MAKING SENSE OF SERVITIZATION

THE ROLE OF ACCOUNTING NUMBERS IN A SERVITIZATION BUSINESS MODEL SHIFT

ARNE RUBIN

JESPER WOLTERS

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Abstract:

As many companies are making strategic shifts towards servitization business models, there has been increasing requests for research on accounting for servitization. Firms that are pursuing such a shift serve as a good starting point to study how accounting is affected. This thesis aims to investigate how managers in an automotive case company make sense of their servitization business model using accounting information. Building on business models as guiding, legitimizing devices consisting of narratives and calculations (Doganova & Eyquem-Renault, 2009), the thesis sheds light on how managers use sensemaking in the process of understanding a servitization business model. While previous research has focused on firms adding services to existing products, this thesis studies a firm that shifts to selling their whole product assortment as a service. The empirical findings suggest that the business model is useful for sensemaking if actors perceive it as strong, even though it is not internally crafted or fits the context perfectly. Furthermore, we suggest that creating a separate business unit and utilizing non-financial customer data can facilitate a shift towards servitization. Moreover, in the sensemaking process, the business model as a narrative guided managers in their choice and usage of accounting numbers, which in turn reassessed the narrative and facilitated an understanding of what subscription for cars would imply.

Keywords:

Servitization, strategic change, business models, sensemaking, narratives

Authors:

Arne Rubin (24270)
Jesper Wolters (41766)

Tutors:

Emilia Cederberg, Assistant Professor, Department of Accounting

Examiner:

Department of Accounting, Stockholm School of Economics

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Stockholm School of Economics

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1. Introduction

Over the last several years, the technology industry has taken the lead in adopting flexible consumption models, often referred to as “as a service” business models. They offer their customers their services on a per use basis enabling customers to buy access to a particular service, rather than obtaining ownership. The “as a service” models offer compelling benefits to companies in enabling predictable, renewable revenue streams while at the same time delivering great value to consumers as they are only paying for their usage. Currently, everything from smartphones to entertainment services are offered on a per use basis, but an increasing number of incumbent firms are also moving away from pure product orientation and introducing services in combination with products. Such efforts are often intended to contribute to sustainability goals and have in recent years been subsumed under the term *circular economy* (Frishammar, 2019). One type of circular business model that incumbent firms often shift to is referred to as a use-oriented business model, where the firm makes a product available to the customer and receives periodical payments but maintains ownership of the product (Frishammar, 2019). In other words, firms start to sell their whole product assortment as a service, which we will refer to as servitization in this paper.

With the rise of the sharing economy and led by success stories from Software as a Service (SaaS) companies such as Spotify and Netflix, we have seen numerous industries adopt servitization models. The area of car subscriptions has gained increased attention as automakers look to diversify their profit pools (Boston Consulting Group, 2021). Subscription is said to be the next big growth area where one in every fifth new car is expected to be sold through subscription by 2025 (Singh, 2018). Car subscriptions is an offering where a monthly subscription fee gives users access to vehicles, including add-ons such as insurance and maintenance. Typically, the consumer benefit around car subscriptions has been about increased flexibility and minimal commitment (Orange Business Services, 2018). Servitization of the car fleet is also important from a sustainability perspective as the shift towards selling mobility rather than a product leads to a higher utilization rate (Gaiardelli et al., 2014).

However, shifting to a servitization business model is challenging, and involves changing norms, values, practices and mental models (Kindström et al., 2014), and transforming the way in which the firm captures value (Frishammar, 2019). As such, accounting for service business model shifts involves new type of accounting information, measures, and an overall change in the business logic. Accounting literature have recognized servitization as an emerging field, mostly studied in cases where services are added to existing products (Laine et al. 2012; Tenucci & Cinquini, 2015). However, research around the role of accounting within servitization is still scarce (Frishammar, 2019; Laine et al. 2012; Lindholm et al., 2017). Questions that arise concern how to account for such a model and how accounting can assist organizations’ shift from a product-centered to a function-based business model and value logic. There has been a request for more research on the role of accounting in servitization, which we intend to examine (Arjaliès et al., 2020).

Servitization can be viewed as a strategy and overarching topos, that leads managers in their search for financial consequences of the strategy and the use of accounting information. Specifically, it has been suggested that being aware of the strategy helps managers to use accounting information coherently with servitization (Leotta et al., 2020). Similarly, we view servitization as a business model that can guide managers in their work. Previous research has regarded business models as narratives that convince, typifications that legitimize, and recipes that guide (Perkmann & Spicer, 2010). Moreover, they can be said to consist of narratives and calculations that circulate between actors and guide their actions (Magretta, 2002; Doganova & Eyquem-Renault, 2009). Given the aforementioned growth in flexible consumption models and usage of captivating phrases such as "car subscriptions", servitization can be viewed as a stylized example of a business model (Perkmann & Spicer, 2010). We intend to examine this by studying how managers use the business model and accounting information in a strategic shift to servitization. As the business model changes, actors need to form a common understanding about the situation and how to develop the business. In this regard, sensemaking theory serves a suitable lens to study how organizational actors form an understanding about the new business model. The sensemaking perspective enables researchers to focus on the mechanism behind cognition and action. In this sense, we can understand how the perception of a business model and accounting information forms managerial understanding.

Thus, with this background, we believe it would be valuable to answer the following research question:

- *How do managers make sense of their servitization business model using accounting information?*

The research question will be adhered to by conducting a single case study of a large European car manufacturer (TransportCo), which a few years back launched a car subscription subsidiary (SubscriptionCo). At the time of this study SubscriptionCo was in a scaling phase. To facilitate the shift, SubscriptionCo has partnered with a sole financial firm (FinanceCo), where strategic discussions and collaboration have been ongoing for the past years. The focus of this study is on how managers at SubscriptionCo and FinanceCo made sense of their business model using accounting information. Our thesis suggests that the business model as a narrative is useful for sensemaking if actors perceive it as strong, even though it is not internally crafted or fit the context perfectly. Furthermore, we suggest that creating a separate business unit and utilizing non-financial customer data can facilitate a shift towards servitization. Moreover, in the sensemaking process, the business model as a narrative guided managers in their choice and usage of accounting numbers, which in turn reassessed the narrative and facilitated an understanding about what subscription for cars would imply.

This study is outlined in six sections including this introduction. The following section consist of our theoretical background of accounting for servitization and business models. Furthermore, our analytical lens is outlined intended to support the analysis of the case findings. In the third section, our methodology is explained. In the fourth section, our empirical analysis is presented, starting with a background to the case and following with empirical themes around the case. The fifth section consists of an analysis, and the sixth section consists of our conclusion, contributions and suggestions for further research.

2. Literature review

The focus of this study is on how managers make sense of their business model using accounting information in a strategic shift. In this section we start by providing a theoretical background on servitization, following by theory about the characteristics and usage of business models. Finally, we introduce our theoretical lens that will guide the empirical analysis.

2.1. Servitization

2.1.1. The concept of servitization

Definition and origins

The concept of servitization has seen increasing interest both from companies developing their businesses and academic researchers from several fields. It was first reported by Vandermerwe and Rada (1988) stating that firms added services to their offerings to become more competitive, increase revenue and market power. It can be defined as a "transformational processes whereby a company shifts from a product-centric to a service-centric business model and logic" (Kowalkowski et al., 2017). From a research standpoint, servitization has been widely covered in the fields of marketing, management, service, and production, while it is recent in accounting research. From a theoretical point of view, servitization can be framed in numerous ways and despite over 50 years of research, scholars seem to lack a common interpretation and definition of the topic. Servitization essentially refer to processes, offerings, and practices, but is done in many ways and to different extents. In this thesis, we refer to the definition by Kowalkowski et al. (2017) and view servitization as an overarching concept that goes beyond introducing services to existing products. Hence, the key shift is to a business model that focuses on the customer's value in use rather than on customer transactions.

Historically, the servitization trend can be traced back to when pure manufacturing companies started to incorporate services into their existing product offerings, for example to create recurring revenue. Over time, we have seen an increasing number of manufacturing companies offering their whole product assortment as a service. Multiple concepts have been used when referring to servitization, such as service transition (Fang et al., 2008; Oliva & Kallenberg, 2003), service transformation, and service infusion (Brax, 2005; Forkmann et al., 2017; Kowalski et al., 2012). Servitization refers to the transition from a product business to product-service systems. This characterization implies that, on one end of a continuum a product logic with add-on services is reflected. At the other end of the continuum is the service logic which in practice is the pure service business model (e.g., an outcome-based service business) (Kowalski et al., 2017; Oliva & Kallenberg, 2003). A visualization of this logic can be seen in figure 1.

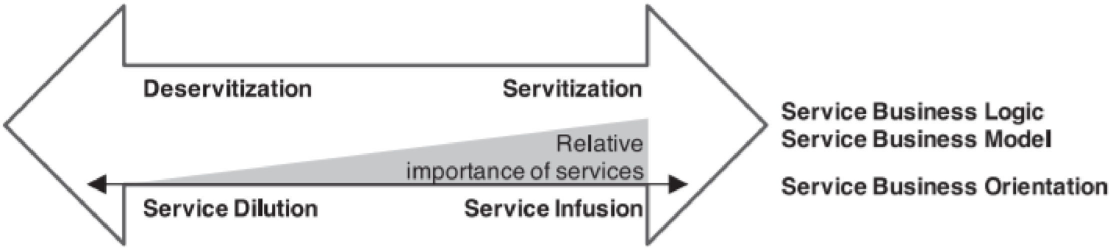

Figure 1: The figure depicts how servitization relates to the level of service capabilities

In our thesis when we use the term servitization we refer to the pure service business model. A mixture of business models in between may exist that configure the components of products, services and software (Parida et al., 2014). Different business models may be prevalent within the same organization (Kowalkowski et al., 2015). Thus, a firm may have a product-centric business model, aiming to maximize equipment sales, and a service-centric business model, aiming to improve its customers' processes in parallel to each other.

Previous literature has focused on a range of challenges in servitization

Servitization literature on have focused on servitization as a competitive strategy and its development as well as implications. The growing interest in the topic seems to be based on the belief that servitization poses a way for traditional manufacturing firms to create additional value adding capabilities. Prior literature has investigated the impact of shift to service-oriented business model across different dimensions and the development of service offering.

Shifting to a service-centric business model is challenging, and involves changing norms, values, practices and mental models, which has implications throughout the firm (Kindström et al., 2014). From an organizational point of view, it is often an initial phase for product-centric firms to establish separate service units within existing products units, but rarely a long-term solution. It is often shown difficult for service divisions to achieve equal attention and commitment in a product-centric unit, despite equal formal authority (Gebauer & Kowalkowski, 2012). Therefore, it is adequate to establish a distinct business unit with profit-and-loss accountability and responsibility for strategic service development (Oliva et al., 2012; Oliva & Kallenberg, 2003).

Cultural and attitudinal change is also a substantial challenge in switching to a service-centric business model and may have profound effects on both the company and its business network. An established product-centric business culture and organization has been shown to impede service growth (Kowalkowski et al., 2017), and even suggested to be the primary barrier for large product firms to gain from service offerings (Davies et al. 2006). The challenges can be derived from the product-centric mental models that drive manufacturers' logic for doing business, and their embracement of the "invention model" which revolves around structured bricks-and-mortar product development processes and platforms.

