



Master's Degree in Management



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

**Master's Degree in Innovation and Industrial
Management**

Transitioning towards the subscription economy

- *A case study into tech-focused subscription-based business models*

SUPERVISORS

Prof. Pietro De Giovanni – *Luiss Guido Carli*

Viktor Ström – *University of Gothenburg*

CO-SUPERVISOR

Prof. Behzad Maleki Vishkaei – *Luiss Guido Carli*

AUTHOR

Christoffer Lindström

MAT. 741161

Graduate School
2021/2022

This page is intentionally left blank

Abstract

More and more firms are moving towards the subscription economy. Incentivized by a promise of lucrative growth and a fear of being left behind, it is estimated that by 2023 75% of organizations will in some way work with subscriptions. In combination with business models, the topic at hand is novel in the eyes of researchers, explained by the scarcity of previous research conducted on the topic. This thesis aims to better understand how tech firms can utilize subscription-based business models to enter the subscription economy. Four research questions are introduced, characterized by four subscription-based business model dimensions (value proposition, value creation, value capturing, and KPI) that can be used to guide tech firms in their transition from traditional to subscription-based.

The data was collected through existing secondary research followed by semi-structured interviews with actors from two tech firms involved in the subscription economy. The qualitative data was analysed using the Gioia methodology to categorise and code the findings.

The research identified nine aspects within the four dimensions that tech firms should consider when transitioning towards subscription, with an added focus on three main pillars.

To successfully transition towards a subscription-based business model, it is imperative that tech firms, firstly, focus on gathering and analysing user-generated data. Secondly, they should capture value based on recurring revenue streams over time, compared to one-time purchases. Thirdly, they should employ sophisticated software to handle the complexities surrounding recurring revenue streams while also enabling data collection and analysis of user-generated information that can be used to improve customer and product lifetime value and the monitoring of KPIs.

Keywords: Business model, Business model Innovation, Subscription Economy, Subscription Business Models, Subscription-based Business models, The Subscription Economy.

Acknowledgements

This document contains the final assignment from my Double Degree program with *Luiiss Guido Carli* in Rome, and *Gothenburg School of Business, Economics, and Law* in Gothenburg. This thesis could not have been realized without the support from friends, family, and colleagues around me, to only some of those to whom it's possible to extend a special mention here.

First and foremost, I want to extend my sincerest gratitude to my supervisors Prof. Pietro De Giovanni and Prof. Behzad Maleki Vishkaei at *Luiiss Guido Carli* and Viktor Ström at the *Gothenburg School of Business, Economics, and Law*, that have helped me during this process. Their combined support, guidance, and knowledge have been of immense value to me and the result of this thesis.

I also want to thank the participants from the two case firms. Without your cooperation, this thesis would not have been possible to pursue. Special thanks go to the two orchestrators from each of the case firms, who aided me in finding relevant participants and campaigned on my behalf to secure enough interviews. Marie R. and Peter W., my sincerest gratitude for your help, guidance, and friendships.

To the friends I have made during the past five years in university, thank you for your continued support and friendships. You all know who you are. May we have many more years together in the future.

Lastly, and most importantly, to my family. Thank you for giving me the opportunity to truly find my place in the world, for always supporting me, and for always being my main role models.

Thank you,

A handwritten signature in black ink, reading "Christoffer Lindström". The signature is written in a cursive style with a large initial "C".

Christoffer Lindström

This page is intentionally left blank

TABLE OF CONTENT

1. Introduction	1
1.1 Problem Discussion.....	2
1.2 Purpose and Research Questions	3
1.3 Introduction of Case Companies	3
1.4 Delimitations	4
1.5 Thesis Disposition	5
2. Literature Review	6
2.1 Sharing Economy	6
2.2 The Subscription Economy	9
2.2.1 A Growing Market	10
2.2.2 Problems Faced by Subscription Firms	11
2.3 Business Models	12
2.3.1 Value Proposition in the Sharing Economy	13
2.3.2 Value Creation in the Sharing Economy	15
2.3.3 Value Capturing in the Sharing Economy	16
2.3.4 Key Performance Indicators	17
2.4 Subscription-Based Business Models	17
2.4.1 Previous Research in Subscription-Based Business Models.....	20
2.5 Literature Review Summary	22
3. Methodology	24
3.1 Research Strategy.....	24
3.2 Research Design.....	26
3.3 Research Methods	26
3.3.1 Primary Data.....	26
3.3.2 Secondary Data Collection	32
3.4 Research Quality	33
4. Empirical Findings	35
4.1 Subscription-Based Business Models of Tech Firms	35
4.1.1 Value Proposition	37
4.1.2 Value Creation.....	42
4.1.3 Value Capturing	44
4.1.4 KPI.....	46
4.1.5 Summary of Empirical Findings	48
5. Analysis	50
5.1 Subscription-Based Business Models of Tech Firms	50
5.1.1 Value Proposition	50

5.1.2 Value Creation.....	53
5.1.3 Value Capturing	54
5.1.4 KPI.....	56
5.1.5 Summary of Analysis	58
6. Conclusion	61
6.1 Limitations and Future Research	62
7. Reference List.....	63
8. Appendix.....	I
8.1 Appendix A - Interview Guide.....	II
8.2 Appendix B – Codes and Themes.....	III

TABLE OF FIGURES

Figure 1. Thesis structure.....	5
Figure 2. A comprehensive business model framework. Ritter & Schanz, (2019).	7
Figure 3. Subscription Economy Index report. Tzuo (2022).....	11
Figure 4. Eight Types Of Product Service Systems: Eight ways to sustainability? Tukker (2004).....	14
Figure 5. Subscribed: Why the subscription model will be your company’s future and what to do about it. Tzuo and Weisert (2018)	18
Figure 6. The Fish Model. Lah & Wood (2016).....	19
Figure 7. Schematic overview of the subscription implementation process for machinery and plant engineering. Riesener et al (2020).....	20
Figure 8. Research process.....	25
Figure 9: Coding process	30

TABLE OF TABLES

Table 1. Previous research in subscription-based business models	21
Table 2. Interview selection	28
Table 3. Coding results – Value Proposition Beleco.....	37
Table 4. Coding results – Value Proposition AFS	40
Table 5. Coding results – Value Creation Beleco	42
Table 6. Coding results – Value Creation AFS.....	43
Table 7. Coding results – Value Capturing Beleco	44
Table 8. Coding results – Value Capturing AFS.....	45
Table 9. Coding results – KPIs Beleco	46
Table 10. Coding results – KPIs AFS.....	47
Table 11. Summary of second order codes and aggregate dimensions	49
Table 12. Summary of factors identified as important to subscription-based business models	59

List of Abbreviations

Abbreviation	
AFS	Arvato Financial Solutions
ATV	Average Transaction Value
B2B	Business-to-Business
B2B2C	Business-to-Business-to-Consumer
B2C	Business-to-Consumer
BNPL	Buy-Now-Pay-Later
CAGR	Compounded Annual Growth Rate
CAPEX	Capital Expenditure
CLTV	Customer Lifetime Value
EBIT	Earnings Before Interest and Taxes
GAAP	Generally Accepted Accounting Principles
HMR	Health Management Resources
IoT	Internet of Things
KPI	Key Performance Indicators
MRR	Monthly Recurring Revenues
ND	Net Debt
NOA	Non-Operating Assets
OA	Operating Assets
OPEX	Operational Expenditure
PaaS	Product-as-a-Service
PLTV	Product Lifetime Value
PO	Product-Oriented
PSS	Product Service Systems
RO	Result-Oriented
SaaS	Software-as-a-Service
SEI	Subscription Economy Index
SHV	Shareholder Value
SVOD	Subscription Video on Demand
UO	Use-Oriented
WACC	Weighted Average Cost of Capital

1. Introduction

This chapter aims to provide background information on the topic selected for this thesis. It also includes a problem discussion, a purpose and research questions section, an introduction of the two case companies included, delimitations, and a thesis disposition.

Over the previous nine years, the subscription economy has grown approximately sixfold, and subscription businesses in the Subscription Economy Index (SEI) have consistently grown five to eight times faster than traditional enterprises (Tzuo, 2022). The index compares the growth of the subscription economy with that of traditional firms, which are firms based on the members of the S&P 500. The findings show that the SEI has a 10-year CAGR of 17.5%, compared to 3.8% of the S&P 500 firms, indicating that the subscription trend is lasting and growing exponentially (Tzuo, 2022). By 2023 it is estimated that 75% of organizations that sell directly to customers will offer some kind of subscription service (Freed et al., 2022). The growing subscription economy has expedited a new era known as "The End of Ownership," in which customers are less interested in owning goods and more inclined to obtain desired outcomes through easy-to-access services (Tzuo, 2022).

