that multiple sensemaking processes occur simultaneously, sensemakers and sensegivers are continuously shaping meaning and acting accordingly. This ongoing process not only influences internal understanding within the organization (Behrens et al., 2025a), but also extends outward, affecting how customers make sense of the service and its value (Behrens et al., 2025b).

The closer examination of service episodes has led to this assumption. The literature often treats touchpoints as discrete events tied to a specific service stage (Bitner, 1990; Bitner *et al.*, 2008; Blomkvist *et al.*, 2016). However, our mappings revealed that touchpoints are more organically created, due to different purposes (such as pilot meetings, customer surveys, feedback loops, and sales talks). These can occur in parallel or at different times, but all involve ongoing interpretation and negotiation of what the service is. Especially since most services are adjusted based on customer feedback, the customers and organizational members must make new sense around that service each time it gets reconfigured. This supports the idea of Service Sensemaking being continuous and *always* happening and seeing touchpoints as service episodes.

However, I would add one dimension to the question of *when*, by arguing that the intensity of sensemaking (Skålén and Strandvik, 2005) differs based on the service process and state of configuration. On one hand, this is highlighted by increased sensemaking needs due to ambiguous situations such as servitization. On the other hand, it also depends on the service process an organizational member is involved in. For example, the need for sensemaking is stronger when a new service is being developed and tested with customer, compared to when a minor functionality is added to an existing offer.

In this, I also observed that sensemaking, and its intensity, can be intentionally supported. In our workshops with practitioners, we created instances for focused and collective reflection, which participants noted is often missing in their daily routines. These sessions then act as sensemaking interventions, where sensegiving was actively triggered (Behrens et al., 2025a; 2025b). With this, I suggest that Service Sensemaking can be strengthened through dedicated instances like workshops, seminars, or structured discussions.

6. CONCLUSION

To conclude, I return to the problem areas outlined at the beginning. Service Sensemaking has been proposed as a flexible tool for managers and employees to navigate how services are understood, emphasizing the importance of collective understanding over fixed definitions. With this, I want to break the service stagnation and challenge traditional mindsets around services, including the organizational structures and cultures that shape them. I offer a new way of thinking and working, providing clearer guidance for practitioners. This addresses the second problem area, by presenting a tool that focuses closely on the understanding of services, being flexible rather than static and seeing services as processes rather than outcomes. It supports practitioners in applying a service logic not only within service-focused teams but across the organization, making Service Sensemaking context-aware. Finally, by investigating service episodes and emphasizing customer involvement in service-related processes, I aim to bridge the gap between provider and customer. Understanding services through sensemaking strengthens this involvement and connects, rather than separates, the distinct value spheres, acknowledging their interplay. This highlights the importance of examining the customer's role and their significance in service-related processes.

The answers to RQ1 and RQ2 could imply that they are easily framed within fixed dimensions of time and space. However, while time and space frame my investigation, they are shaped by how meaning is constructed through ongoing interpretation and interaction, within the context of an energy company undergoing servitization. The reason for this is that if I focus only on distinct answers, defining a specific point in time or space, I contradict the idea of Service Sensemaking as something flexible, ongoing and evolving. This refers back to my purpose of this research, which is to explore how sensemaking can support a shift in ways of working and thinking, by conceptualizing Service Sensemaking and enabling collective understanding within three value spheres for customer-oriented energy services. While this research is empirically grounded, it is enriched by theory. The reason for this is that if we had conceptualized Service Sensemaking purely on theory, we would have risked falling into the same trap of relying on conventional, static frameworks.

By integrating empirical data, I want to not only construct an understanding of what Service Sensemaking is, but also what it does. Throughout the research process, and in relation to this argument, I thought about the metaphor of a tool that is mainly made of rubber and removes pencil marks from a paper. Depending on whether you speak American or British English, you might call it an eraser or a rubber, but by the time I described what the tool does, you would hopefully already know what I am referring to. The terminology becomes secondary to the action. This same idea applies when adapting a sensemaking lens to services, where not just the term service matters but its action, usage, activity and the making sense of and with it.