Although there are similarities to product development, there are important differences in service development. While product development tends to put greater emphasis on engineering and back-end development, service development involves customer delivery and sales more. Leading manufacturing firms fail to commercialize novel service ideas because they lack knowledge, skills, and commitment in the delivery and roll out phase of the service development. A reason may be a greater experience in new product development and that some firms blueprint these ideas but fail to recognize key differences such as a greater need for flexibility in service development. Thus, new service development processes are often more iterative and involve customers more. Hence, it is beneficial for firms to develop capabilities for customer interaction throughout the process, to enable their input to be considered. Most product centric firms possess an existing product or consumer base that can be utilized to gain such insights. (Kindström et al., 2014). To effectively measure and overcome these issues, the development and usage of accounting information becomes apparent, which will be discussed in next section.

2.1.2. The emerging field of accounting in servitization

Accounting has been studied to a limited extent in servitization, mostly focusing on its role in facilitating servitization and development of new management accounting systems and techniques. Firstly, cost allocation and development of new management accounting systems have been studied (Tenucci & Cinquini, 2015; Laine et al, 2017). Prior papers have covered how the knowledge gained from accounting can be used to understand the service business potential and which accounting numbers to consider when implementing a service strategy (Lindholm et al, 2017; Neu and Brown, 2008). Secondly, prior literature has investigated accounting for different managerial purposes as well as its role depending on the phase of servitization development (Kober et al., 2007; Laine et al, 2012). These themes are presented briefly below.

Development of accounting systems and techniques

The usefulness of accounting information in servitization is studied by Tenucci and Cinquini (2015), who argue that accounting and cost systems are often built for products, which creates issues for example when allocating costs to services. Hence, the usefulness of accounting information is argued to be lower for services than for products.

They suggest that manufacturing companies should put effort and emphasis on developing appropriate accounting tools for services, as it could play a crucial role in this development. Similarly, Laine et al. (2017) argue that management accounting systems tend to emphasize product-line reporting at the expense of recognizing synergies between product and services. This may be because of greater experience in using accounting information for products than for services, and an inability to reuse previous accounting experiences from products on services. Hence, a roadblock to becoming service oriented is to develop an appropriate accounting approach to monitor service and achieve accounting transparency. It is with information from the accounting system the case is often made to the rest of the organization on how important services are for the overall profitability of the firm (Oliva & Kallenberg, 2003).

The lack of tools and techniques to support servitization is further studied by Lindholm et al. (2017) who examine how service business potential can be understood through accounting numbers. To effectively capture the potential of servitization, they focus how an installed fleet of assets can be used to develop new performance indicators. The authors argue that management accounting support servitization by consolidating and collecting scattered financial data, which can be used to develop an understanding about the business potential of services. The authors also highlight non-financial equipment fleet data such as customer base information to understand service business potential. By combining non-financial fleet information with financial figures, service potential can be better understood. Similarly, Neu and Brown (2008), suggest that performance indicators should be revisited when implementing a service strategy, as firms otherwise risk otherwise risk failing to reflect the presence of services in their performance management systems. The equipment fleet could provide an avenue for gathering useful information for this purpose. Similarly, Laine et al (2012) emphasize learning from the employed asset fleet by collecting usage data.

Accounting's role in service transformations

Accounting is often envisioned as a key element in transitioning to circular business models (Arjaliès et al., 2020). Management accounting produces and uses financial information as a basis for managerial purposes. Depending on how it is mobilized, it can serve various managerial purposes and help to facilitate strategic change in a proactive way by developing knowledge about the business environment and prepare the organization for unknown future decisions and activities (Kober et al., 2007). It has also been suggested that accounting can take different roles depending on the phase of the servitization process a company is in and the corporate unit of analysis. Laine et al. (2012) suggest that it may take justifying, defining, and controlling roles, depending on how it is mobilized. The authors study three corporate levels, starting at the company level where it plays a significant role as servitization implies redefining the firm's business logic from product-oriented to service-oriented.

The servitization strategy may also be translated to lower-level accounting objects at the product or customer relationship level, where it would influence outcomes for the customer directly. It also implies that the firm must rethink how it uses resources, processes, and process outcomes. Hence, servitization may also require identifying relevant accounting objects within new or refined processes. This way, accounting can play different roles throughout the phases of the servitization initiative, ranging from an answering machine to a source of inspiration (Burchell et al. 1980).

On the role of accounting in servitization, it has also been suggested that servitization in itself can be viewed as an overarching strategy that can guide managers in their choice and usage of accounting techniques. Leotta et al. (2020) show that managers used the strategy as a pre-understanding of possible actions to be taken, narrowing possibilities down to a specific range which lowered uncertainty in their work and use accounting information to visualize the financial consequences of their actions. As has been pointed out, shifting to a servitization strategy implies a wide range of strategic, financial, and operational challenges. The servitization literature have emphasized the linkage between organizational challenges, new accounting systems and techniques, and customer interaction. Hence, viewing servitization as an overarching concept could better capture a holistic view and how other challenges are interconnected with accounting. Viewing servitization as an overarching concept thus makes sense, as it can have guiding features that affects how accounting is used (Leotta et al., 2020). Most studies have focused on machinery manufacturing companies adding services to their existing product offerings which emphasize key accounting differences between products and services. Looking at the servitization continuum (Oliva & Kallenberg, 2003), we classify those firms as operating a strategy where services have more of a low to moderate relative importance, and where they are intended to add additional revenue rather than constitute the primary revenue stream. We aim to extend this research by studying how accounting is used when the whole product assortment is sold as a service, which opens for a range of other potential issues. Like Leotta (2020), we see servitization as an overarching concept, but we instead focus on it as a business model that have guiding, legitimizing, and convincing features. In the next section, we provide a foundation for that research.

2.2. Understanding business models

2.2.1. Theorizing business models

Shifting to a servitization business model implies a shift in the overall value logic of the firm. To answer our research question, it is thus valuable to understand what business models are and what they do. On the highest level, business models are stories that explain how enterprises work (Magretta, 2002). They provide a way of understanding how the firm, given its circumstances, can successfully configurate and organize itself and its relations with external stakeholders (Amit & Zott, 2001).

Business models are extensively researched in various ways. George and Bock (2011) suggest that business models are described and reflected on (1) organizational design (2) the resource-based view of the firm, (3) narrative and sensemaking, (4) the nature of innovation, (5) the nature of opportunity, and (6) transactive structures based on a review of previous papers in the area. We take a (3) narrative and sensemaking view and concentrate on the guiding, legitimizing, and convincing properties of business models.

Content wise, business models are a mix of storytelling and calculations. Magretta (2002) argues that these two traits are both critical to the business model because to be successful it must pass both the "numbers test" and the "story test". If a business model fails, it is either because the story doesn't make sense or because the profit and loss doesn't add up. Consequently, the numbers are tied closely to the story of the firm.

These two key traits have been studied through sociologic lenses (e.g. Doganova & Eyquem-Renault, 2009; Perkmann & Spicer, 2010). The story or narrative portraits a situation in a sequential and structured manner and links different addressees of a narrative to a larger scheme that they all share and understand. By doing so, it works as a guide for different stakeholders that encounter the business in different ways. Hence, narratives are important ways for people to infuse uncertain or ambiguous settings with meaning and can be useful to understand how new business ideas might perform. By bringing together different scenarios, fantasies, archetypes, or metaphors in a skillful way, one may present business model narratives as appealing and plausible to investors, suppliers, and potential clients (Perkmann & Spicer, 2010).

Another prominent feature of business models is their circulation. Business models are used by numerous audiences such as investors, journalists, partners, customers and management (Doganova & Eyquem-Renault, 2009; Magretta, 2002). Firms pitch their business models to investors, put it on their websites, explain them to journalists, visualize it in documents and presentations. The business model is also and expressed in captivating phrases and logos. A resulting characteristic is that business models have boundary effects as they move around different actors, coordinating their work in relation to the model at hand (Doganova & Eyquem-Renault, 2009; Bartel & Garud, 2009), which is especially useful when innovation is open and when they are distributed across heterogenous actors (Chesbrough, 2003). However, there is still a level of room for personal interpretation in business models. The tension between uniting and flexible characteristics help to guide towards a common theme while still allowing diverse management to tailor for local needs (Doganova & Eyquem-Renault, 2009).

2.2.2. Business models as performative devices

The calculative and narrative aspect of business models

A sound business model is crucial for every successful organization as it constitutes the very foundation and existence of a firm. However, there is a lot of fuzziness around the term business model and there are simpler ways of characterizing it.

Magretta (2002) define business models as the gestalt embodiment of firm execution integrating all elements of operations and structure into the narrative as "stories that explain how enterprises work". The storytelling framework presents a strong tool for understanding and interpreting organizational behavior (Gabriel, 2000). The subjective nature of story formulation presents challenges for assessing organizational behavior and outcome. A related perspective focuses on sensemaking and enactment (Daft & Weick, 1984) where institutional pressures on the business model shape firm growth processes. Magretta (2002) introduces two critical tests to evaluate the viability of a business model. According to the author, business models fail when they don't manage the narrative test (the story doesn't make sense) or the numbers test (the profit and loss doesn't add up).

Throughout history there are numerous examples of companies which have either failed the numbers test or the narrative test. Examples of companies which failed the numbers test include the many ventures in the first wave of electronic commerce because their profit and loss didn't add up. Other business models failed as it was built on faulty assumptions about customer behavior, and thus had a flawed narrative. In a nutshell, the widespread use of the business model terminology seems to relate to technology-based companies and the emergence of the dot-com era that ended with a bust. A strong business model narrative appeared to be the answer that explained how innovative undertakings with unproven profitability potential were materialized in business terms. Internet companies could not be valued based on their past performance, and as result narratives or storytelling came to play a central role in the business models of the dot-com era. However, the term business model survived the dot-com bubble. (DaSilva and Trkman, 2014)

Furthermore, some scholars surmise that the emergence of the business model concept and the extensive use since the mid-1990s may be driven by the advent of the Internet (Amit & Zott, 2001), rapid growth in emerging markets and interest in "bottom-of-the-pyramid" issues (Prahalad & Hart, 2002; Seelos & Mair, 2007; Thompson & MacMillan, 2010), and expanding industries and organizations dependent on postindustrial technologies (Perkman & Spicer, 2010).

Using a narrative as a tool for change has been outlaid by Brown et al (2004). The authors propose that stories can be used for all sort of things such as entertainment, conveying information, promoting innovation, and changing organizations. Different purposes require different kinds of stories, and it is important to clarify the purpose for which the story is being used. With a story listeners get inside and feel the idea enabling a link with a tacit understanding that people have in their mind. Further, the authors indicate that when you tell a story that resonates with the listener, people tend to embrace it.

Narratives can be utilized within the firm as well. Business models evolve via internally driven structuration, influenced by the narrative dynamics that drive the development of the firm's social order, rules, organizational structure, hierarchy, and meaning making (Downing, 2005). Additionally, firms may trial multiple business models at the same time (Brown & Gioia, 2002).

From a more calculative standpoint, Zamani et al (2021) propose that accounting numbers utilized through business analytics provide a tool for organizational understanding through a sensemaking lens. In this context it can be seen as the social, organization-wide process whereby individuals collectively interpret insights received from the business analytics tools to manage and evaluate existing and future projects. A key functionality is to create unity by analyzing common numbers, which might not necessarily result in the same interpretation. Instead, individual intuition helps in evaluating alternative scenarios and actions.

Prior research alludes to that business models in organizations depict how organizations should operate towards achieving their visions and objectives (Islam, 2019; Magretta, 2002). Sometimes the function of business model is filled without reaching the target as they tend to be ideal types that may never be instantiated in reality, but instead provide ongoing inspiration for improvement and change (Perkmann & Spicer, 2010). Furthermore, business model activities can be used as a guide in developing new performance measures and or align current ones (Islam, 2019).