Even though the subscription economy is one of the leading emerging trends of the current economy, the literature on the topic is scarce (Tzuo & Weisert, 2018). The topic itself is nothing new. In fact, subscription-based business models have been around for decades, most notably remembered by newspaper subscriptions and milk-delivery services. However, the process is quite different in today's landscape, and an overwhelming majority of the subscription services offered today are related to digital services (Klopčič, Hojnik, Bojnec & Papler, 2020). Recognized are those by content providers such as Netflix and Spotify. For physical products, there are companies such as Hello Fresh and Birchbox, and for services, Amazon Prime and traditional gym subscriptions (Fosker & Cheung, 2021). The digitalization trend undoubtedly helped this trend grow over the past two decades with the help of improved digital infrastructure and payment services, as it has become much easier to collect, store and analyze customer data (Schuh et al., 2020). This process enables firms to tailor their offering to their customers and ensure their satisfaction, making it possible for almost any industry to apply a subscription model. Additionally, the customer behavior shift is also of importance, as it is now less important for customers to own the goods, it is rather more important to have access to them. (Tzuo & Weisert, 2018)

In particular, the software sector has witnessed a shift in focus with the cloud trend. Software vendors now shift their offerings from perpetually licensed products sold through one-time payment strategies that are inherently acquired and subsequently owned by the customers toward software as a service (SaaS) (Lah & Wood, 2016). With this model, where the products are owned by the seller and used by the customers, the issue is not finding new customers since the small upfront payments are often enough to attract new customers.

Instead, it is in finding ways to build new capabilities that enable firms to track their customers and ensure that their needs are matched to retain them. This new perception of customers requires firms to set up new structures, business models, and company cultures that permeate the organization while also accurately measuring performance in a new way (Lah & Wood, 2016).

Tzuo and Weisert (2018) argue that the goal of every organization should be to obtain a business model that generates value through the creation and delivery of information. The underlying concept is simple. However, executing it correctly is not. At the core of business model development is the ability of firms to sustain innovation (Christensen, Raynor & McDonald, 2013) and retain their competitive advantage and change according to the competitive landscape. As such, firms must stay up to date with growing trends such as the subscription economy and change their business models accordingly. A highly relevant way of doing so today is through subscription-based services and product offerings, made possible by adopting a subscription-based business model.

1.1 Problem Discussion

Although there is research to be found within the subject of the subscription economy, it is quite fragmented and not near the point of exhaustion. This is explained by the fact that much of the research conducted is highly specific to certain cases, such as how labor changed for musicians through the subscription economy (Mühlbach & Arora, 2020), the effect on consumer attitude within HMR products/online services (Lee & Kim, 2020; Chung, 2020), subscription business models in machinery and plant engineering (Schuh, Wenger, Stich, Hicking & Gailus, 2020), or within the general area of subscription boxes (Andonova, Anaza & Bennet, 2021).

Furthermore, the collection of research conducted with a strict focus on the subscription economy is low. Much of the existing research can be found in the neighboring area of the sharing economy. This is exemplified by articles such as those discussing the overall sharing economy (Schor, 2016; Puschmann & Alt, 2016; Richardson, 2015), those that examine the role of business models in the sharing economy (Nannelli, Franch & Della-Lucia, 2019; Grieco, Michellini & Lasevoli, 2021; Grieco, 2021) and those that discuss the frameworks found within the sharing economy, thus also including the subscription economy (Ritter & Schanz, 2019).

Subscription-based services are based on leasing/renting, software as a service (SaaS), and product service systems (PSS), which are all business models focused on the concept of recurring payments (Ebi et al., 2019; Dubey & Wagle, 2007; Sun et al., 2007). Subscription services are well documented with phenomenons like Netflix, Amazon, and Spotify. However, how firms align their business models correctly with subscription-based services is significantly less researched and has different barriers within product manufacturing and distribution (Schuh et al., 2019). In addition, companies often experience pushback from actors defending

outdated business models (Lah & Wood, 2016). The research in this area is scarce, and the primary source of information related to subscription-based business models is proposed by Riesener et al. (2020). However, this model does not include practical insights into the implications or requirements for firms. Since the previous research is focused on specific cases and does not include research into subscription-based business models of tech firms, it can arguably make it more difficult for tech firms to understand how to position their subscription-based business models efficiently. Therefore, more research is needed to close the existing knowledge gap and help tech-based organizations implement subscription-based business models.

1.2 Purpose and Research Questions

The purpose of the thesis is to better understand how tech firms can utilize business model strategies to enter the subscription economy. By analyzing two tech firms, we can compare the similarities and differences to better understand how tech firms use subscription-based business models within the subscription economy. To achieve the thesis purpose, the focus is on identifying the different factors of two tech firms' value proposition, value creation, value capturing, and KPIs. Based on this, four research questions have been developed, which are stated below.

- (1.1) What factors are considered part of the value proposition of tech firms within the subscription economy?*
- (1.2) What are the most significant value creation aspects for tech firms within the subscription economy?*
- (1.3) What is the value capturing process for tech firms within the subscription economy?*
- (1.4) What are the main uses of KPIs by tech firms within the subscription economy?*

1.3 Introduction of Case Companies

Beleco: Beleco is a tech firm that has developed its own software product aimed at facilitating user-ship over ownership. The business model applied by Beleco is based on using subscriptions as a sales method, compared to one-time sales. By enabling customers to rent a product and keeping the producers as the owners of the product, they can create incentives for producers to use higher quality materials as they would last longer and thus produce more revenue over time. Beleco's area of activity can be described as Product-as-a-Service (PaaS) and refers to the use of products and services in a combination that provides a bundled offering that includes both the use of a product and the inherent services.

Overall, their business area is within the circular economy, and their business model is closely linked to the area of circular business models. Their sales strategy is primarily aimed at B2B sales, as this is their initial focus based on their overall business model and strategy.

Arvato Financial Solutions: Arvato Financial Solutions, henceforth known as AFS, is a financial business firm in the SaaS sector (software as a service) that offers solutions in financing, invoicing, debt collection, and dunning services. They are currently undertaking an organizational re-work. Part of this is to restructure the business areas utilized, but also to innovate and create new product lines that fit the evolving economy and to secure their place in it. They are currently developing a recurring billing product. This software product can be integrated into other businesses' payment models, which can then be used to set up subscription/recurring billing options for other firms. AFS is currently trying to enter the subscription economy with this new product. By doing so, they are attempting to reconfigure their business model objectives and goals to fit better with the overall economy. The firm's sales strategy is primarily aimed at B2B2C sales.

Similarities and differences of the two Firms

If we analyze the value chain of a product purchased by a consumer, we can see that Beleco and AFS are parts of the same process, although in different ways. Beleco offers the communication and security associated with platforms that connect producers and customers and handles the software necessary to deal with recurring billing. AFS's role within the subscription economy is located within the final step of the process - recurring billing. Their services are thus not completely connected since one firm rents out physical products in combination with software services, while the other only sells software products/solutions. A comparison between the two firms is therefore not optimal in the sense that they have inherently different objectives. However, including two different firms in the research highlights their different approaches and focus, thus making the similarities identified even more relevant for tech firms that want to employ a subscription-based business model.

1.4 Delimitations

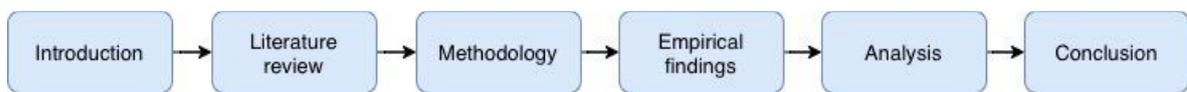
Due to the time constraint of the thesis, several delimitations were taken into account to ensure that the work could be finished on time with the desired quality. Since the thesis aimed to research subscription-based business models of tech firms, in combination with the limited amount of time, only two firms were included in the thesis. Another delimitation was only to include tech firms, as these form the basis for the empirical research. Including more than two actors could have added legitimacy to the research findings but was not a feasible option for the time available. Furthermore, the understanding of customer behavior and preferences was based on the perception of the actors themselves as well as previously conducted research. Collecting this data and adding it to the primary research could have added more meaningful information to gain even better insight into how the development of subscription-based business models is related to customer behavior.

1.5 Thesis Disposition

The disposition of the thesis starts with the introduction of the subject, including the presentation of the research gap, problem formulation, research questions, and case companies in focus. After which, the literature review is presented, including the relevant previous research conducted on the topic. Following that, the methodology presents the way the research questions will be answered and the strategies chosen for conducting the research. After the primary research is outlined in the methodology section, the empirical findings can be found. This includes the aggregate data collected for the study.

The analysis is conducted and presented based on the empirical findings, containing the primary information used to answer the research questions. Lastly, there is a conclusion to reiterate the work and findings. To clarify the thesis structure, the disposition is presented in the figure below:

Figure 1. Thesis structure



2. Literature Review

The literature review in this chapter seeks to include recent research in the fields of business models, business model innovation, the subscription economy, and related subjects. The literature review aims to provide a comprehensive overview of prior academic research on these topics to explain where there is agreement and which areas of the literature are most relevant for future research. Because much of the existing research on the subscription economy can be found there, and scholars believe that it is an extension of the sharing economy, research on the sharing economy is also included in this area.