With the analytical construct of Service Sensemaking, I address servitization challenges by focusing on the process, the journey, not just the outcome. The construct adapts to time and space of sensemaking processes in relation to customer-oriented services within an energy company and offers a new way of thinking and working. The following section outlines my contributions to theory and practice, which have been categorized and mapped onto the Figure 6, from the discussion section.
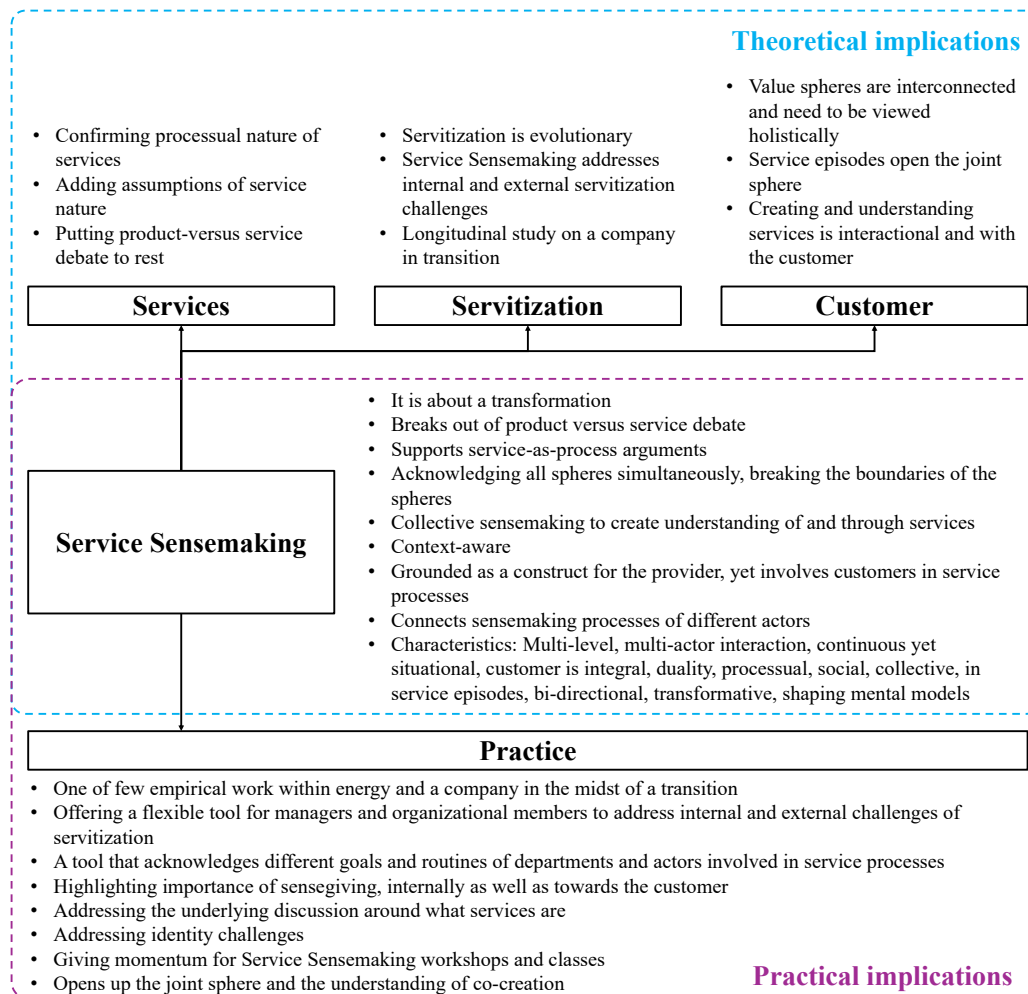
Figure 6: Theoretical and practical contributions

6.1.   Theoretical implications

Sensemaking offers the service management literature a necessary shift in perspective by directing attention to the processes that services involve and the effects they can potentially generate. Focusing purely on the outcome's risks falling back into the product-versus-service paradigm. Instead, viewing services through a sensemaking lens highlights their evolving nature and the need for ongoing understanding of what a service is and what it can be, rather than relying on fixed definitions.

To Service in general

By borrowing sensemaking from organizational theory, this thesis makes three contributions to the service literature in general:

1)   Confirming processual nature of services

As the literature has characterized services as processes (Grönroos, 1998, 2019; Sampson and Froehle, 2006; Vargo and Lusch, 2008), but often still makes arguments based on the product-versus-service paradigm, the use of a processual concept such as sensemaking confirms and highlights the processual nature of services. In particular, by focusing on social aspects and the

people in the process, a sensemaking lens adds valuable arguments to the debate. This is especially highlighted by the finding that achieving a cohesive terminology and definition of services does not seem to be the answer; rather, the process of understanding of services is in focus, which is subject to identity construction and mental models of actors.

2) Adding assumptions of service nature

To define services as processes through sensemaking, I add assumptions to what services are. This is based on the properties from Weick (1995), which grounds services in identity construction, subject to retrospective experiences and meaning making, importance, and influence of the environment around organizational members, their grounding in social interactions, their ongoing nature, acknowledging ambiguity and cues extracted and enacted from that, and lastly by promoting plausibility over accuracy.

3) Putting the product-versus-service debate behind us

The notion of plausibility over accuracy and the new grounding of services as sensemaking processes helps us move on from the traditional product-versus-service debate. With this, I wish to offer a new perspective whereby we no longer need to return to product paradigms and service definitions. Rather, we acknowledge that Service Sensemaking supports academics in understanding services for what they are and not what they are not.