The performative role of business models

Against the narrative and calculative aspects of business models, they can also have a performative role. Following Doganova and Eyquem-Renault's (2009) line of argument, business models create a synthetic explanation of complex processes by telling what value is created and shared, creating a coherent portrait to an audience. Hence, business models can be viewed as scale models or abstractions of complex systems.

Viewing business models through this lens allow for a more nuanced view than just mere descriptions as models can be manipulated and experimented with to enroll different types of stakeholders (Perkmann & Spicer, 2010). As scale models are presented to different actors who engage with them, they become subject to design experiments and secure engagement from different stakeholders such as resource providers, future customers, or regulators. Similarly, Hayashi (2009) claim that business model innovation takes shape through a process of experimentation. Hence, they are caught in loops of trials and contribute to the emergence of new entities and business models. Thus, business models aim at providing evidence for the feasibility of an innovation and at gaining the interest from third parties by mobilizing forms of proof and persuasiveness. To understand what business models, do from this perspective requires consideration of not only the firm, but also the audience that the firm is subject to (Doganova & Eyquem-Renault, 2009).

The view is that business models aim at demonstrating feasibility and value to the required actors. This is accomplished through the business models which is built to create encounters, often by circulating different types of documents and presentations that represent the business model. When this occurs, business models are performative as both the object (the new venture) and the audience (the network), is constructed (Doganova & Eyquem-Renault, 2009).

The process of developing a new venture is by no means straight forward, but rather follow an iterative series of trials, which involves receiving input from stakeholders. Throughout this process stakeholders can add to the model if they deem it interesting enough, or refrain from further engagement. In either case, the result is that the business model continues to refine, gradually transforming it from a model to a business (Doganova & Eyquem-Renault, 2009). Circulating business models outside the scope of a single business has other interesting implications. When a business model moves from a venture to the next, it becomes an example and subject to comparison. For entrepreneurs and business owners, previous models are hence used as points of references, to be replicated or used as inspiration, and can create a sense of legitimacy through association (Perkmann & Spicer, 2010). Thus, business models shape not only the single ventures they represent, but also others through the process of replication. As a result, some business models become working examples or "templates" (Baden-Fuller & Winter, 2007), supporting imitation and comparison between business models that can be used as calculative input by investors, customers and partners. Some paradigmatic cases become stylized descriptions of business models, often found in press or books as illustrations of successful businesses. Firms may attempt to associate themselves with such well-known categories in attempts to take advantage of the existing legitimacy in those models. For instance, an internet company may adopt an advertising-based business model to take advantage of success stories from firms such as Google (Perkmann & Spicer, 2010). As a result, more well-known business models are more likely to be adopted (Kostova et al. 2008). These are also used by for example by Venture Capital firms, seeking to frame different types of business they are interested in investing in. Others use them as codified business model templates and publish them for entrepreneurs to use, or as input for public policies intended to foster entrepreneurship (Doganova & Eyquem-Renault, 2009).

2.2.3. Developing and innovating business models through learning processes

Regarding the actual development of business models, research have focused on how organizational learning can facilitate innovation and business model development. Behavioral theorists suggest that organization's past experiences are retained in their routines and actions, and as such influence how they adapt to changes. Routines and beliefs tend to support continuity in behavioral patterns, making inertial pressures quite strong. In the case that the collective knowledge is not adapted and current enough to face environmental uncertainties and other external triggers, the firm's chances of survival decrease, which demonstrates the need to reinvest in learning to keep skills up to date (Sosna et al., 2010).

Against this background, and similar to Doganova and Eyquem-Renault (2009) notion that business models are developed through an iterative series of trials, Sosna et al. (2010) suggest that initial business models are revised and adapted, through trial-and-error learning. The authors suggest a sequence on firm development where a firm begin with a certain business model and then in reaction to specific triggers plan, design, test and re-test alternative business model variants until they find the one that best suits their objectives. In the process of business model innovation, managerial sensemaking is highlighted as a crucial component (Islam, 2019; Magretta, 2002; Sosna et al. 2010; George & Bock, 2011) as managers with high decision-making authority provide the most important input to the business model design process (Sosna et al. 2010). Consequently, a specific leadership agenda may be necessary for business model innovation (Svejenova et al., 2010). Further, the authors conclude that when an established organization's business model encounters the threat of obsolescence from unexpected external changes, experimentation is crucial (Sosna et al. 2010).

Throughout the learning process, failure to adapt to these external changes can work as way to stimulate actors to pursue an explorative search for new possibilities, intensifying their search for diversity to reduce uncertainty. The authors suggest that the most effective failures are those that are of small scale and have uncertain results but provide new information to learn from. As such, psychological factors that make up the mindset of a company play a major role when a firms experience failure. Often, the ability to look at the failure in a nuanced way, is crucial. Modest levels of failure can in fact encourage companies to take further risk. Established firms typically initiate processes of experimentation as a reaction to difficulties, where allocating a small amount of resources in relation to the total operations of the firm has been shown helpful in gaining approval from stakeholders (Sosna et al. 2010).

The development process can be further problematized by the maturity of the firm. In unproven business models, narrative sensemaking can be relevant as investors are unable to evaluate them without clarification (Sanders & Boivie, 2004). Sosna et al. (2010) further argue that newly founded companies design their initial business model mostly based on the founders' personal experiences. In contrast, more mature firms tend to renew their existing business models to counteract threats to their capability of creating value for their stakeholders. Taking on the challenge of innovating a business model for an established firm will often imply dealing with organizational inertia and other types of lock-in effects originating from previous business models that make the introduction of new ones more difficult.

Additionally, there may be a need to cannibalize their existing business model and introduce competing new ones to fend off strategic innovators (Sosna et al, 2010).

Concludingly, the sustainability of any specific business model is uncertain as market changes. Such changes include new innovations, competitors, regulations can quickly make existing business models obsolete or less profitable and this means continuous business model innovation is an important capability for every firm seeking success in the long term (Sosna et al, 2010). A plethora of scholars focus on business model innovation as a way to pursue corporate transformation and renewal (Demil & Lecocq, 2010).

2.2.4. Synthesis and research gap

Shifting to a servitization business model involves changing the value logic of the firm from product centric to service centric. In doing so several organizational, operational and procedural challenges have been pointed out, in which accounting information can act as a foundation for decision making. However, it is a new area in accounting and previous research has mainly focused on cases where services are added to products. On the contrary, servitization as an overarching concept has been suggested useful for managers in guiding them in their choice and usage of accounting information. In this regard, it can be seen as a business model, guiding actors through narratives and calculations. We intend to examine this by studying how managers use the business model and accounting information in a strategic shift to servitization. As the business model changes, actors need to form a common understanding about the situation and how to develop the business. In this regard, sensemaking theory serves a suitable lens to study how organizational actors form an understanding about the new business model. The sensemaking perspective enables researchers to focus on the mechanism behind cognition and action. In this sense, we can understand how the perception of a business model and accounting information forms managerial understanding. Several papers have called for a sensemaking view on business model development (Bojovic et al., 2017; Chesbrough & Rosenbloom, 2002; Massa et al., 2017; Massa & Tucci, 2014; Sosna et al., 2010). Thus, we aim at making two contributions, first to the field of accounting in servitization, and second, to the field of business models as guiding, coordinating devices (Doganova & Eyquem-Renault, 2009). Thus, this paper aims to answer the following research question:

- *How do managers make sense of their servitization business model using accounting information?*

2.3. Theoretical framework: Making sense of business models

To answer the research question of how managers make sense of their servitization business model using accounting information, we draw on sensemaking research and business models as performative devices consisting of narratives and calculations (Doganova & Eyquem-Renault, 2009). Research has expressed that business model development may start with one business model and then follow a series of learning processes through trial and error, hence we focus on sensemaking as a process of learning taking place through phases of *creating*, *interpreting* and *enacting*, which is described in the following section.

2.3.1. Sensemaking and business models

As the thesis aims to analyze how managers make sense of their servitization business model using accounting information, our analysis primarily draws on sensemaking literature (Weick, 1995). We believe that using sensemaking as a theoretical lens enhance our analysis for several reasons. Firstly, sensemaking is associated with research that is interpretive, social constructionist, processual and phenomenological. It theorizes how people enact their respective "realities" (Maitlis & Christianson, 2014; Sandberg & Tsoukas, 2015). Secondly, sensemaking is predominantly considered in an ongoing process, which fits our context in which actors gradually form an understanding in the strategic shift. Furthermore, the transformation can be considered a dynamic process making sensemaking an appropriate tool to utilize as it is less a matter of accuracy than sufficiency (EPIC, 2015). The emphasis in sensemaking on plausibility and sufficiency enables action-in-context which is a characteristic conveyed in our case study. Thirdly, sensemaking theorists have often been engaged in individual and collective decision making and processes of group and organizational change (Brown et al, 2015). Thus, the sensemaking perspective allows us to explore the decision-making process as actors pursue a business transformation.

Sensemaking can be described as a conversational and narrative process in which organizations and individuals move from perception to action. When organizational members are confronted with complex, surprising, or confusing settings, they seek to clarify the setting by extracting cues from the environment and past experiences. Using these cues, actors can infer and give meaning. At the individual level, sensemaking regards what happens inside an actor cognitively in the process of understanding what happens and planning for a suitable response. As such, the actor simultaneously shapes and is shaped by the surroundings (Weick, 1995). Thus, sensemaking revolves around figuring out what is going and what to do next (Weick et al, 2005).

In organizations, sensemaking refers to how actors, through interaction with other organizational members, understands the surrounding organization. Hence, creating sense and meaning is both a cognitive and social process (Weick, 1995). It is also ongoing and iterative as actors gradually shape their view and understanding of the organization. Furthermore, it can occur at different organizational levels of a firm, either collectively throughout the whole organization, or in smaller units or subgroups such as departments or different teams (Maitlis & Christianson, 2014).

From a practical standpoint, sensemaking is a process in which actors move from perception to action (Weber & Glynn, 2006). It is the process approach we will focus on in our paper, as week seek to understand how the servitization business model influences actions and understanding. In other words, it is a process in which actors extract cues from their surroundings to form perceptions, to form an image of what happened. It is later interpreted and translated into action. As a consequence, context is essential because it determines both the cues that are extracted and how they come to be interpreted. Hence, interpretation should not be confused with sensemaking, as it is merely the middle ground between perception and the action outcome. Because of this need of an image to react on, sensemaking is retrospective and happening after an event has occurred (Weick, 1995). Thus, the three processes are happening at the same time in a continuous manner (Weber & Glynn, 2006).

Sensemaking has been identified as a main component in previous business model research (Islam, 2019; Magretta, 2002; Sosna et al. 2010; George & Bock, 2011). The business model could provide a context to form an understanding from, as it lends itself well as an organizational narrative (George & Bock, 2011). Thus, business models are useful tools in actors' pursuit for understanding. The sensemaking perspective proposes an action and cognition at a micro level and is viewed as an ongoing process through which reality is continuously reinterpreted and enacted (Berger & Luckmann, 1966). This type of stance, positions sensemaking in the process of actions. Consequently, business model innovation is viewed as a constantly and continuously developing through sensemaking processes.

Weick (1995) indicates that *"sensemaking is about authoring as well as reading"* underlining that sensemaking intertwines between cognition and action. Thus, sensemaking provide an insight into the strong relation between understanding and action. Through this lens, business models can be defined by the way managers make sense of their internal and external environments to enact a business model. Sensemaking can be considered through mainly three aspects in this process:

1) Sensemaking is an ongoing process implying a constant reconsideration of the possible logic of the way the company operates.