2.1 Sharing Economy

In recent years the sharing economy has been regarded as a haven for disruptive innovation, having drastically changed both the way the world consumes content, goods, and services as well as the overall economy's perspective of value creation. Contrary to the traditional market model, which is primarily based on ownership, the Sharing Economy is built on the using and sharing of products and services (Puschmann & Alt, 2016). The general idea behind this is nothing new, as the sharing of resources precedes the inception of the theory in B2B domains, such as the sharing of machinery in forestry and agriculture, and in B2C domains, car rentals, public libraries. However, what differs the new way we use sharing from what was previously seen was made possible by new arising technologies – mainly the internet, which has transformed economies and how business is conducted – but also by the increasingly globalized world we live in today and all the adhering open regulations, rules and governmental conducts that are now accepted as the new standard. (Puschmann & Alt, 2016)

Furthermore, the Sharing Economy has been accredited as a possible solution to the climate crisis. Many regards its promises on environmental issues by its better resource utilization, reduced idle capacity through access over ownership, and using goods until the very end of their lifespan. Furthermore, many different branches of the Sharing Economy show promising results (both economic and environmental). The increasing use of leasing, renting, and co-ownership of goods by the hands of organizations motivate research on innovating production methods to improve the quality of materials to increase the longevity of products so that more revenue can be extracted from a minimal number of resources. (Puschmann & Alt, 2016)

The discussion of leasing and renting in the sharing economy are some of the aspects that connect it with the subscription economy.

The leasing of a product implies a contractual agreement between the seller and the buyer where the buyer must pay the owner of the product (the seller) for the use of the asset during a specific timeframe. Subscriptions, comparably, imply an understanding of where the product or service is offered and paid throughout particular time intervals.

Therefore, the key difference is that a lease requires a binding contract, while subscriptions do not. In simple terms, we can say that subscriptions are less binding than leasing. (Freed et al., 2022)

Four-field matrix of the Sharing Economy

According to research by Ritter & Schanz (2019), the sharing economy consists of four main market segments. By combining the different dimensions of a business model (which will be presented in later sections) and identifying firms:

Value Proposition.

1. Product-Oriented (PO),
2. Use-Oriented (UO),
3. Result-Oriented (RO),

and Value Creation.

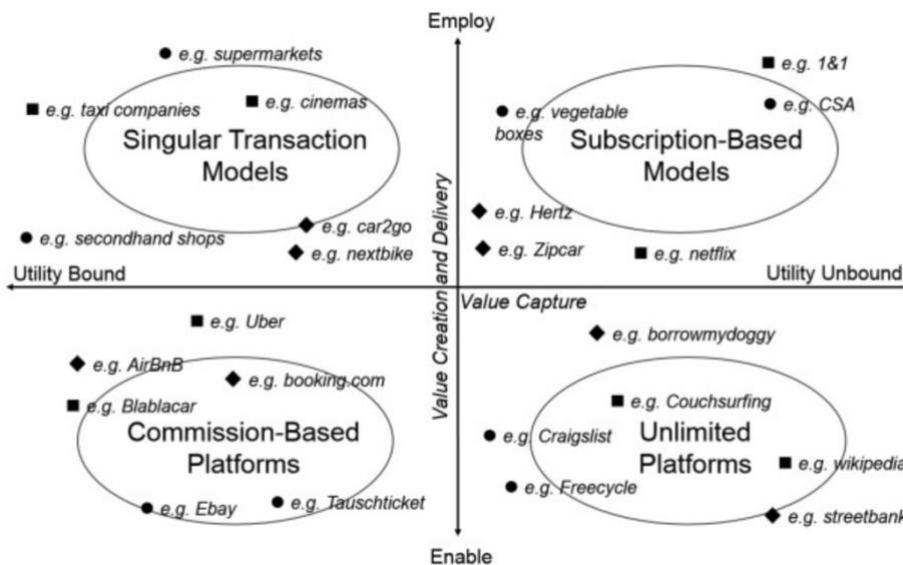
1. Enable/Empower,
2. Employ/Delegate,

and Value Capturing.

1. Utility Bound,
2. Utility Unbound,

It's possible to encompass a variety of business models in a comprehensive framework. The four ideal market segments of the sharing economy are singular transaction models, commission-based platforms, unlimited platforms, and subscription-based models (see figure 2). (Ritter & Schanz, 2019)

The value creation and delivery degree is displayed on the y-axis, while the value capturing is seen on the x-axis.



● = product-oriented/◆ = use-oriented/■ = result-oriented Value Proposition

Figure 2. A comprehensive business model framework. Ritter & Schanz, (2019).

Singular Transaction Models

Singular transaction models are exemplified by dyadic relationships regarding supply and demand, with most of them using utility-bound revenue streams. These models are used by firms that employ employees (insourcing) or instruct other firms (outsourcing) to create and deliver value to their customers. The model uses a standardized and limited value proposition where both the quality and prices are highly controlled (Hagiu & Wright, 2015). The consumers of the goods/service delegate the entire value-creation process to the organization and provide only minimal input in the overall process of the value proposition. The majority of the businesses included in the singular transaction models are not included in the sharing economy. (Ritter & Schanz, 2019).

Commission-Based Platforms

Commission-based platforms are exemplified by at least a triadic relationship amongst consumers, providers and intermediaries with a utility-bound revenue stream. These business models enable their customers to alternate between the consumer/provider roles by creating and delivering the value proposition (Ritter & Schanz, 2019). These types of platforms are mostly recognized through firms such as Airbnb (access to commodities in a defined timespan), eBay (consumers purchasing commodities), and UBER (service consumption), where consumers buy a service or good from other consumers/providers and pay a commission to the intermediary, whose sole responsibility is to provide a community-feeling and reduce transaction-based insecurity by including rating systems and standardization of payments (Ritter & Schanz, 2019). The value creation and delivery are often completely externalized by a third party (Hagiu & Wright, 2015). From a consumer point of view, we can often see that they are empowered to collaborate by collectively negotiating terms and conditions of the service/content, creation and consumption of the value proposition (Ertz, Karakas & Sarigöllü, 2016). The potential value for the consumers depends on the size of the providers, and vice versa, creating a positive spillover effect that has exponential growth potential (Ritter & Schanz, 2019). Commission-based platforms are commonly recognized by consumers as “sharing platforms”, although critics claim that this is misleading as these kinds of platforms support social cohesion and environmental problems but manage to greenwash their involvement through strategic advertisement (Constantiou, Marton & Tuunainen, 2017)

Unlimited Platforms

Unlimited platforms are, like commission-based platforms, mainly dominated by at least triadic relationships and focus on creating strong network effects from both sides of the marketplace. However, their focus is on utility-unbound revenue streams. Depending on the strategy used for the value proposition, consumers can access commodities used by a third group (car rental schemes), acquire listed products (Craigslist), or access unlimited services offered by many suppliers (Wikipedia, Youtube). All the revenue sources require many non-paying users, creating data and clicks in exchange for the service provided by the intermediary. Third parties are therefore required to cross-subsidize the non-paying users, which can be advertisers, premium users,

and more. In contrast to subscription-based models, where users need to pay for the service offered. (Ritter & Schanz, 2019)

Subscription-Based Models

Subscription-based models are commonly described by a dyadic relationship in supply and demand with mainly utility-unbound revenue streams. While these models are similar to "singular transaction models," the subscription-based models are designed under an employ condition and require a high level of control over the value proposition creation process. These types of models can differ significantly depending on the context of the value proposition; contracts can include a specific amount of product use (subscription boxes, limited phone data plans), unlimited use of a particular product (rental cars), or unlimited amount of a specific service from one supplier (Netflix, Spotify) based on a specific timespan.

Use-Oriented (UO) Subscription-based models are often considered as part of the sharing economy by those that focus on the idle capacity argument (e.g., cars being unused 95% of the day). In contrast, Product-Oriented (PO) and Result-Oriented (RO) Subscription-based models are rarely included in the sharing economy (Ritter & Schanz, 2019). The only exceptions are businesses that digitalize a physical object and promise a community-building element. What makes subscription-based models interesting is their effect on consumers' consumption habits where they, after subscribing to a service and paying the fee, feel the need to regain their investment by using the value proposition frequently (Grewal, Chandrashekar & Citrin, 2010). Therefore, subscribers rarely switch providers and are often induced to sign contracts with a notice period, through free periods, or early preferential prices. The consumers are then sometimes locked-in through contractual arrangements with high switching costs (Ritter & Schanz, 2019).

Therefore, the sharing economy and the subscription economy generally only intersect when we discuss digital products that can be easily shared amongst several users without interfering with the ability to use the product by others or with physical products where the provider retains ownership. Furthermore, since subscription-based business models revolve around the use of recurring payment processes and other factors that result in utility-unbound revenue streams, the differences between the two economies can be seen within both the property rights of the product and the way companies charge for the product.

2.2 The Subscription Economy

As a result of increasing globalization and digitization, many organizations have altered their business models from traditional one-time payments to subscription-based recurring billing strategies. The subscription model implies the use of a recurring payment in exchange for content, products, or service. Well-known examples of content-based subscriptions are represented by actors such as Netflix and Spotify. For physical products, there are companies such as Hello Fresh and Birchbox, and for services, Amazon Prime and traditional gym subscriptions (Fosker & Cheung, 2021). Specifically, these implementations have proven that the changes

towards the subscription economy can be immensely beneficial. For instance, when Microsoft made its “Office 365” program into a subscription service, it resulted in year-on-year growth of 27 percent (Wilhelm, 2020). These businesses often offer additional services included in the subscription, such as improved customer support, personalization, continuous updates, and the launch of new content or products periodically (Freed, Bishop, Gregory, Kolachina, Shteynberg, Sultana, Zhang & Bhalala, 2022). As a result, the businesses with such offerings often value retaining customers more than finding new ones. Recurring characteristics of these firms include having a high degree of responsiveness, constant customization, and improvements of their products and services while building long-term relationships with their customers.