To Servitization

As servitization has been my focal theory, the present thesis contributing to the field in three ways:

1) Servitization is evolutionary

Servitization focuses on the outcome and end result of a process, suggesting that at some point it can either be successful or not. However, by introducing the idea of different service eras (Vandermerwe and Erixon, 2023) and viewing this through a sensemaking lens, servitization can be viewed as much more evolutionary. In this, services and sensemaking are ongoing and never-ending.

The service eras illustrate how the meaning of "service" has shifted over time; for example, from a focus on value-added services to today's "anything-as-a-service" logic. I argue that each shift requires an organization to make sense of what "service" means in their specific context and era. In this way, Service Sensemaking becomes a way of navigating through these eras, rather than reaching a fixed endpoint. Importantly, I distance myself from the idea that a company moves through these eras as a whole. I argue that the unit in question is much smaller. One group or department might already operate with an "anything-as-a-service" mindset, while another remains focused on value-added services. With this, Service Sensemaking adapts to the capabilities and resources available in each part of the organization at a given time. We do not define a company's servitization journey based on failure or success; rather, we acknowledge the evolving process behind it. I offer a context-aware construct to understand how services are interpreted and enacted. This also acknowledges that the involvement and

role of the customer differs across the eras, which again necessitates ongoing and collective sensemaking processes.

2) Service Sensemaking addresses servitization challenges

Servitization literature, as well as academics focusing on energy context, have highlighted the challenges companies are facing in transitioning to a service logic. These can be internal as well as external, with high emphasis on culture, strategies, competences, processes, customers, and networks. Making use of the Service Sensemaking construct allows academics to include identity construction and address issues such as mental models and the management of different meanings around services. It acknowledges the complexity of actors involved and allows for adaptations in each department, to overcome structural challenges and to promote collective sensemaking to come to a shared understanding of the service concept.

3) Following a company in transition not after

Finally, this research contributes by studying a company during the process, not after it. Servitization research has mainly focused on failure or success stories, even though servitization is seen as a journey. With Service Sensemaking I am contributing a construct that can be used to study companies in transition and to investigate how the understanding of services is crucial in moving forward.

To Co-creation with customers
Since my concept builds on the value sphere structure and emphasizes the importance of customer involvement, it also contributes to the literature concerned with these areas.

1) Service Sensemaking acknowledges all spheres in relation

To date, service scholars have investigated the spheres separately, adhering to a distinct view of their boundaries. The claim that research has been provider-dominated versus customer-dominated highlights a distinction in the different spheres, where one is viewed in isolation to the other. Although authors have focused on the joint sphere as well, a holistic view on all of them seems to be missing. Service Sensemaking challenges these distinct boundaries of value spheres and shows that there are many smaller spheres within the big spheres. This is done by integrating internal and external aspects of services though viewing them as processes. With this I wish to create an overreaching view of the value spheres, where sensemaking occurs always and everywhere, not in distinct one-time or one-to-one touchpoints. Taking this perspective changes the unit of analysis from one actor per sphere to many actors across and within the spheres, interacting with each other.

2) Service episodes as sensemaking nods open up the joint sphere

This becomes especially clear by investigating service episodes. As these have been defined as any interaction with the company, we take this quite literally and view services processes and the sensemaking hereof as any service process that the company and individual organizational members are involved in. By this we do not exclude any service concept, instead arguing that

the intensity and need for sensemaking differs based on the process, such as delivery or design. Here, sensegiving is especially important, to influence the sensemakers. The investigation of service episodes shows that sensegiving is not only triggered by the provider, but also from the customer, which adds an additional argument, that the interactions between any organizational member and customer are relational, social, ongoing and collective.

In the context of *energy*, my work contributes by investigating an energy company in their servitization journey, which has not been done to date. I am using a manufacturing-based concept, for an industry that is manufacturing-born, yet does not have the traditional tangible products as described by servitization literature. Therefore, Service Sensemaking is a flexible tool for a company in transition, where a service culture beyond the manufacturing mindset needs to be created.

6.2.   Managerial implications

I argue that managers, and a company in servitization, need Service Sensemaking to adopt a new way of working that effectively addresses the challenges of the servitization journey, both internally and externally.

Companies that are born with a manufacturing mindset but face strategic changes to shift toward a service logic often struggle with this transition. The Service Sensemaking concept offers a way to flexibly adjust to the service process by helping managers and teams interpret and navigate the change in a way that fits their specific context. Rather than applying a one-size-fits-all model, Service Sensemaking supports the development of shared understanding across different units, allowing for many meanings while remaining a company "as one".