2) Sensemaking produce structures, constraints and opportunities that were not there before actors took action (Weick, 1995). This implies that business models should be interpreted through the lived experiences of the actors. Further, it highlights that business models should be addressed through a prospective and retrospective sensemaking conveying where the actors come from and where they want to go (Gephart et al., 2010; Stigliani & Ravasi, 2012; Weick et al., 2005).

3) Sensemaking is a social interactionist perspective (Weick, 1995) and utilizing sensemaking to study the emergence of business models requires studying the internal and external interactions actors use to make sense of a situation and collectively organize it (Langley & Tsoukas, 2010).

2.3.2. Theoretical framework: The processes of sensemaking

To answer our research question of how managers make sense of their servitization business model using accounting information, we turn to how the sensemaking process is developed, based on Sandberg and Tsoukas (2015). The "making" of sense can be thought to occur through specific processes, which we aim to base our analysis on to understand how actors form an understanding of the business model. Sandberg and Tsoukas (2015) propose in their review that those processes can be split into three main interrelated categories, representing the point from which sense is disrupted to when it is satisfactorily restored.

The three processes can be labelled *creation*, *interpretation* and *enactment*, representing different phases of sensemaking. In other words, actors first create what they subsequently focus on for interpretation, and finally enact on those interpretations, and the cycle is ongoing. In our analysis, we focus on sensemaking throughout the process of understanding the business model and how the strategic shift can be understood from idea to action, using these three categories as a basis point. They are further explained below:

- The *creation* process involves categorizing, noticing and extracting cues from our lived experiences of the interrupted situation and creating an initial sense, which can then be interpreted (Sandberg & Tsoukas, 2015).
- The *interpretation* process involves elaborating on the initial sense generated in the creation process and developing it into a more comprehensive and narratively structured sense of the interrupted situation (Sandberg & Tsoukas, 2015).
- Finally, the *enactment* process involves acting on the more complete sense made of the interrupted situation, in order to see to what extent, it restores the interrupted activity. Weick's (1995) notion of enactment helps us to gain insights into the sensemaking loop of forward action and retrospective deliberation. By undertaking actions individuals enact their realities which then become part of their experiences and are once again made sense of retrospectively. As a new action is conducted, sensemaking is utilized retrospectively forming a dialogue between action outcomes and deliberate probing (Sandberg & Tsoukas, 2015).

Weick (1995) described the processes similarly by stating that the sensemaking process is intended to include the composition and bracketing of cues that are interpreted, as well as revisions of the interpretation based on action and its consequences. As the initial actions already taken by the actors become part of the environment with which they now engage, enactment can lead to further iterations of the three processes, until the interrupted activity is satisfactorily restored, which occurs when sense and action are in sync again. It is common to make no distinction between the creation and interpretation phase, but this leads to them often being taken up as a process of cognition. Most studies also tend to focus on the interpretation phase, which has led to it sometimes being viewed synonymously with sensemaking. Therefore, there is a need for studies that focus more on the creation or enactment process, or all three simultaneously. (Sandberg & Tsoukas, 2015)

Sensemaking is described as an ongoing process, which explains why the distinction between the three processes may be questioned. There is a risk of studying the processes in isolation, because the holistic and relational character of sensemaking could be missed (Sandberg and Tsoukas, 2015). In its application however, it will not be downgraded to completely separate sequential stages, but rather provide a way to see overall tendencies in how actors gradually make sense of the business model using accounting information. Most prior studies tend to focus on the interpretation process of sensemaking, therefore there is a need for more studies that focus on the creation and enactment phases. We take a broad view on the sensemaking process and put equal emphasis on each component, which stands in contrast to prior literature which have focused on *interpretation.* (Sandberg & Tsoukas, 2015)

3. Method

In the following section an outline of the research design, data collection and method of analysis of this paper is presented.

3.1. Research design

To answer our research question, we conduct a qualitative single case study of SubscriptionCo and FinanceCo which are business partners in developing a subscription business line at TransportCo. A qualitative approach was chosen because it allows in depth explanations and nuances of a studied phenomenon to be seen (Ahrens & Chapman, 2005). Additionally, the method is appropriate as the qualitative field captures emerging social reality, subjectively created, and objectified through human interaction (Chua, 1986). As we seek to explore aspects of social order no hypothesis is formed, in line with previous literature (Ahrens & Chapman, 2005). The qualitative study of the field should involve a close engagement rather than objective distance (Ahrens & Chapman, 2005). This also implies that we aim to be limited to people involved in the strategic shift, in line with what Hastrup (1997) refers to as “the contact zone”. This is achieved through structured interviews with actors at SubscriptionCo or FinanceCo.

This study has adopted the interpretivist research approach enabling social theories and perspectives that embrace a view of reality as socially constructed or made meaningful through actors’ understanding of events. Thus, the interpretive approach focus on the meanings and interpretations of the actors’ understandings and lived experiences (Putnam & Banghart, 2017). Furthermore, the interpretivist research approach allows the authors to attain an emic understanding of experienced events (Lukka & Modell, 2010). This study utilizes the subclass of explanatory interpretive research referred to as abductive mode reasoning. The abductive approach allows for an iterative approach of the development of the theory, empirics, discussion, and research question (Lukka & Modell, 2017).

The single case study was considered appropriate as it allows for in depth analysis and viewing nuances which we deem necessary to fully understand the role of accounting in our case companies’ strategic shift towards a servitization offer. Eisenhardt (1989, p 548-549) also point out that case studies are particularly well-suited to new areas of research where existing theory seems inadequate, and hence appropriate in our setting where the role of accounting is novel.

The single case study approach is in general a preferred choice of method in most research on strategic change (e.g., Contrafatto & Burns, 2013; Simons & Dávila, 2020). There is therefore also a point of using a single case study to increase comparability with previous research on strategic change and servitization. It is also common to conduct longitudinal studies on strategic change studies (Simon & Dávila, 2020), but due to the time constraints of a master thesis, this is not possible for us. Instead, aspects over longer periods of time were captured by the interviewees' answers and recollections and supported by secondary data.

To study the subject at hand, we explore the sensemaking processes of individuals at SubscriptionCo and FinanceCo. According to Weick (1995), this can be done in a meaningful way through interviewing and observation. Given the scale of this study, interviewing a set of different actors and observing secondary data in documents was deemed the most appropriate to adhere to Weick's (1995) review of previously successful sensemaking methodology. Our case study consists of interviewees from two firms in a business partnership, where the two firms work closely together but at the same time also have a high degree of autonomy. Bearing this in mind, the sensemaking processes of managers in one firm may not necessarily influence the sensemaking of managers in the other firm. This allows us to gain comparative insights by contrasting their views (Dyer & Wilkins, 1991).

3.2. Data collection

Our main data consists of semi structured interviews with employees at SubscriptionCo and FinanceCo, collected in March to May 2022. Semi structured interviews were chosen to allow for flexibility and modification of the prepared questions. Flexibility was considered essential as the case study approach seldom follows a linear path (Langely, 1999). In addition to the formal answers, the semi structured format also allowed us to observe feelings and subtle signals such as tonal changes. Follow-up questions were regularly asked to get a proper understanding of the perspectives of the interviewees. In the beginning of each interview the interviewees were asked to describe their role and area of responsibility to understand their environment. The interviews were conducted with interviewees in different roles and at SubscriptionCo and FinanceCo. Hence, adaptation of the questions was deemed appropriate to uncover how sensemaking occurs from different perspectives but may affect comparability among the interviewees. However, the questions were framed to emphasize how interviewees understand the business model from their respective role. To uncover honest answers anonymization of the interviewees and case companies was explicitly communicated at the beginning of each interview.

In total, 15 interviews were conducted with individuals from SubscriptionCo and FinanceCo. The respondents were mainly project leaders and actors within performance steering, but also included for example business analysts, risk managers and product developers. To understand how an understanding of servitization was formed and how accounting was understood, it was considered crucial to interview people at different roles. Furthermore, it also gave insight into how the different roles interrelates as well as into how organizational units interact with each other. Some respondents were interviewed twice to get further clarifications or to further explore areas of interest that arose later. A table of all interviews conducted can be found in appendix A. Most of the interviews were conducted in a digital format with an average interview duration of approximately 50 minutes, where most were recorded after consent from the interviewee. The recordings were later transcribed. About half of the interviews were held in English and half in Swedish, subsequently, quotes from the interviews in Swedish have been translated by the authors. Both authors were present at all interviews to ensure reliable and nuanced interpretations (Bryman & Bell, 2015) as well as to avoid biases.

The interviews were complemented with secondary data, such as publicly available information, the company website, and a few managerial documents such as general business presentations. These were used to form a general understanding about the case. One of the authors also gained experience from the case setting by working part time at FinanceCo in parallel to writing the thesis. The author's work at FinanceCo mainly concerned market research and did not involve business development or involvement in any strategic decisions at SubscriptionCo. This is thought to have facilitated a general understanding of the empirical setting as well as the role of the actors involved. When deciding on interview respondents, this was deemed useful.

3.3. Data analysis

We applied an abductive approach when analyzing the collected data, where empirical themes, analysis and theoretical development emerged iteratively. In the process of in the process of moving back and forth between empirics and previous research, the theoretical framework could be designed to offer nuance to previous research (Ahrens & Chapman, 2005; Lukka & Modell, 2010). When such an approach is utilized, research is regularly linked to theory (Dubois & Gadde, 2002). Thus, the interpretations from the empirics were refined frequently to uncover a nuanced view of the interviewees' perceptions. The process broadly followed that described by Ahrens and Chapman (2005) where problem, theory and data is mutually influenced throughout the research process.

Throughout the interview process, findings and insights were discussed and related to relevant theory. Discovered emergent themes were also expanded and incorporated into upcoming interviews. Follow up interviews were arranged to ask complementary questions if an interesting theme had emerged in the analysis process. Thus, the empirical analysis was conducted in parallel to data collection which allowed for a great room of flexibility. Additionally, it also enabled identifying gaps and possibility to schedule further interviews if deemed necessary.

An iterative thematic approach was taken when compiling interview material into different themes in the empirics. The themes were continuously iterated and improved during the process of writing and analyzed with reference to the previous literature.

Evaluating the prevalent literature improves after an author has gotten the opportunity to think about the data by trying to fit it into the arguments of the prevalent literature (Ahrens & Chapman, 2005). Thus, the abductive approach involves developing plausible theoretical explanations to new observations in the empirical data (Lukka & Modell, 2010). In this process, the sensemaking framework was deemed appropriate to explore how managers made sense of a business transformation using accounting information. Both hard and soft aspects of accounting information were considered to get a nuanced perspective of the strategic shift.

3.4. Data quality

The concept of authenticity is a central aspect of data quality when conducting interpretive research. Authenticity refers to the ability to present a genuine and strong description interview experience.

The thesis has focused on linking important empirical observations to quotes, which enhances the authenticity of the research. Informal observations at the offices of SubscriptionCo and FinanceCo were also gathered to get other impressions in addition to the conducted interviews. We also spoke to other employees not subject to interviews to get a broader impression of SubscriptionCo and FinanceCo at their respective offices.

Furthermore, to create confidence and trust among the interviewees a non-disclosure agreement (NDA) was signed. This was intended to provide interviewees with comfort surrounding confidentiality and express honest views. A General Data Protection Regulation (GDPR) form was also employed with each interviewee aligned with the research regulation stipulated at Stockholm School of Economics.