2.2.1 A Growing Market

The growth of the subscription economy has seen unprecedented levels over the past decade and is expected to continue its rise in the coming years. By 2023 it is estimated that 75% of organizations that sell directly to customers will offer some kind of subscription service (Freed et al., 2022). One segment most commonly used today is the subscription video on demand (SVOD) streaming services, which is expected to grow to \$100 billion by 2025 with over 1.1 billion active subscriptions. This trend is especially strong in the United States of America, where over 80% of adults have at least one active subscription service (Freed et al., 2022). The growth is beneficial not only to those who subscribe to subscriptions but also to the companies that sell the service or product and their stakeholders. One benefit of using this billing model is more sustainable and predictable income revenue streams from the customers, which provides benefits such as maintaining predictable free cash flows and handling investments (Freed et al., 2022). From the customers' perspective, there are three primary reasons users are drawn to subscriptions: convenience, cost, and discovery (Freed et al., 2022). The explanation behind this is that subscription businesses offer a product that initially provides convenience to the customers, which draws them in and makes them initiate a relationship with the firm. The customers then pay an elevated price for the service or product over time, making it seem cheaper than purchasing it up front, while having the option to cancel the subscription whenever they want. While using the new subscribed product or service, the customers often discover new aspects and applications of other products or services that the company offers since the companies often include recommendations and personalization options based on aggregated and analyzed user data. This enables an improved connection between the company and the customer, establishing a connection between the provider and the purchaser. (Freed et al., 2022)

With the subscription economy, a new way of thinking is required. This includes the disposition of the firm's business models and strategies (Tzuo & Weisert, 2018). Zuora, a tech firm offering subscription solutions, is at the forefront of the subscription movement and has been a leading advocate for its development. The firm has developed a Subscription Economy Index (SEI) to monitor the development and growth of the subscription economy. The index compares the growth of the subscription economy with that of traditional firms, which

are firms not using subscription-based business models, and displays their compounded annual growth rate (CAGR) over time. Specifically, the traditional firms included in the report are based on the members of the S&P 500. Figure 3 below show that the SEI has a 10-year CAGR of 17.5%, compared to 3.8% of the S&P 500 firms, indicating that the subscription trend is lasting and growing exponentially (Tzuo, 2022). This suggests that the subscription economy, and consequently subscription-based business models, are becoming more and more relevant for firms to convert to.

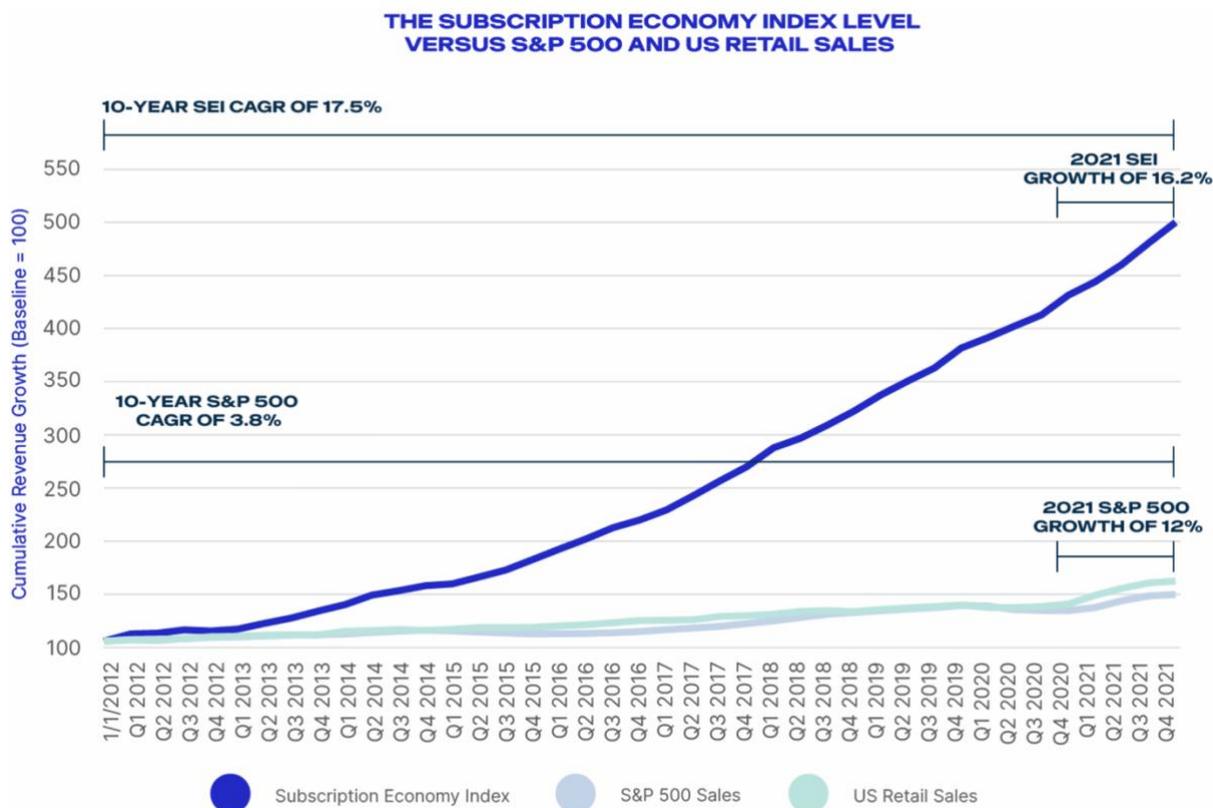


Figure 3. Subscription Economy Index report. Tzuo (2022)

2.2.2 Problems Faced by Subscription Firms

Since subscription-based business models are a relatively new phenomenon, especially when linked with digital technologies and internet of things (IoT), the topic of subscriptions is highly relevant for studies on why some companies fail to grow and retain their customers. Like many other types of firms, subscription services suffer from acquisition problems. This includes logistics, loyalty, and continuously changing customer preferences. Additionally, these firms also suffer from issues regarding retaining the existing customers, and many firms often regard retention as more important than acquisition. Therefore, identifying the retention levers plays a vital role in the success of businesses and their value proposition. While these issues are prevalent for all kinds of subscription businesses, product subscriptions may face additional challenges as the products themselves may face substitutability issues where consumers can find another

source with equivalent or similar products, thus making it more likely for product subscriptions to face tougher market conditions compared to other forms of subscriptions. (Fosker & Cheung, 2021)

The previous research conducted by Fosker and Chung (2021) suggests that firms involved in subscriptions need to have clear and developed subscription-based business models with value propositions that are adjusted to the specifics of the subscription economy. While they discuss some aspects of value propositions (retention levers), they do not include an extensive analysis of other potential aspects of the value proposition, nor do they include value creation or value capturing aspects, which are fundamental for business models (Osterwalder & Pigneur, 2010).

2.3 Business Models

Business models are under constant innovation pressure from competitors seeking to successfully copy business models in the ever-changing competitive landscape. Innovating a business model implies a reconfiguration of the model's elements, which includes changes in the content (selection of activities), structure (linkages or sequence of activities), and governance (who performs the activities) (Kindström, Kowalkowski & Sandberg, 2013). Business model innovation can change how a company is connected to its stakeholders, how it engages in economic exchange, and how it creates value for all partners (Di Leo, Michelini & Principato, 2020). Business models can take the form of physical or digital manifestations of companies' core business strategy and can thus significantly impact how firms perceive the value they create for their customers. Examples of firms that have changed their business strategy from a purely product-related business to a product-service approach are IBM and Adobe. Innovating a new business model, or altering an existing one, is always a difficult decision when firms try to adapt and evolve. The consensus is that it is generally better to make changes to the current business model and thus focus more on exploiting current opportunities rather than exploring new opportunities. (Kindström, Kowalkowski & Sandberg, 2013)

Business models are customizable, distinguishable, and company-specific, making it difficult to standardize and operate several businesses with the same business model. Three business model categories can be identified as common throughout most industries and companies. They can explain how firms position themselves to best capture market share and stimulate growth. (Osterwalder & Pigneur, 2010)

- The value proposition refers to why a customer will value an organization's offering. It includes the overall offering of the organization and the intended customer target market, including the type of customer relation.
- The value creation and delivery include the numerous actions an organization undertakes to create, produce, sell and deliver its products or services to customers. Included are the key activities that keep

the business running, crucial key partners like suppliers, joint ventures or alliances with competitors, key resources used in the process (e.g., human resources, intellectual, financial, or physical), and distribution, communication, and sales channels to customers.

- Finally, the value capturing process corresponds to the origin of revenues, the ways the organization receives money in exchange for its services, as well as the cost structure of the organization. (Richardson, 2005; Osterwalder & Pigneur, 2010)

2.3.1 Value Proposition in the Sharing Economy

A recurring characteristic of businesses' value propositions in the sharing economy is access over ownership of goods (Bardhi & Eckhardt, 2012). From a purely economic perspective, we can distinguish the differentiation in property rights in the following four ways:

1. *Ius Usus* (The right to use a resource)
2. *Ius Abusus* (The right to change the shape of a resource)
3. *Ius Fructus* (The right to acquire resource usage yield)
4. *Ius Successionis* (The right to transfer resources and adhering rights)

The concept of access is based on the transfer of the first three, whereas the question of ownership is based on the transfer of the final one. Therefore, in the most basic theoretical point of view, the Sharing Economy is limited to access and the first three rights.