The company can make use of the same interventions and sensegiving opportunities that we did during the research by creating workshops and seminars around services, with crucial and important stakeholders around the table, collectively making sense. It is important to take the time to create this shared knowledge around services in order to create a service culture and to address challenges that are related to misunderstandings and different goals within departments. In particular, managers who are at the center of the consequences of an internal misalignment, such as service developers, can use the idea of Service Sensemaking to stop trying to convince every actor involved in service processes to have the same mindset and same priority as they do; instead, they can reach a point where they try to come to a shared understanding which is still acknowledging department individual strategies and structures. This becomes especially clear, as the company has changed its organizational structure a couple of times since the beginning of my research. This means that not even the environment, they are in and extract cues from, is stable. Applying a Service Sensemaking lens allows knowledge to be created collectively while also shaping the individual. This knowledge will become inherent and embedded in each actor and lead them to adapt to new structures more easily. I still acknowledge that new sense always needs to be made.

As the focal project group was concerned with service development and innovation, this perspective supports them in clarifying the internal importance of service concepts. Furthermore, the Service Sensemaking concept helps them involve customers by emphasizing the importance of creating shared understanding around and through services together with them.

7.   LIMITATIONS AND FUTURE RESEARCH

The limitations to this research relate to the chosen research design as well as theoretical framing. Theoretically, I have deliberately investigated specific service journals, to contribute directly to the academic service discussion, which has restricted the scope of reviewed literature. I acknowledge that there might be interesting publications in other fields, which introduce service and sensemaking. Furthermore, the research design changed the theoretical focus throughout which one can question the coherence of the papers and the kappa.

Empirically, my research is limited by the specific project group and their focus. While they acted as experts and were central to the engaged scholarship approach, I was not able to include, for example, direct perspectives from customers. Although this study claims to consider the customer's perspective, it remains somewhat absent. By investigating service episodes, I attempted to compensate for this and get as close as possible to the customer sphere.

This study opens avenues for future research, which not only reflects my call to action but also my own ambitions for the second part of my PhD process.

Firstly, servitization research is still concerned with manufacturing contexts and tends to focus on companies that have completed the transition, either successfully or unsuccessfully. Therefore, I call for more research in contexts where companies are not traditional manufacturers, but are still rooted in a product-oriented mindset. This is in line with, secondly, the need for more longitudinal studies that follow companies throughout their transition, rather than evaluating them at a fixed point in time.

Thirdly, while I have not specifically touched upon supply chain literature in this study, it reflects my academic background and shapes my view of value creation as extending beyond firm boundaries, adding a multi-actor perspective (Baltacioglu *et al.*, 2007; Maull *et al.*, 2012). For future research, I would like to explore this perspective in greater depth and investigate how the idea of Service Sensemaking can be applied to a supply chain context.

Fourthly, my research is limited by its focus on one Swedish energy company. Future research could apply the Service Sensemaking concept to other energy companies in Sweden or explore its relevance in entirely different industries.

Fifthly, I would like to continue my direction to finalize my Service Sensemaking construct in an actual framework. This was not possible within the scope of this study, but it remains a key goal, which then also calls for research that applies and tests the framework.

Sixthly, another area of interest is the connection to emerging technologies. During my research process we came across the "Top 10 Emerging Technologies of 2025" released by the World Economic Forum. In many of these technologies I can draw parallels to sensemaking and also energy. Number 9, "Collaborative sensing – Empowering connected systems to make context-aware decisions" holds promising parallels to the Service Sensemaking construct. The idea of sensing in a collaborative manner, yet still being context-aware, aligns closely with my assumptions of Service Sensemaking. It would be interesting and valuable to follow this further. Finally, I wish to note that articulating the contributions of this research has been challenging, not only because it always is, but also because I see service literature itself as not entirely stable. Both services and servitization continue to raise foundational questions about their definitions and are shaped by multiple research fields. This makes it difficult to clearly delineate contributions, as they often cross disciplinary boundaries.

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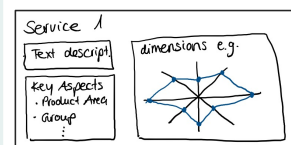
Appendix

Appendix 1: Service catalog idea

Structure

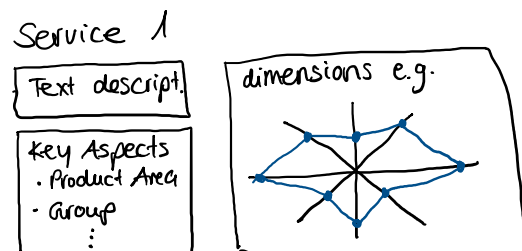| Part	Content
Dashboard	• First page • Overview of all offerings and their dimensions • "One look" to see service characteristics as well as strength and weaknesses

Individual service chapters	• Zoom in to each offer
	• Detailled description of services
	   • Key aspects
	   • Dimensions expression
	   • Text description

Dashboard Idea

Individual chapter idea

Appendix 2: Service episode mappings (examples)