4. Empirical analysis

4.1. Background and context of the business case

The case builds on a SubscriptionCo, a car subscription business subsidiary within TransportCo, which is a large European car manufacturer with operations in most parts of the world, and FinanceCo which is a business partner to SubscriptionCo. TransportCo is emphasizing sustainability and technology development and launched car as a subscription service a few years back through the subsidiary SubscriptionCo, which constitute the business line studied in this case. From a business development perspective, establishing a car subscription business line is motivated as a part of modernizing the customer offering and reaching a wider array of customers. The overall concept can be described as somewhere between leasing and renting cars, with all associated services included. Thus, flexibility and convenience are envisioned as the core selling points of the offering.

At the time of the study, the offering had already been tested and developed for the past years and received positive response from customers and internally. Hence, it was in a scaling phase with the ambition for it to become a larger share of the overall business and drive volume ahead. However, doing so comes with a range of strategic and operational challenges that needs to be navigated through. One example of such a challenge regards the new revenue model. Whereas traditional linear sales models grant the seller revenue at the point of sale, the subscription offer implies periodical payments monthly. As such, the model implies that it can relatively long time before receiving back the same amount that would have been received from selling the car in the beginning of its life cycle. The costs of manufacturing and sourcing the cars are the same, but only a fraction of revenue is received upfront. As the business grows, this discrepancy becomes significant, and limits the amount of money that can be utilized for capital investments. To gain a lighter balance sheet and more revenue upfront, SubscriptionCo has partnered with FinanceCo, that will provide off balance sheet financing to SubscriptionCo's car fleet. At the time of the study, strategic discussions had been ongoing for a few years and the project was in an implementation phase.

The corporate structure can be described as decentralized, where SubscriptionCo was developed as a separate corporate unit, with its own management control system, offer development team and finance function. The value of the subscription car fleet is highly dependent on the residual values of the cars, which in turn depend on their age, milage and overall condition. Financial modelling for this carried out jointly by FinanceCo and SubscriptionCo, as the fleet value is an integral part of both firms.

4.2. Case study

4.2.1. Positioning the firm for organizational learning

The idea of the car subscription offering is loosely based on an appreciated employee benefit program at TransportCo where employees were offered to use cars with most services and maintenance included in the price. Based on the offer, the company's CEO asked the development team to assess if a similar offer could be made to consumers. Coupled with a general market movement towards creating a competitive hassle-free way of accessing vehicles created the first iteration of the offering. One interviewee says that the market movement is driven by a general trend where we are more and more used to accessing things on demand *"It's not like the customer just woke up one day and wanted to subscribe to a car, it is because we have gotten used to Netflix and Storytel etc."* (Co-founder A). Thus, we interpret it to be a belief in that servitization is growing in many areas and will inevitably happen in the car industry as well. In drawing from the market environment, we interpret that it is more of a matter of time than a question of whether there is enough demand for car subscriptions or not. It is also pointed out that TransportCo has very ambitious volume growth targets in the coming years and that this new type of offering has tremendous growth potential. Thus, the expectations are set high, however shifting to a subscription-based business model in an otherwise traditional industry poses numerous challenges that firms need to navigate through:

" It is difficult to switch business model, I mean in an industry that have worked the same way for 100 years there is definitely resistance on all floors so to speak. We are practically taking something that works today and replacing it by something that no one really knows how it will work. So, it will be challenges in all processes in different ways." (Product Development Manager)

As a result of offering cars as subscription products, the value chain is disrupted. Consequently, managers need to navigate through this shift. In doing so, the interviewees expressed that several actions were taken to create a setting where the company becomes more of a technology company than a traditional industrial firm which is deemed necessary to shift focus towards selling cars as services rather than as products. The Product Development Manager expressed that the automotive industry is characterized by legacy issues which makes new offer development difficult and slow. The decision to create the subscription business line in a separate entity was seen as crucial as it is tough to build something "on-top" of an organization. This enabled the division to accelerate decision-making processes and created room to both fail and succeed in a smaller scale, which was interpreted as important given the uncertainty of exactly how the offer should look and how it would be received.

Furthermore, actors express that running the subscription offer as a subsidiary made it easier to overview and tailor management control as you are not bound to the steering systems of a larger organization. This also enabled new types of performance measures to quickly be brought forward and put in use. Creating this leaner more agile organization was communicated repeatedly as a way to overcoming organizational inertia: *"I think that if we reverse the tape, so to speak, we are the startup within the big company* (Product Development Manager). We interpreted that being a separate firm also created a sense of a separate identity, making it easier to adopt a new company culture and mindset. This was occasionally mentioned with regards to innovation as some actors expressed excitement about doing something brand new.

In the process of developing SubscriptionCo, many recruitments of people outside the automotive industry were made. Many leaders in SubscriptionCo comes from technology companies, which is expressed as a crucial part in the creation of a more data driven subscription company. The FP&A Manager (Financial Planning and Analysis) expresses shifting leaders as important to switching organizational culture: "*There will be a trickle-down perspective, I'm sure there will be, I don't know when, but I know that it will happen"*. Implicitly, the trickle-down perspective refers to the way in which new mangers will guide employees and assist them in the transformation shift. Furthermore, Co-founder B shares this view and alludes to that a leadership shift will ease the transformation from a more traditional perception:

"Why do you think [CEO's name] has been hired in TransportCo and does not know anything about cars? You do not want to do things that you have always done. It's good if you do not know anything about cars because then you are not stuck." (Co-founder B)

Consequently, interviewees expressed a need to switch from a mindset of an industrial firm, which is seen imperative to successfully carry out the new offering. In the process of understanding the strategy, it hence seemed imperative to modernize and move away from the previous industrial firm's identity. In this process, hiring new management and taking inspiration from other firms seemed useful.

However, when a company pursues a transformation and changes business model, some resistance will undoubtfully occur. This emerged for example when discussing the role of dealerships, which will likely shift from primarily selling cars to be more of a service provider, carrying out tire changes, providing spare parts as week as delivering and collecting vehicles.

4.2.2. An effort to gain consumer understanding through educational tools

With regards to selling the product, interviewees expressed that emphasis was put into communicating the benefits of the offering. Subscription is an alternative to owning a car, but with all service fees and other costs included in the price. For customers, it can be difficult to fully understand the benefit of such an offer as the monthly fee may be seen as expensive. As with most new products and services there are certain hurdles for customers to overcome to approve and embrace the concept. When interviewees were asked about problematics with rolling out the offering, a common theme was to refer to the general market movement and other industries where subscription services are the norm.

The overall perception is that although there is going to be resistance to car subscriptions now, it is a matter of communicating the benefits of the offer and reaping the benefits of the overall market movement. One analyst expresses the view on ownership: "*generally we are moving towards owning as little as possible"* (Analyst). This view is shared by Co-founder A, who also alludes to that the value proposition can be developed:

"You should increase the customer value and include more in the offer, everything should be included, insurance, parking, duty – everything. It should be a centralized unit just as Apple have done where everything just goes through one unit, it is super convenient." (Co-founder A)

In the search for understanding how to translate the aforementioned convenience to cars, we find that there is an overall belief in the subscription model is strong if it is communicated adequately. Although there is uncertainty in how well customers will understand it, some clarity can be gained by drawing on cues and experience from successful cases and the overall market movement towards owning less and having centralized units, such as the reference to the Apple case in quote.

In achieving customer understanding, this known information need to be interpreted so that it fits into the context of cars. In an effort to convey the value proposition to consumers, the FP&A Manager says that it was a lot of customer learning in the beginning and "[…] *we had a lot of pages in on our website in the beginning on total cost of ownership".* A major part of enhancing the customers' understanding of subscription offering revolved around making them recognize what is included in the cost:

"[...] if you add maintenance, add registration, add flexibility of being able to cancel whenever you want, then you as a customer can see: OK, it's actually not so different from what I pay today, and then I pay a tiny premium for the flexibility." (FP&A Manager)

To illustrate the pricing dynamics, the Product Development Manager says that they experimented with a calculator on their website and provided different tables with crosses indicating what is included in the offering:

"The first approach was to educate the customer, like, "remember that this is included". We put up like a calculator on the website that showed what's included and things like that, we have tried different things with varied success." (Product Development Manager)

When looking at the website, we can for example find a table with three columns, representing different contract durations in terms of months commitment and cancellation notice time, and the monthly price for each of them. Below them are rows with checkboxes of what is included in the different offer choices. Examples of information in the rows are how often you can switch car, service and maintenance, insurance, if summer and or winter tires are included, roadside assistance, replacement car and consumer service. Additionally, when considering specific vehicle choice, there are boxes where you can select which vehicle you want, whether you are a private or business customer, interior color, car color, window tint, if you want a towbar, the monthly driving range you want and the associated cost with each of the choices.

Consequently, a challenge is to get the appropriate message across to consumers for them to embrace the new offer. However, when communicating the price, it is often compared to leasing or the cost of purchasing a car. Interestingly, the monthly subscription fee is completely disconnected from the value of the cars according to Co-founder B. The argument is that the value decrease in the first months of new car's lifetime is so steep that a monthly fee could never be high enough to cover it and still be accepted by customers. Hence, one interviewee says that you should start by finding a price point that costumers are willing to pay and then figure out a profitable business model that can make it work in practice. Although concern is expressed around the pricing, the convenience to customers seems to be at the top of the agenda. Similarly, the Product Development Manager draws a parallel to the mobile industry a few years back and says that disruptive actors emerged and started to implement all-inclusive offerings, which at the time was unheard of but had great value to customers. Now it is industry standard and a profitable model. Although actors express that the value drop is much steeper than the price, it does not seem to be a reason to stop pursuing the offer. Hence, it is interpreted to be a strong belief in the overall success of the case, although its success is far from guaranteed. However, this does not seem to disrupt the understanding process as actors rather express excitement about doing something new.

4.2.3. Developing new performance measures to capture life cycle dynamics

Developing the performance measurement system for the subscription business unit is described as an iterative process involving input from multiple teams at SubscriptionCo. A key difference to a linear sales model is that value is captured over time based on periodical payments instead of a single sales point. Interviewees describe how performance measurements have been developed to better capture this type of setting. The Head of FP&A describes that the former performance measurements were insufficient for car subscriptions:

"When you look at the P&L for like a month, it's only giving you a snapshot in time so it's telling you how many cars you have on active subscriptions and how much revenue and costs that those cars generated, but it's not telling you the potential that the customer base brings you." (FP&A Manager)

As a consequence, actors express there was a need to reconsider the performance measurement system. To effectively measure and steer the subscription business line, a new set of performance measures was developed. The interviewee describes this as a two-step process and continuous over time. *"If I look at like the reporting, we did two years ago versus the reporting we're doing today, it's still evolving, right?"* (FP&A Manager). The first step was to develop a foundation of metrics to create transparency into the business model so that everyone had the same basic view on how to measure performance in a subscription business and which type of KPIs that were the main drivers of profitability.

In this stage, measurements such as average revenue per month, number of active contracts, churn rate (percentage of contract cancellations in each time period) and expected customer lifetime was identified as main profitability drivers that capture the life-cycle aspects of the subscription business line. Using these, SubscriptionCo could start forecasting. The Head of FP&A explains that for example, expected contract profitability could be assessed by taking the average monthly contribution and multiplying it by the average customer lifetime and then reducing it by the cost of acquiring the customer.

Actors describe that SubscriptionCo formerly had limited experience in using these metrics but that it helped to hire people from other industries who had prior experience in applying these types of KPIs. This was seen as crucial aspect in the whole business transition, but also in developing the performance measurement system as these employees brought experience in using subscription measures. They were also able to offer insights to SubscriptionCo into which KPIs to apply. Additionally, the metrics were compared to their use in other industries. Some of the metrics was mentioned in conjunction with telecom and subscription companies, which we interpret to have acted as a reference point in the choice of metrics. A stated example was that average revenue per month had a different name in the telecom industry, according to the FP&A Manager.