Furthermore, shareable objects included in the Sharing Economy are often characterized by underutilization. This is either because the owner does not utilize or consume the product all the time or because other consumers could consume the product, or parts of it, at the same time without interfering with the overall usability. Examples of this are best explained through the digital economy, where multiple users can share and use digital products without interfering with each other. In general, intangible products are counted in the Sharing Economy more often than tangible products due to their scalability and degree of simultaneous usability. (Haase & Kleinaltenkamp, 2011)

2.3.1.1 Product-Service Systems (PSS)

PSS are often included in the sharing economy discussion. It deals with business models transforming their value propositions from traditional ownership-based tangible products to offering intangible services (Catulli, Cook & Potter, 2017). PSS literature originates from the basic needs of traditional manufacturers understanding that services, in combination with products, can provide higher profits due to scalability, reduced costs, and increased access, to name a few reasons. Based on the discussions of access over ownership, intangible and tangible objects, and scalability, the classification of PSS business models presented by Tukker (2004) provides one of the main dimensions for value proposition categorizations of businesses active in the

sharing economy (see figure 4 below). We can, furthermore, classify the firm's value proposition depending on its product and service mix in three distinct ways:

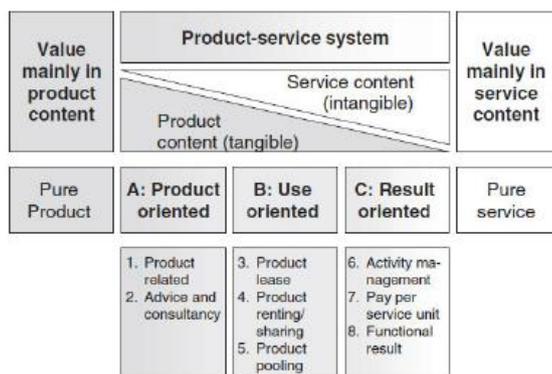


Figure 4. Eight Types Of Product Service Systems: Eight ways to sustainability? Tukker (2004)

Product-Oriented (PO): PO business models are focused on the sale of products. At the same time, certain product-related services are added to gain additional profit at the end of the product lifecycle (maintenance contracts, take-back agreements, advisory services, financing schemes). The consumer claims complete ownership of the tangible object. (Tukker, 2004)

Use-Oriented (UO): UO business models are focused on businesses where the provider still owns the product, and the use of the product, or parts of its functionality, is sold. The service and product mix is aimed toward the functionality of, and access to, the product. Services provided by the producer include maintenance, control, and repair of the tangible object and the organization of sharing if the use of the product is to be split between multiple users. (Tukker, 2004)

Even though the services provided are essential for the UO business models, the utility of product-use is still extracted by the consumers, offering them rights to the tangible products (Van Ostaeyen, Van Horenbeek, Pintelon & Duflou, 2013).

Result-Oriented (RO): RO business models can be explained by the sale of a result or competence by the provider without including a pre-determined product in the contract between the two actors, or an exact explanation of how to deliver the result. In contrast to the UO models, the providers with RO business models extract the utility for their consumers, offering functional results. (Tukker, 2004)

Based on these three business model distinctions, we can see that going from PO to RO value propositions, the reliance on products as the central offering decreases, and service becomes more and more critical. As a result of this, the value propositions and customer demands become more abstract, making it difficult to quantify and translate into performance indicators such as KPIs. This creates certain difficulties, for the providers to understand what they actually have to offer their consumers, and for the consumers to know if they got what they asked for in the first place (Tukker, 2004). In the context of the research questions, the

focus will be on use-oriented PSS, as its focus on customer-centricity is essential for organizations when implementing subscription-based business models (Tzuo & Weisert, 2018).

2.3.2 Value Creation in the Sharing Economy

The creation and delivery of value in sharing economy businesses are defined by what kind of actors are involved in the creation (supply-side) and who are involved in the receiving (demand side) of the value propositions. The consumers and producers active in the sharing economy business, whatever it may include, are often considered co-creators of the value proposition. This can be seen in relationships where the suppliers and consumers are in constant contact and communicates clear guidelines for acceptable behavior. For example, in car-sharing schemes, where consumers borrow a car, they are often required to fill it up with gas, clean it, report any damage caused and return it to the correct location after use, acting in the form of an employee. From a business model perspective, we can see the decisions to either employ or enable professionals to create and deliver their value proposition, and from a consumer perspective, whether to empower or delegate. (Ritter & Schanz, 2019)

Enable (Empower) based business models are mainly built on triadic or polyadic relationships (compared to dyadic in peer-to-peer) between the different providers, intermediaries and customers and also facilitate the relationships between providers and buyers where the company providing a platform is not active in the transactions. This can be exemplified by business models in organizations such as UBER and Airbnb, where the service is provided by the provider and consumed by the customer. The focal firm is only involved by delivering the communication and payment platform. The intermediaries in the relationship (UBER, Airbnb) have a strong incentive to build an active community to encourage the development of network effects. These intermediaries can overcome geographical or informational obstacles between the different involved parties in such transactions by matching activities, micro-insurances, creating rating systems, and standardizing and controlling the various aspects of the interaction while also mediating the payment transactions and resolving potential conflicts (Constantiou et al., 2017). The overall degree of control can differ between organizations. It's considered "tight" in certain aspects regarding prices, certificates, and quality, i.e., parts of the transaction that remain crucial to overall value creation and transaction cost reduction. The control can be considered loose when the intermediary only creates guiding principles for the transaction and does not participate in the overall value creation or service (Constantiou et al., 2017).

Employ (delegate) business models are based on a strict non-intermediary activity between the provider and customer. Compared to the asset-light “enable (empower) business models”, the dyadic business models used in the “employ (delegate)” focus mainly on owning inimitable and unique assets and marketing said assets towards specific target preferences and offering a limited scope of services and products that are standardized. This approach is considered asset-heavy, and as such, the costs of expansions are comparatively high (Ferrell,

Ferrell & Huggins, 2017). Dyadic business models are not as dependent on direct or indirect network effects to market and create their unique value proposition and therefore identify closely with offerings of firms that use products where a certain degree of standardization is possible. However, human interaction is always a part of the process. The employ-based business models are more widespread in today's landscape due to the breakthroughs in digital technologies and the improved connectedness of users around the world due to smartphones. The result of this has been a significant reduction in costs and improved feasibility of building infrastructure that enables providers to expand quickly through web-based services (Schor & Fitzmaurice, 2015)

2.3.3 Value Capturing in the Sharing Economy

Revenue streams can be divided into direct or indirect sources, and the value capturing strategies in the sharing economy is therefore based on either of the two, depending on the strategy and business. Direct revenue models can be explained as those where consumers subsidize themselves and pay the cost of the organization. This can be exemplified by phone operator contracts sold to consumers who pay for a specific service. Within indirect revenue models, there is a third actor present that subsidizes the consumption of the service, such as cross-subsidization in newspapers by advertisers, allowing a zero-sum price for the consumers. By strict definition, the indirect revenue models are always part of the multi-sided market. (Ritter & Schanz, 2019)

Utility Bound/Unbound: Furthermore, a second definition of revenue streams includes their utility, whether they are utility bound or utility unbound revenue sources. A utility bound transaction can be explained by its one-time monetary compensation, which is often dependent on a specific period of time or quantity of usage. Examples of this is billing measured in short time units such as parking fees, telephone fees for a specific time span of use per call, as well as one-time transactions for the consumption of goods. Revenues are considered unbound if the created value is not directly related to the economic benefit and is paid periodically, such as a monthly payment at the end of the month, regardless of how much utility was extracted by the customer. However, most business models are built on both bounded and unbounded revenue streams, such as commissions and advertisements, which combine both. (Ritter & Schanz, 2019)

If direct and indirect revenue streams are combined with bounded and unbounded to utility, we can see different revenue streams in a spectrum.

- Bounded to utility direct revenue sources include one-time transaction revenues or usage fees connected to parameters of use, and indirect sources of revenues are commission-related if a transaction of utility takes place.
- Unbounded to utility are considered direct revenue sources if they include subscription or set-up fees, whereas sponsorships, data mining, advertisements and premium user arrangements are considered

indirect sources of revenues if the consumers are not liable to the payment of the utility due to cross-subsidisation.