The next stage in the process was to move to performance steering. The FP&A Manager describes it as a process of using different levers to improve certain key metrics. Given the innovative characteristics of the subscription offer, the process was described as rather exploratory in nature.

"How do we improve the churn by creating loyalty and retention programs? Or how do we grow volume by tweaking in the offer? How do we improve the subscription margin? Or maybe it's not a one for all." (FP&A Manager)

To assess the quality of the KPIs, one aspect was to use what if questions. For example, one could ask if the KPI asked the right question or if it measured the right thing. An interviewee mentioned that the usefulness of KPIs was assessed by bouncing them against the company's objective key results (OKRs). As such, the first set of performance indicators could be elaborated on to understand how well they fit the current setting.

Further, the Steering Manager says that many of the OKRs were assessed by KPIs that were designed specifically for that purpose. One such example for TransportCo is their OKR of having a certain percentage of battery electric vehicles (BEVs) by 2030, which is measured by measuring the ratio of different powertrains (electric, battery hybrid or internal combustion engine vehicles) across their different offerings. It is expressed that the OKRs are the overall long-term goals, and the KPIs are more of a means to learn and measure how far the process in reaching them has gone. Thus, the OKRs specified the envisioned results and the KPIs measured progress in reaching those long-term goals. This way, the first set of performance metrics was a foundation, but over time they were developed by assessing how well they measured performance in relation to the long-term goals. Over time, a more complete understanding could be created by relating them to the overarching targets of the bigger firm.

One role of the finance function was to create appropriate metrics to measure performance adequately, but they were used everyone in the organization. They were described to fill both an evaluative and a prescriptive purpose. They were used evaluatively in the sense that they were brought to board meetings, where they were discussed strategically to assess the viability of recent offer developments. For example, after a pilot study had been conducted, the metrics were used to assess how it would impact the bottom line, and hence serve as a basis for evaluating if the offer was worth pursuing further or if something should be changed. Through these iterations, managers could create a more nuanced understanding of how the offer should be developed. The KPIs were also prescriptive in the sense that SubscriptionCo occasionally used a KPI as a basis for offer development. The Offer Development Manager gave the example that they had a target of increasing online sales by a certain amount in a particular jurisdiction without losing any volume. After defining the overarching target, the offer development team used it as a basis point for how the offer could be developed.

4.2.4. Predicting cost using residual value and consumer data

By far, the largest cost item in the car subscription scheme is the market value decrease of the cars, which follow a declining depreciation curve with the main value loss occurring in the first few months of a new car’s lifetime. The subscription fee is however linear, implying that subscription contracts are lossmaking for the period until the monthly value decrease (plus other costs) are lower than the subscription fee. In forecasting profitability and deciding on the price, it is hence imperative to know how much each car decreases in value each month and is worth at any point in time. The interviewees expressed valuing the fleet of subscription vehicle assets as one of the main challenges in the process of developing the business, as it is a main determinant of profitability potential of the offering. The main issue around is that it is difficult to forecast a fleet of cars given that each individual car decreases in value differently depending on the model and which specific add-ons it has and how much it has been driven.

The car industry in general as well as TransportCo, have historically put substantial effort into controlling this, because it is a crucial part in controlling the secondhand market price. Consequently, there was existing statistical data utilized in the case on how the cars decrease in value that was perceived as rather trustworthy if the fleet was large enough. The FP&A Manager describes that they utilize a third-party service that provide residual value data, like the American company Kelley Blue Book. One interviewee expressed the sheer number of iterations required to model the fleet:

"Tens of thousands of permutations… This vehicle, this age, these extras, these winter tires etc. etc." (Data & Analytics Manager).

Consequently, the biggest cost can only be known in hindsight, when milage and overall condition of the car is known. When utilizing a subscription business model however, the crucial difference is that everything that effects the value of a car, such as milage, driver behavior, tire condition etc., must be assessed prematurely and varies depending on future costumer behavior. By modelling costumer behavior, and the impact on the residual value, you can forecast the biggest cost item in the subscription contract, and ultimately the profitability of the contracts. Hence, a layer of complexity is added to the residual value problematics, which has been highlighted as one of the main challenges:

"*We have worked extremely hard on the residual problem. In other assets you may have real assets with properties and such, and then you have relatively stable values. So here we know the car value erodes and it is clear that it has been a great challenge to find a good model for it."* (Co-founder A)

FinanceCo and SubscriptionCo have jointly built a financial model to solve this issue, where the main purpose is to determine the size of the assets under management and the residual value exposure at any given point in time for the fleet of vehicles under contract. The perceived reliance on the financial model is strong across interviewees, given the cost dynamics. For FinanceCo, the corresponding liability to the fleet assets also constitutes the amount of capital they must raise to cover the asset base. Hence, it is in everyone's interest to predict the RV as accurately as possible. However, an immense amount of data handling is required to do it successfully. One interviewee gave the example of a meeting that was devoted fully to discussing how winter tires should be handled in the model. Another example that was brought up was that a fire started on a car ferry, resulting in a thousand destroyed cars, which raised the rhetorical question *"How do you value that risk?"* (Co-founder A). The point the interviewee alludes to is that the residual value risk is dependent on a plethora of possibilities, that needs to be quantified as accurately as possible.

In the process of valuing the vehicle fleet, consumer data is highlighted as a key component. When creating the model, the first step was to do smaller scale testing to get a sense of the behavior of the assets. With behavior of the assets, the Data and Analytics Manager explains that every subscription contract has three possible outcomes.

The most common outcome is that a customer churns at some point if it is a flexible contract, referring to when a contract is cancelled before the end of the maximum contract period. The second outcome is that the contract pays down until end of contract period, which does not count as a churn. Thirdly, a subscriber can go into default, referring to when the contract fails to pay, then a loss is incurred. By utilizing consumer information, the composition of different outcomes can be forecasted more accurately. The subscription fleet provides an avenue to do so as consumer type, behavioral and geographical data can be collected continuously for subsequent predictive analysis. Steering Manager B mentions that everything is used, ranging from car colors, to milage and product mix per market. In the residual value model, the collected consumer data is used as input variables. For example, a B2B (Business to Business) consumer in a particular jurisdiction, with a particular set of add-ons and a particular selected range would get an individual forecasted value at a specific point in time. The volatility is of course rather large for individual subscribers, but on fleet level it is perceived to be rather reliable. Consequently, managers could better understand what is required to reach profitability by information from financial modelling, as actors get access to hard data that determines whether a contract is profitable or not.

Subsequently, stress tests were used to test the outcome of different assumptions. One example was to frontload churn rates and assess the outcome. Some of the interviewees expressed concern around the novelty of the offer, explaining that there wasn't much analysis on the consumer behavior readily available in the beginning. Actors highlight that the more data you have, the more accurate predictions can be made: *"It is very early days but the most important thing, as with any data, is that the more data you get, the more you can predict the volatility"* (Data and Analytics Manager). Consequently, collecting consumer data is seen as a crucial element in obtaining accurate forecasts of costs, and explained as an ongoing process that improves with time and as the fleet grows, as more data is compounded over time and with a larger fleet. The identified gap in data seemed to result in some uncertainty as actors mention that it implies more volatile forecasts. However, we perceive actors as confident in that this gap will be filled over time. Several interviewees mention that many automotive manufacturers pursue subscription models, and it is about "racing" for data. As such, the overall conviction in that the case can be profitable seem to be rooted in the belief that the business will be able to scale.

4.2.5. Sensemaking through continuous customer experimentation

Assuring long term viable profitability was repeatedly expressed as the key underlying objective for the company. However, with regards to reaching that target, several different assumptions play in. The residual value model assesses the main cost pattern in the subscription business. Through the residual value curve, actors believe that they can assess what assumptions need to hold true to reach profitability.

The Steering Manager argues that, to be profitable, you could create a pricing scheme that follows the same pattern as the residual value curve, but that that would be impossible to convince consumers to buy subscription that way because the price would be too high in the initial months of subscribing: *"if we were to recoup the initial drop right away, we would have zero subscribers, not a single customer would agree to that"* (Steering Manager B). As such, you need to decide on a price that customers would pay and accept having a break-even point later in time. However, there is a risk implied in doing so as consumers may cancel before reaching that point as expressed by Steering Manager B:

"You need to understand that there is a risk and that you need to influence the consumer behavior so that they stay on average long enough for us to recoup the large first value drop." (Steering Manager B)

As a result, SubscriptionCo was in search of mapping out and understanding cause-effect relationships between the offer development and the impact on profitability. The target is to have customers stay on contract as long as possible. The main metric to measure customer cancellations is by looking at the churn rate, as it tells the percentage of contract cancellations in a specific period. Consequently, decreasing the churn rate is seen as a key element in increasing profitability. In doing so, several strategies are utilized. One highlighted initiative is continuous offer development to increase the value proposition to customers so that they are willing to stay longer. When developing the offer, an interviewee says that SubscriptionCo often tests out new initiatives in small scale as an initial step and subsequently assess the viability of it by looking at different KPIs. The offer development team are the ones that come up with and test out new offers or changes existing ones. Subsequently, when for example a pilot study has been conducted, financial numbers and KPIs could assist in evaluating if it was worth pursuing further or not:

"If the churn rate goes down, that could be one measurement to know when we should go from pilot to launch phase. We can look at the churn rates of these customers that we piloted or this segment that we piloted and see if their churn rates change and therefore their lifetime changes, and then of course bounce it against the lifetime value." (FP&A Manager)

The development iterations can hence be interpreted as learning cycles. Over time a knowledge base of what works and what does not is created. Once studied enough, a general understanding could be said to have formed. However, continuous improvement is highlighted as key to stay competitive. Depending on the size of the new offer, the process to go live can take anywhere from two weeks to a year according to the Offer Development Manager. The FP&A Manager continued by saying that it can be good to come in at the early stages of offer development to assist in helping the other teams understand how to measure success. Concretely, a mentioned example is to suggest measures to look at as a basis for deciding to go live with the pilot or not. The profitability effects of different offers can be further problematized considering the residual value curve:

"Profitability is very interesting. How do you measure profitability, [in this case]? I mean it is super interesting, if you only look at individual elements, you can find a lot of parts that are not profitable. For example, if you offer the opportunity to switch car frequently or implement a system that checks that you have the right mechanics and spare parts continuously, that might not be profitable in certain months. The price charged might not cover those costs, or the value decrease the first six or nine months. But between month 15 and 36 it might be profitable." (Co-founder B)

Thus, we interpret that considering new offers against the potentially increased contract duration is important because the monthly residual value drop is much lower if you can retain the customer long enough. In retaining customers and decreasing the churn rate, SubscriptionCo also works with different kinds of loyalty and retention programs. For example, a subscriber could get a discount if it stays for a certain period of time or get an upgrade of some kind. Like in offer development, the effect of the discount is evaluated based on how it affects different KPIs. This combined usage of the residual value curve and measures on retention, gives a quite clear answer to whether the firm is on the right track or not. Seen this way, we interpret it to be used as a framework for profitability.

The attitude towards retention and churn rate in the continuous development of the overall offering illustrate that these KPIs provide clarity and guidance in the interviewees work. Hence, they seem to fill a guiding function in the overall business development process. The Steering Manager alluded to a similar point when talking about the importance of having a direct-to-consumer relationship. Instead of using a "crystal ball" and try to guess what a customer likes, decisions can be supported by direct first party data which result in more confident decision-making processes. The behavioral data can be utilized to create tailormade campaigns and discounts to increase retention, and thus acts a guide for the offer development team. After analysis, it becomes a matter of cooperating with the sales and marketing departments to create a coherent story and deliver the proposition.

5. Discussion

The following section discusses the empirics in connection to our method theory presented in section 3.2. We interpret that the business models are used for narrative sensemaking, however gradually they are less of a guiding force as more data is introduced. Following, we elaborate on this through the processes of *creation*, *interpretation* and *enactment*. Although sensemaking is an ongoing process, the analysis focuses on general tendencies from the case.

5.1. Sensemaking processes through narratives and calculations

The way in which actors develop the business can be viewed as a series of sensemaking cycles. At its core, sensemaking refers to the need for practitioners to gain an increased understanding of their situation. As stated in our theoretical framework, we turn our focus to the processes in which sense is created and how the business model is used. These cycles were interrelated in the form of a continuously renewed understanding and sense of the setting. The setting was perceived uncertain, and sense was disrupted as a result of both internal and external factors, which included how to develop the offer internally as well as how it would be received by the market. Sensemaking happened in a multitude of ways, depending on the how far in restoring sense the case had gotten and depending on the time frame of the sensemaking episode.

The interviewees of this study hold various experiences such as banking, controlling, engineering, and product development. However, when talking about the case, many either lived or hypothetical stories to navigate complexity and ambiguity for themselves and to give sense to others. The participants' stories are further similar in the sense that most of them reflect known cases of subscription services, which can be seen as stylized examples (Perkmann & Spicer, 2010) of business models. In other words, stories represent narratives that actors use to infuse uncertain or ambiguous settings with meaning, which can help to guide diverse actors towards a common theme (Doganova & Eyquem-Renault, 2009).

When considering the sensemaking process, the narrative about car subscriptions can be seen as interpreted and enacted, through cycles of sensemaking. Accounting numbers were utilized in this process to assist in the organizational learning to understand what subscription actually implies for cars, this was apparent when discussing the residual value problematics. Specifically, accounting was mobilized in such a way to create linkages between cause-and-effect relationships in the offer development and to facilitate transparency and organizational learning by mobilizing performance metrics. Thus, the numbers are closely intertwined with the narrative as they depicted whether the firm was proceeding towards the target, which is continuously reinterpreted as actors for an understanding.

Sensemaking is an ongoing process implying constant reconsideration of the logic of the way the company operates (Weick, 1995). A sensemaking episode could be defined at micro level, consisting of a very short period of time, or a longer period. In the following section we take a broad and long-term perspective on the servitization business model shift and elaborate on how the phases *creation, interpretation,* and *enactment* of the sensemaking process are evident in case setting of TransportCo focusing on the general tendencies in the different phases.

5.2. Actors seek cues assists them in the *creation phase* in the sensemaking process

The earlier stages of the business development can be seen as more in the *creation* phase of sensemaking, which is prevalent in strong and vague forms. The strategic shift was perceived as novel, and actors sought explanations in previous experience to create an understanding about the strategic shift. In the case, actors gave many examples from subscription and telecom companies. It is interpreted to represent more of a narrative about what type offering TransportCo would develop through SubscriptionCo, in the sense that actors wanted to create a similar effortless consumer experience. Specifically, actors are seen using the narrative in mainly in two ways; as a preunderstanding, as it represents something they know and can relate the case to, and a as a way of infusing legitimacy in the absence of historic data.

There is a view that sales targets in terms of volume and growth ambitions are set quite high. However, with regards to getting there, actors express that a lot is unknown. Previous performance metrics focused on products and was not adapted to the life cycle aspects of subscription. To effectively measure profitability in the new business, the FP&A Manager mentioned the need to shift to a more forward-looking set of metrics. Hence, quantifying and creating transparency was seen as crucial in understanding the business. In this process, guidance in the form of references to other subscription companies were made and served as an inspiration source, which assisted in the selection of a first set of metrics. This view is similar to Islam (2019), who finds that business models can be used to develop and change performance measures. Leotta et al (2020) find that awareness of the servitization strategy can reduce uncertainty by focusing efforts to a specific range of possibilities, which is also like the case. Known information about subscription as a business model allowed actors to mobilize a selection of accounting metrics to be used for visualization and evaluation of business development initiatives. As a result, a general knowledge could be established around the strategy shift through the metrics, allowing everyone to get an initial sense of the transformation.

As the development process continued, the measurement system was refined, which illustrates continuous series of the sensemaking processes through *creation, interpretation* and *enactment* processes.

The more legitimizing role of business models as a narrative can be viewed in the absence of data and clear answers. For instance, there was an objective to gain knowledge and more customer data to assess the case more accurately. However, as the offer was new, concern arose regarding behavioral data and how well consumers understood the benefits of the offer. However, in the absence of data and accurate behavioral forecasts, we find that legitimacy could instead be found by referring to the overall market movement and successful subscription cases, reflecting an overall belief in that the concept could be successful. This can be seen as representing more of a narrative, consisting of market trends and stylized business cases that help to legitimize the case (Perkmann & Spicer, 2010). In the earlier phases when uncertainty was the highest, these references seem to assist in the sensemaking processes, by providing points of reference and cues that could be interpreted.

During the earlier stages, filled with uncertainty and lack of data, the narrative of a successful subscription business can be seen as supporting in keeping a belief on the business case. The uncertainty was evidenced by the absence of clear financial figures and accurate profitability forecasts. This is also in line with the notions that narratives are important ways for people to infuse uncertain or ambiguous settings with meaning (Perkmann & Spicer, 2010), and to promote change in organizations (Brown et al., 2004). The point is further strengthened by the claim that car subscriptions are arguably not that similar to software as a service model actors mention that the breakeven point is much later in time. Furthermore, there is a tangible asset in the form of a car that needs all sorts of service, and the industries have completely different cost dynamics. Another major difference is the digital experience. In TransportCo's case the website functions primarily as sales channel or gateway to obtain a car. However, the customer's major impression and experience of the car consists of driving, service, and other concrete aspects rather than solely the online digital experience. Consequently, the actual offer development differs quite considerably. However, as the narrative is strong, actors mobilize it consciously or unconsciously to keep learning and enacting on the case. Through this view, business models are crafted with reference to existing ones, through comparison and imitation (Doganova & Eyquem-Renault, 2009).

The subscription narrative seems to be rooted in known cases and a general market perception, however, legacy issues in the automotive industry is evident in the empirics, which was expressed as a hurdle. Servitization implies changing the value logic of the firm, including norms, practices and mental models (Kindström et al. 2014), which can be challenging. However, actors mention that being organized in a separate company with its own financial function helped to overcome legacy issues. Theis is in line with Oliva and Kallenberg (2003), suggesting that separate profit and loss accountability is adequate when firms pursue servitization strategies. Further supporting the adoption of a different narrative is the fact that management from other industries were employed, whose contribution also became important in understanding the new business model.

Although we argue that the subscription narrative is strong enough to act on under uncertainty, tangible numbers seem to provide a more concrete understanding. For instance, TransportCo had certain OKRs that reflects long term ambitions and targets, providing an overall direction of the firm. However, to reach them, KPIs are designed to measure the success rate of those OKRs. The KPIs are tangibles measures that provide an understanding of how far the firms have gotten in reaching the overarching goal. In the process of continuously building the measurement system, the relative importance of subscription as a preunderstanding seems to have decreased, as information reliance instead shifted to newly established metric calculations aligned with the strategy shift and specific outcomes of the business development actions.

5.3. Actors develop a more complete sense of the strategy shift in the *interpretation* phase

The *interpretation* process involves fleshing out the initial sense generated in the *creation* process and developing it into a more complete and narratively organized sense of the interrupted situation (Sandberg & Tsoukas, 2015). Business models can be used as points of reference (Perkmann & Spicer, 2010), this occurs often in the case when actors refer to subscription businesses. However as evident by the case, subscription for cars involves a tangible asset, which comes with other challenges.

There seem to be two imperatives for carrying out the car subscription offer successfully. The first one is having a low enough price to be competitive, reflecting the convenience it entails to customers. The second one is how the residual value behaves, which is more tangible known information that actors cannot influence to a significant extent. Having a low price and high value drop creates an equation that is difficult to solve, because customer behavior needs to be influenced for them to stay on average longer than the breakeven point.

When discussing these issues that revolves around ensuring profitability, we see that narrative sensemaking is used more. The value decrease makes the subscription initially non-profitable, however, subscription as a business model seems to create legitimacy (Doganova & Eyquem-Renault, 2009). Actors understand that the price and value drop does not add up, but still pursue it, as they believe in the concept and that subscription services will happen in the automotive industry. Seen this way, stylized examples of business models such as a subscription business model (Perkmann & Spicer, 2010) were useful for sensemaking, although the case setting differed quite extensively. This point emerged when one interviewee said that you should start by finding a price point that customers are willing to pay, and then find a way to make it work. Another example that appeared was when an interviewee referred to the telecom industry, that made a similar offering that had great value to customers but wasn't profitable. Although a lot is unknown, a sense of legitimacy through association (Perkmann & Spicer, 2010) could be used. This is aligned with the notion that narrative sensemaking can be relevant in unproven business models (Sanders & Boivie, 2004). Thus, the belief in the subscription offering seem to be rooted in that it can be associated with other successful firms and that it could be profitable in the future.

Actors mentioned that the residual value forecast was a problem they had worked extensively with. In these discussions, narratives were not used to a large extent for guidance. This seems to be case as the residual value data was known and perceived as tangible concrete information. However, when forecasting, there was also a gap in the form of missing consumer data that caused volatility. Previous research has alluded to that non-financial usage data is useful to understand service businesses (Neu & Brown, 2008; Laine et al., 2012). However as most previous research has focused on firms that add services to existing products, we extend this by suggesting that it is even more important for firms that shift sell their whole product assortment as a service, as they will face similar residual value challenges. While previous research has indicated that accounting and control systems are not necessarily suited and need to be redesigned for this purpose (Tenucci & Cinquini, 2015; Lindholm et al., 2017), it does not seem to be the case for SubscriptionCo. An explanation can be that SubscriptionCo is acting as a separate entity. In the absence of customer data, we see more reliance on narratives once again, as actors mention that car subscriptions will be the next big thing, and that you have to race for the data. In summary, the residual value was seen as stable on fleet level point of view, which was deemed imperative to understand what it would take to be profitable.

Having established an understanding about the pricing and the residual value dynamics, it was more about solving the equation of achieving a long enough average customer lifetime. Actors express trial-and-error like learning (Sosna et al. 2010), which reflects more of an *enactment* phase which will be discussed in the next section.

5.4. Actors act on a more complete sense in the *enactment* phase

Enactment concerns the outcome of sensemaking activities, which are then once again retrospectively made sense of, and enacted on again (Sandberg & Tsoukas, 2015). Through this process, business models can be defined by the way managers makes sense of their internal and external environment to enact a business model (Weick, 1995).

Narratives seem to reflect more of a desired outcome of the firm that all share and understand (Doganova & Eyquem-Renault, 2009). However, financial figures seem to provide clearer avenues for enactment as the price and residual value made it clear how long the average customer lifetime had to be to achieve profitability. This was captured by performance indicators according to actors. However, for them to be trustworthy and useful, there had to be an overall reliance on the residual value forecasts. Forecasting the residual value was hence highlighted as a crucial aspect for the strategy shift to play out successfully as it depicted the largest cost of the contracts and worked as a basis point for performance steering. Given the fact that the actors worked extensively with the residual value model, there was an overall trust in that that data was accurate. Hence, it is perceived as more concrete information that was tough to neglect. As the residual value was viewed as hard data, actors gained a concrete understanding of how long contracts on average had to be for the overall fleet to be profitable, assuming certain prices.