Most business models, both within and outside of the sharing economy, are built on both direct and indirect revenue streams. In multi-sided markets, the different providers and consumers are treated as different revenue sources whose commissions are based on different pricing strategies. The intermediary (UBER, Airbnb) often generates the majority of its income from the side of the market that has a lower elasticity of demand and is profiting even more from using the intermediary's product. (Ritter & Schanz, 2019)

2.3.4 Key Performance Indicators

The development of successful business models is a complicated process. KPIs make assessing and monitoring the performance of a business, business unit, product, or other variables of measure easier to deal with. Therefore, the use of KPIs can be argued to be company-specific or depend on specific situations or markets. In addition, their definitions are often based on business strategy, enabling businesses to translate abstract values into measurable components. (Gilsing, Wilbik, Grefen, Turetken, Ozkan, Adali & Berkers, 2021)

Furthermore, evaluating a business model is the act of analyzing and understanding the perceived performance or value that a company provides based on its business model design. With this in mind, the way firms evaluate their business is often with the use of key performance indicators since they facilitate the structuring and assessment of a business model's performance to improve the understanding of the inherent strategic implications (Heikkilä, Bouwman, Heikkilä, Solaimani & Janssen, 2016).

Within the context of business models, KPIs can be used to support, create, and develop business model decision-making based on the ongoing evaluation of the chosen KPI variables deemed to satisfy the organization's strategic objective (Richardson, 2005).

Business model development and the use of KPIs can be regarded as an iterative process, as business models are gradually developed and improved over time. As such, the effectiveness of KPIs in their pursuit to support the decision-making is highly dependent on the timing for which they are applied in the business model process (Wirtz & Daiser, 2018). Furthermore, since KPIs rely on information to concretize abstract variables into something more tangible and, in a sense, physical, their success as a tool is highly limited if there is significant uncertainty or limited data availability, as there often is during business model innovation phases (McGrath, 2010).

2.4 Subscription-Based Business Models

The understood impact of the subscription economy on businesses is fundamentally centered around the way firms conduct their business and how their business models are developed. There are many important variables for developing subscription-based business models.

Customer and relationship focus

Subscription firms' primary focus is on relationships and developing a recurring revenue stream for long-term growth (Tzuo & Weisert, 2018). Additionally, the focal point is on relationships as a whole, explained as the "future of business," and how the subscription firms put the relationship with the customers at the forefront, surrounded by the customer journey cycle of interaction which is supported by the cycle of back-end business processes (see figure 5 below "New Business Model"). (Tzuo & Weisert, 2018)

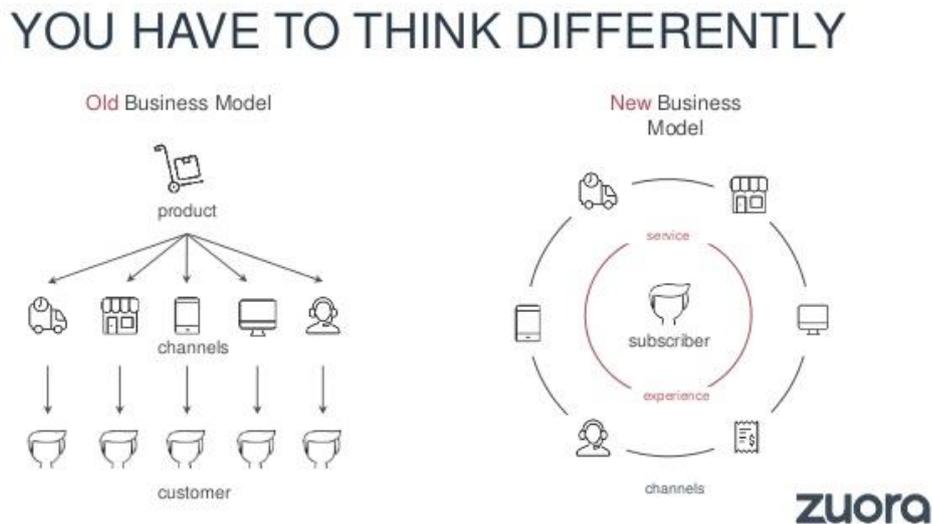


Figure 5. *Subscribed: Why the subscription model will be your company's future and what to do about it.* Tzuo and Weisert (2018)

Tzuo and Weisert (2018) say that the subscription economy entails an added focus on customers due to customers having increased needs and expectations and companies that need to fulfill them. Additionally, due to the benefits of subscription-based business models and the generation of user information, it's possible to continuously update the value proposition and transform the business model according to the current customer needs and trends (Schuh et al., 2019).

Recurring Revenue Streams

When discussing subscription-based business models, a relevant method of development is providing frequent delivery of the organizations' value proposition in exchange for recurring payments through subscription-based systems (Ebi et al., 2019). One of the main definitions of subscription-based business models is the way value is delivered to customers in exchange for a recurring payment structure (McCarthy, Fader & Hardie, 2017).

A benefit of using subscription-based business models is that cash flows are predictive, allowing for flexible resource planning since subscription firms gain revenue at the start of each selected period (Ebi et al., 2019; Tzuo & Weisert, 2018).

Another argument for choosing subscription-based business models is that producing physical products is very capital intensive. Therefore, using subscriptions makes it possible to reallocate investments and improve the number of predictive revenues (Schuh et al., 2019).

Issues related to the transition of business models, going from a traditional (linear) to a subscription-based (circular), are presented by "the fish model" created by Lah and Wood (2016).

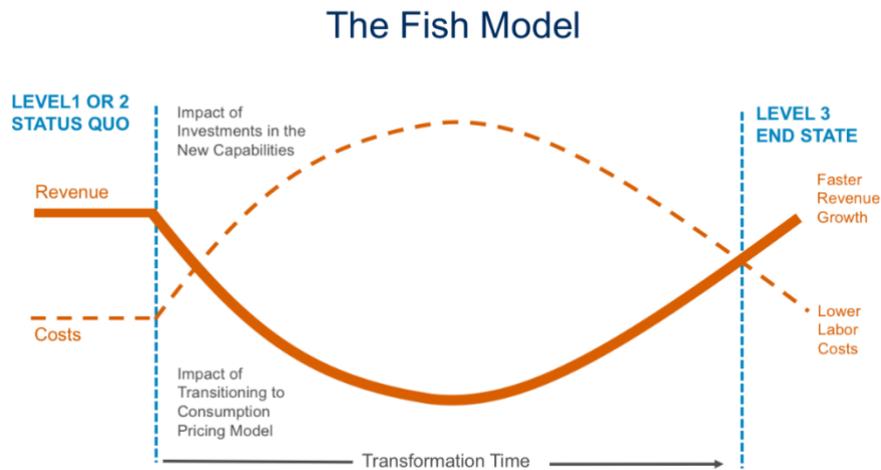


Figure 6. The Fish Model. Lah & Wood (2016)

As illustrated in figure 6 above, when converting toward a subscription-based business model, revenues will initially go down as part of the implementation phase. They will, however, rise above their original levels over time once the transformation has been completed. (Lah & Wood, 2016)

Company Valuation benefits

Because of how value is created and captured, the valuation of businesses can be determined. Based on standard corporate valuation theory (Koller, Goedhart, & Wessels 2010; Damodaran 2012), a firm's value can be determined by the value of its operating assets (OA) adding the non-operating assets (NOA), subtracting the net debt (ND) of the firm and denoting the firms value at time T by the shareholder value SHV(T) we can see the following:

$$SHV_T = OA_T + NOA_T - ND_T.$$

Furthermore, since the operating assets are based on the sum of the firms' future free cash flows discounted based on the weighted average cost of capital (WACC), with the following formula:

$$OA_T = \sum_{t=0}^{\infty} \frac{FCF_{T+t}}{(1 + WACC)^t}.$$

This suggests that if organizations improve their long-term free cash flow, which is arguably a benefit of using subscription-based business models (McCarthy et al., 2017), company valuations will improve. There are many benefits of having higher company valuations. Most importantly, it opens up an opportunity to loan capital for investments into the business or for acquisitions.

2.4.1 Previous Research in Subscription-Based Business Models

When organizations transition towards subscription-based business models, one of the main aspects to consider is which business model to choose and how to implement it. Riesener et al. (2020) propose a conceptual model which explains the steps machinery and plant engineering firms can take to transition towards subscription-based business models (see figure 7 below). This model also includes the different choices and activities firms must make regardless of the selected subscription-based business model.

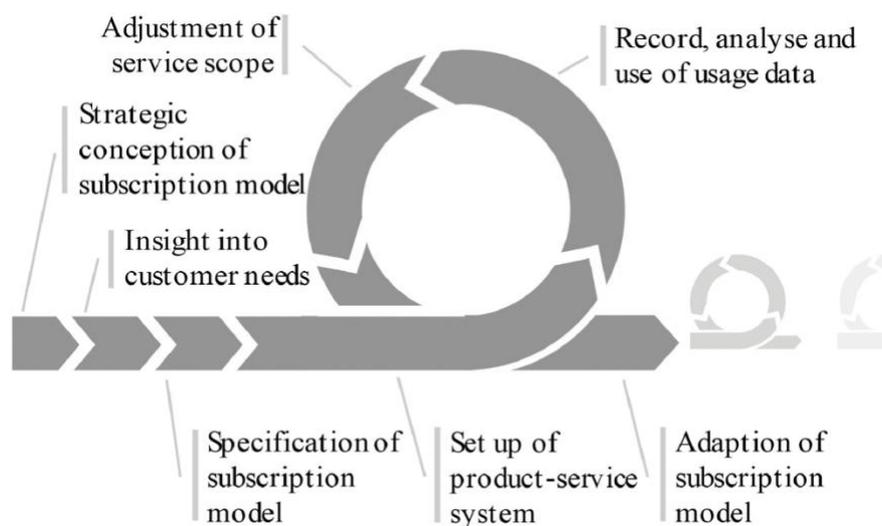


Figure 7. Schematic overview of the subscription implementation process for machinery and plant engineering. Riesener et al (2020)

Based on this model presented by Riesener et al. (2020), the subscription-based business model implementation depends on several stages. The first includes conceptualizing the selected subscription model, gaining customer insights, and specifying which model to use. The second step is to implement the selected subscription-based business model and use software services to gather, record, and analyze data (Riesener et al., 2020). This collected data is then reviewed, and the software used is continuously updated to improve the data collection process to better capture the customer needs. Finally, the subscription-based services and their characteristics need to be viewed in the form of a framework (Schuh et al., 2020). To facilitate this process, Schuh et al. (2020) suggest that four main characteristics should be considered: (I) continuous performance improvement of customer benefits, (II) long term collaborative relationship with customers and partners, (III) periodic or recurring payments and (IV) knowledge of the changing customer value (Schuh et al., 2020).