In this process of prolonging the average customer life time, we see that accounting tools are frequently used interactively as a way to test and learn from different initiatives while also providing clear tools for implementation. Throughout the offer development, the firm used trial-and-error like learning (Sosna et al., 2010) exercised through pilot studies. The KPIs used in these iterations can be described as result oriented, as they directly impacted profitability. Without knowing exactly how an offer would play out, efforts could be anchored in hard data in the sense that you could directly measure its impact on customer retention, thereby enabling SubscriptionCo to learn and develop their offering. Subsequently, the outcome was retrospectively assessed and discussed during management meetings, and the sense making process started all over again. An example from the case was that offer development initiatives often involved the churn rate, which was necessary to increase the average customer lifetime. One interviewee expressed that if an offer had increased the average lifetime, that was a clear indicator to go from a pilot study to a launch phase. If the offer was deemed unready for the market, they instead tweaked the offer and tried again. While previous research has described an inadequacy in management accounting systems and techniques (Laine et al., 2017; Tenucci & Cinquini, 2015), is does not seem to be the case in SubscriptionCo. Instead, they could quite clearly assess performance, which may be because they developed a separate financial function and company.

Similar to Kindström et al. (2014), the case illustrates close customer interaction and utilizing an existing consumer base as important features in servitization. The technology that collected consumer data about milage as well as behavioral patterns and its implications on the value of the cars, enabled learning from the employed fleet. This allowed SubscriptionCo to refine its offering and increase its value proposition with the intention to prolong the average customer lifetime. In the absence of historic customer data and clear answers on how long customers would stay on contract, sense could be drawn through these iterations. By knowing how much a certain increase in customer lifetime would affect the profit, actors could quite clearly see the economic consequences of their actions. These ideas are also in line with Laine et al. (2012) proposing a defining role of accounting in servitization by transforming efforts to economic figures.

The outcome of enactment and sensemaking is organizational learning. Business models represent scale models subject to experimentation and manipulation (Perkmann & Spicer, 2010). As firms test and experiment with business models, learning occurs. While subscription as a known narrative reflected more of a desired outcome, a lot had to be learned in order to restore sense to understand how to make it profitable. Positioning the firm as a separate entity and building out capabilities to gather data and try it at a smaller scale seems to have facilitated sensemaking both by more easily identifying as a technology company and by allowing small scale trial and error testing. A plethora of strategic and operational challenges arise in servitization. Solving these challenges illustrate the circularity of sense and action (Weick, 1995). Whereas existing business models might work as points of references representing narratives, businesses models are formed through a series of trials (Doganova & Eyquem-Renault, 2009; Sosna et al. 2010). Actors gradually form a view around the business and its environment through the process of sensemaking, that occurs repeatedly. While narrative sensemaking was used to depict a vision and overall direction under uncertainty, calculations provided a link to the vision by illustrating what needed to hold true for it to be profitable. The result can be seen as partly restored sense, as actors know what need to hold true for a car subscription model to work. However, actors express that the business is continuously evolving, illustrating the ongoing sensemaking process (Weick, 1995).

6. Conclusions

Our purpose was to study the role of accounting in a service business model shift and how the business model was used for sensemaking utilizing accounting information. This was done by referring to the research question:

- *How do managers make sense of their servitization business model using accounting information?*

We view business models as consisting of narratives and calculations and as sources of sensemaking. In our case, the view of subscription business models is strong, and we view it as actors referring to a stylized example (Perkmann & Spicer, 2010). The empirical findings illustrate how the view of the business model creates sense in managerial work and legitimizes actions.

Our case illustrates differences in how accounting and the business model was used depending on how far managers have come in the process of restoring sense and gaining an understanding of what subscription means for cars. In line with previous research, it was used as an overarching narrative that provided a sense of direction and a source for legitimacy (Doganova & Eyquem-Renault, 2009). The narrative played more of a guiding role in the beginning of the shift in the sense that it constituted a vision and provided a sense of unity around the objectives of the transformation. By using subscription as a point of reference, actors could agree on a desired outcome and gain inspiration for accounting metrics to use. It was also used as a source of legitimacy, representing an overall belief in the case. This was apparent when the business was unproven and in the absence of financial and behavioral data. As the model was perceived legitimate, actors continued their pursuit for a successful business model. As actors gradually learned through calculations, the business model was seen as more credible because financial figures could justify and define it. Through this process, calculations can be seen as filtering the narrative in the sense that they defined what aspects were applicable to the business. As the subscription model for the automotive industry was fine-tuned and more defined, an understanding could be formed about what subscription services for cars implies. In this process, increasing dependency was put on calculations aligned specifically to the business and less on narratives. When the business was evaluated on tangible numbers, it was seen more concrete and observable, which resulted in a more exact answer to how the business should proceed as opposed to the subscription business model narrative, which rather gave a general idea and depicted a desired outcome. Thus, in the sensemaking process, the business model as a narrative guided managers in their choice and usage of accounting numbers, which in turn made mangers reassess the narrative and facilitated an understanding about what subscription for cars would imply. This is illustrated in figure 2.

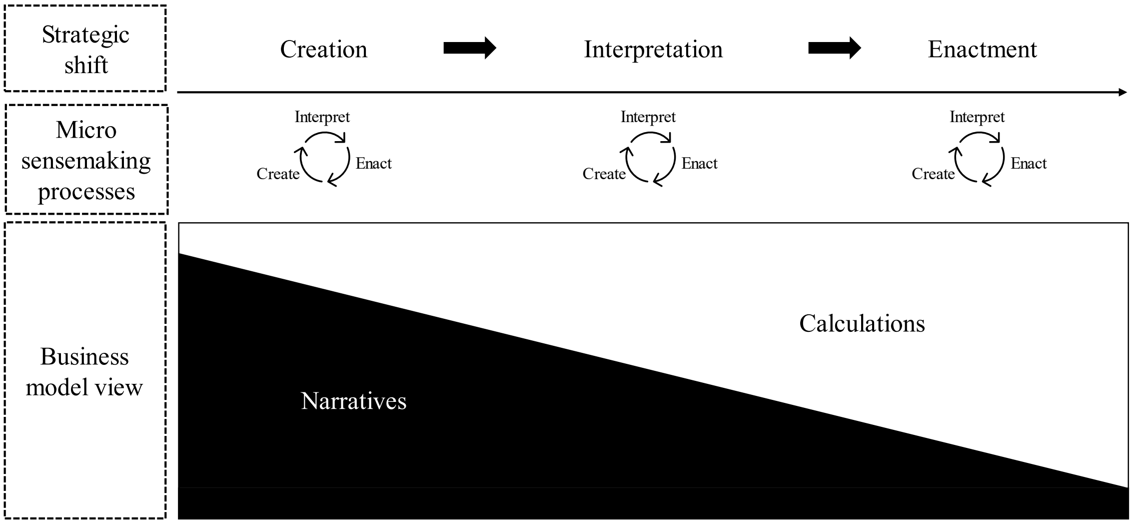

Figure 2: This figure illustrates how moving through the different phases of the sensemaking process in the overall strategy shift, changes the focus on narratives and calculations

Our study provides two main contributions. Firstly, we contribute to the business model literature. Perkmann and Spicer (2010) argued that business models are a way of infusing legitimacy into a venture by associating itself with a particular identity. We add to this point by arguing that if the perception of a business model is strong, it is useful for sensemaking even if it is not internally crafted or fit the company perfectly. Business models are defined with reference to existing ones (Doganova & Eyquem-Renault, 2009). We argue that if the narrative around the business model is perceived strong and actors believe in it, it is still useful for sensemaking. Against the calculative and narrative information inherent in business models (Magretta, 2002; Doganova & Eyquem-Renault, 2009), this point has emerged in two ways in our study. Firstly, when accounting numbers was available, the business model guided in the choice of metrics to use, narrowing down choices to a more manageable set. Secondly, in the absence of numbers to mobilize, narrative information in the business model could still be drawn from to create sense and a general direction in the actor's work. This study takes an overall perspective on the sensemaking process with equal focus on three interrelated processes that constitute the sensemaking process. Through this view we can observe that the narrative and the business model is more important in the beginning of the strategy shift or the *creation* phase. Additionally, the vast majority of sensemaking studies have focused solely on the *interpretation* phase in the sensemaking process (Sandberg & Tsoukas, 2015).

Secondly, we contribute to the literature about accounting in servitization by viewing it as a business model and interpreting it through a sensemaking lens. We illustrate how the business model as a narrative can facilitate the choice and usage of accounting information. Specifically, new financial and behavioral indicators were mobilized with the with guidance and inspiration from the actors' perception of the business model. As servitization business models are established, actors gain an understanding of which types of metrics to implement and the overall logic of their use. Further, we suggest that creating a separate business unit can facilitate the shift towards servitization, in line with the findings of Oliva and Kallenberg (2003). We also agree with previous literature that performance metrics should be reconsidered when shifting to servitization (Lindholm et al. 2017), and that the asset base can provide an avenue for that purpose (Neu & Brown, 2008). Extending this point further, we argue that non-financial customer data can be even more important for firms that shift to selling tangible assets as services, as it becomes an important variable in predicting residual value.

Limitations

This study is based on a single case study of a company embarking on a strategy shift towards servitization and the actors express that they learn continuously. Consequently, the setting and actor's views can be assumed to shift continuously as the business is developed. The case study was confined in the period from January to May 2022, a longer time horizon would help in achieving a more complete view of how actors see the business model. Consequently, the study was conducted under specific circumstances which can affect the comparability of the study and ability to generalize the results (Bryman & Bell, 2015). The collected interview data also involved actors from two companies with partly different goals and targets, which may also be reflected in their views. The data could potentially be improved by focusing solely on one company. The chosen interpretive method to conduct this study holds some disadvantages that limits the scope of the study. Such a disadvantage includes the plethora of different interpretations that could be made around the interviewees' expressions which can imply validation issues. An argument could also be made concerning the fact that one of the authors had prior experience from the case, which could influence the interpretations and result in some level of bias.

Future research

Throughout this study, several interesting themes to delve deeper into have emerged. First, the field of accounting in servitization is novel, and we encourage more studies on the role of accounting in servitization. Specifically, our case illustrates issues around retaining the ownership of tangible assets in servitization shifts. It could be studied how accounting assists in navigating through related issues. Secondly, the role of stylized examples of business models in sensemaking processes could be studied more. This would be especially interesting with regards to when such business models are implemented or replicated in other industries. Lastly, to understand if the findings are applicable to other firms and industries, we encourage comparable studies that explore similar research questions.

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8. Appendix – interviews

Interviewee	**Company**	**Date of interview**	**Duration**
Co-founder A	FinanceCo	2022-03-03	58 mins
Co-founder B	FinanceCo	2022-03-04	59 mins
Co-founder A	FinanceCo	2022-03-06	53 mins
Risk Manager	FinanceCo	2022-03-10	44 mins
FP&A Manager	SubscriptionCo	2022-03-15	56 mins
Analyst	FinanceCo	2022-03-18	48 mins
Data and Analytics Manager	FinanceCo	2022-03-24	41 mins
Product Manager	FinanceCo	2022-04-01	53 mins
Data and Analytics Manager	FinanceCo	2022-04-02	38 mins
Co-founder C	FinanceCo	2022-04-12	47 mins
Performance Steering Manager A	SubscriptionCo	2022-04-12	49 mins
Performance steering Manager B	SubscriptionCo	2022-04-22	45 mins
Co-founder B	FinanceCo	2022-04-28	33 mins
Performance Steering Manager B	SubscriptionCo	2022-05-01	33 mins
Analyst	FinanceCo	2022-05-04	30 mins