Some of the newest and most relevant research articles that discuss subscription-based business models can be seen in table 1 below.

Table 1. Previous research in subscription-based business models

Authors and year of publication	Area of research
Riesener et al., 2020	Discusses the use of a methodology to design and implement subscription-based business models. (focus on machinery and plant engineering)
Schuh et al., 2019	Presents a management model used to deal with transitioning towards subscription-based services. (Industrial model focus)
Schuh et al., 2020	Discusses four characteristics that define subscription-based business models. (focus on machinery and plant engineering)
Tzuo & Weisert 2018	Discusses the specific aspects firms need to change to adopt a subscription-based business model.

An aspect these researchers agree upon is the fact that software has to be included as a service (instead of the traditional way of enterprise resource planning) (Riesener et al., 2020; Schuh et al., 2020). However, one thing the studies also have in common is the fact that none of them include any form of empirical research aimed at tech firms, indicating that there is a theoretical gap in researching the subscription-based business model transition in practice and adding information to the research area of subscription-based business models focused on tech firms.

According to Tzuo (2018), one of the main areas of change is finance, where the traditional view supported by Generally Accepted Accounting Principles (GAAP) is outdated and too linear, suggesting instead that a new way of accounting is required that is focused on circularity and customer lifetime value (Tzuo & Weisert, 2018). This represents a shift in focus from looking backward to understanding what the previous quarters' revenues amounted to towards the recurring revenue streams that are guaranteed for many years forward. As a result, the argument lies in changing the focus of the firm, and the KPIs used, going from revenue growth and sales towards KPIs more relevant for subscription-based business models such as churn, customer acquisition, and up/cross-selling (Tzuo & Weisert, 2018).

The previous research conducted by Tzuo (2018) and Tzuo and Weisert (2018) suggests that firms involved in subscriptions need to have clear and developed subscription-based business models with KPIs that are adjusted to the specifics of the subscription economy. However, while they discuss some aspects of KPIs (financial aspects and customer-based KPIs), they do not include an extensive analysis of other potential KPIs

relevant to subscription-based business models. More specifically, they do not include relevant KPIs for tech firms that use subscription-based business models. Therefore, more research is arguably needed to give subscription tech-firms insight into what kind of KPIs they should use to better develop and improve their business models.

2.5 Literature Review Summary

The subscription economy is a highly relevant research subject since it has positioned itself as a contender to traditional ways of conducting business, illustrated by the SEI and the vastly higher CAGR achieved by firms using subscription-based business models (Tzuo, 2022). Furthermore, the trend is predicted to continue, with an estimation that 75% of organizations that sell directly to customers will offer subscription services by 2023 (Freed et al., 2022). As such, it is reasonable to argue that the research area of the subscription economy is highly relevant since more and more firms will convert to subscriptions in the future.

As discussed throughout the literature review, the previous research into subscription-based business models is scarce, with little focus on using empirical data to understand the development of such business models in practice. The previous research discussed in the literature review that addresses subscription-based business models has been focused on machinery and plant engineering or industry businesses. As such, there is little practical research that addresses tech-based firms that transition towards subscription-based business models, indicating a research gap within subscription-based business models.

Osterwalder and Pigneur (2010) explain the importance of how business models are dependent on how organizations create, deliver and capture value. Therefore, businesses need to have a clear understanding of these aspects to have the best chance of success. The research by Ritter and Schanz (2019) displays the three aspects with a focus on the sharing economy. As such, the research by Osterwalder and Pigneur (2010) and Ritter and Schanz (2019) therefore makes it arguably relevant to use the value proposition, value creation, and value capturing dimensions to also determine subscription-based business models.

While the subscription economy can be considered a neighboring area of the sharing economy (Ritter & Schanz, 2019), there are also distinctions between the two economies. For example, the sharing economy is dependent on the collaborative creation, production, distribution, and consumption of firms' value offerings (Schor, 2014), while the subscription economy does not necessarily include similar collaborative aspects. The sharing economy and subscription economy can, however, intersect in value creation. The example of car-sharing schemes, where consumers borrow a car and have responsibilities such as filling it up with gas, reporting damages, and returning it to the correct location after use, is an example of a business that can be both part of the sharing economy (sharing of resources or products between multiple users) as well as the

subscription economy, as long as the value capturing includes the use of recurring billing (McCarthy et al., 2017).

The use of KPIs to gauge the success of the chosen business model is arguably dependent on the specific industry or market of choice. Some previous research (Tzuo & Weisert, 2018) discusses specific KPIs relevant for subscription-based business models, such as churn, customer acquisition, and up/cross-selling. However, more research into KPIs is necessary to discover their roles in helping firms monitor their success or problems experienced with subscription-based business models.

3. Methodology

The methodology will be thoroughly detailed in this chapter, including the research strategy, the structure of the data collection procedure, and the applicable coding rules utilized to analyze the acquired data.

3.1 Research Strategy

The primary purpose of the research strategy of a thesis is to guide the study while simultaneously influencing the methodological choices. The main benefit of having a clear research strategy is that it facilitates an improved structure and redirects focus toward the main points necessary to answer the chosen research questions. (Bryman & Bell, 2011)

An early decision that had to be made was to determine the relationship between the existing theory and the research. As such, whether to adopt an inductive or deductive approach or a combination of the two. The research is exploratory, with limited previous research since the relationship between business model innovation and the transition towards the subscription economy has not been extensively researched before. This means that the research aim is more general to generate descriptive research and evidence through observations, compared to testing an accepted theory in the field (Bryman & Bell, 2011). Therefore, the chosen strategy was the abductive approach since an inductive approach relates to the generation of a theory, and a deductive approach would be difficult to pursue with the limited amount of research published on the topic (Gehman, Glaser, Eisenhart, Gioia, Langley & Corley, 2018). Therefore, the interviews conducted during the research were based on going back and forth between data collection and analysis of previous research.

As such, the thesis obtained primary data through qualitative semi-structured interviews as well as relevant secondary data from previous research in the area of business model innovation, the subscription economy, and performance measurement systems such as KPIs. However, as the literature review suggests, there is a lack of research conducted within subscription-based business models. As such, additional emphasis is put on the interviewees' contributions as they contributed with the primary sources of information and indicated which areas of research were most important. Using qualitative methods enabled the researcher to focus on gaining a deeper understanding of the business model practices within the subscription economy, which made the qualitative approach favorable for this study.

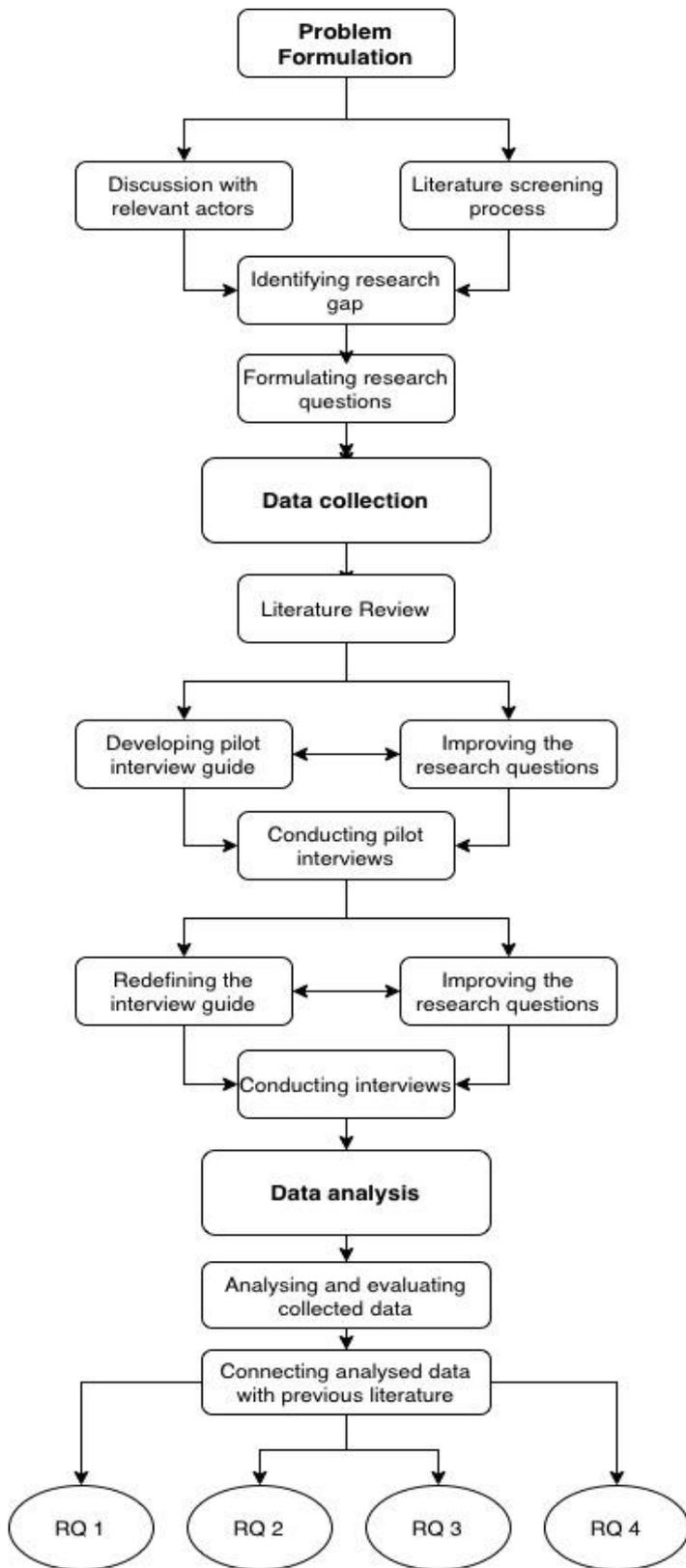


Figure 8. Research process

The research process initially started with a peaked interest (for the researcher) within subscriptions and the way products included in the subject can impact consumption behavior and the materialistic freedom they result in. From this added interest, discussions with relevant actors took place to find an interesting topic within this area while still making it relevant for a master thesis. Once the topic was constructed, the literature review screening process started, resulting in identifying a research gap. With the research gap identified, discussions with experts within the area resulted in the extrapolation of interesting research questions that could be applied to companies of interest to the researcher. From this point on, the data collection process was initiated alongside the literature review. A pilot interview guide was used in different iterations to prepare for the interviews, resulting in a perfected interview guide that was then used to conduct interviews. The data retained from the interviews were then analyzed and used to answer the chosen research questions combined with the secondary data. See figure 8 for an illustration of the research process.

3.2 Research Design

The research is based on a comparative case study where two firms are used to analyze and synthesize similarities and differences of a specific case. Comparative case studies are heuristic in nature and, as such, tend to explain topics in terms of “how” questions (Bryman & Bell, 2011). This design is in line with how the purpose of the thesis is to better understand how tech firms utilize business model strategies to enter the subscription economy. This method is deemed preferable as the main objective of the research is to explore the differences in how two tech firms position their business models to enter the subscription economy. If the study was not focused on the differences and similarities of the firms and instead looked at their overall business model changes, a multiple case study would be the better choice.

3.3 Research Methods

The research includes both the collection of primary and secondary data. In terms of secondary data a literature review was conducted based on previous scientific research and studies made within the topic of the subscription economy as well as neighboring topics such as the sharing economy. This was done with the notion of obtaining pre-knowledge about the topic before applying it in practice with the primary data collection. Qualitative semi-structured interviews were held with 9 people within the two case firms. A total of 11 interviews were conducted to create the empirical findings of the study which in combination with the literature review answer the selected research questions.

3.3.1 Primary Data

With the research questions in mind, the strategy was to analyze the two firms' business models based on the value proposition, value creation, value capturing aspects, and relevant KPIs for each of the two firms, thus covering the business model analysis of the research questions. The thesis collected the primary data through semi-structured interviews. For the two firms included in the thesis, this entailed contributing with several interviews with different employees carrying different perspectives relevant to the research objectives. The number of interviews and the timespan of each interview depended on how quickly the information presented during the interviews was acquired. The interview process continued as long as new information was given with each question and the follow-up question. This process is called category saturation and is a method that helps ensure that all necessary information is collected during the information gathering process. (Strauss & Corbin, 1998)

The reasoning behind choosing semi-structured interviews over other interview strategies was because it allows the researcher to adjust the flow of the interview and adapt it depending on the interview at hand while also having the possibility to ask additional questions. The basis of semi-structured interviews entails that each participant's interview questions are the same. However, the order in which the questions are asked can be

changed depending on the responses given during the interviews (Bryman & Bell, 2015). Using semi-structured interviews also worked particularly well in this scenario as the research questions of this study did not have a simple yes or no answer. The aim of the questions was rather to understand the strategic process of the two firms' business models.

One of the main advantages of choosing a semi-structured interview strategy is the flexibility given to the interviewer in regards to adjusting the questions and focus during the interview, depending on the topics that arise (Bryman & Bell, 2015). Furthermore, it has proven to result in a more relaxed interview setting for the interviewees, which benefits both participants (Eriksson & Kovalainen, 2008). An additional advantage of semi-structured interviews is that it can reduce bias present in interview situations, where poorly constructed questions can lead to the interviewees feeling compelled to answer the questions in the way they perceive the interviewer wants them to be answered. Through the semi-structured approach, this could thus be minimized, as questions were prepared beforehand, and the flexibility of the interview method gave the interviewee control (Yin, 2003).

3.3.1.1 Sampling

When discussing qualitative research, much focus is often directed toward sampling size and targeting. This entails finding the correct strategy to select interviewees that can add sufficient value to the research in order to be of use. The most overarching sampling approach used in qualitative research when conducting non-probability sampling is purposive sampling (Denscombe, 2017), which is also used in this research. Purposive sampling, in this case, implies that the strategic sampling of individuals interviewed within the two firms investigated needs to be highly specified. This is because the research needs to encompass individuals within the two organizations that differ in key characteristics and know different things about their organizations' business models and partnerships to get an overarching understanding (Denscombe, 2017). This ensures a high degree of variety within the overall sample to maximize the potential to find relevant and usable information. In combination with the purposive sampling, the Snowball method was applied as it is regarded as a highly relevant sampling strategy for qualitative interviews (Handcock & Gile, 2011), which meant that at the end of each interview, the interviewer tried to find new possible interviewees, which then went through the purposive sampling phase to be considered for interviews or disregarded.

The drawback to this strategy is that the generalizability is quite low, as it is a non-random sampling strategy where the interviewer decides whom to interview and for what reason. However, while this is an issue in certain research fields where the sample must represent the overall population, it is not important in this case study where only two firms are included, and the objective is not to find a general understanding of a topic, but rather an in-depth understanding of a specific topic.

The interviews with the two organizations were based on several rounds of interviews and data collection, all the while going back and forth to the literature when new areas of interest appeared. This was done until

theoretical saturation was reached. Then, no more interviews were conducted once all relevant information had been gathered, and new interviews did not add value to the overall research objective.

Relevant people to interview within Arvato Financial Solutions included people part of the transition towards the subscription economy, both in the new recurring billing product that is currently being developed as well as other interviewees that were knowledgeable regarding the overall objective and reasoning behind the transition. The optimal interview structure included people from each business area: BNPL (Buy-now-pay-later), Order-2-cash, and Debt-purchase.

Relevant people to interview within Beleco included the two co-founders, since they have the most knowledge about the company and have been active in the industry for several years. Additionally, other employees were also interviewed to gain a better understanding of the organization. See table 2 on the next page for a complete list of interviews.

All interviews were conducted online between the beginning of January and the end of March. The interviews were conducted in Swedish and English and recorded through Zoom, and then transcribed meticulously to ensure that the coding process used the correct meaning and translation. In addition, the interviews that were initially conducted in Swedish were transcribed and translated by the interviewer and then sent to peers for fact-checking to confirm that the meaning of the transcript had not been altered during the translation phase.

Table 2. Interview selection

Interview Number	Role	Company	Date	Interview Length
Interview #1	CEO/Co-founder (1)	Beleco	10/01-2022	37 minutes
Interview #2	CEO/Co-founder (1)	Beleco	12/01-2022	40 minutes
Interview #3	CEO/Co-founder (2)	Beleco	15/01-2022	40 minutes
Interview #4	CEO/Co-founder (2)	Beleco	16/01-2022	35 minutes
Interview #5	Senior VP	Arvato Financial Solutions	10/02-2022	75 minutes
Interview #6	Product Development Director	Arvato Financial Solutions	11/02-2022	45 minutes
Interview #7	Product Lead	Arvato Financial Solutions	18/02-2022	45 minutes
Interview #8	SVP Product	Arvato Financial Solutions	22/02-2022	45 minutes
Interview #9	Nordic Marketing Director	Arvato Financial Solutions	23/02-2022	95 minutes
Interview #10	CTO	Beleco	19/03-2022	40 minutes
Interview #11	Financial Manager	Beleco	23/03-2022	55 minutes

3.3.1.2 Interview Guide

Since this research entails finding information through qualitative research in the form of interviews, where the information sought after is relatively straightforward, and the research questions in focus are well defined, it was necessary to have some form of structure in the interview process. This is arguably due to the fact that this is a case study based on only two firms. As such, the answers given during the interviews need to be somewhat comparable, which is why the interview questions have to be quite specific (Bryman & Bell, 2015). Although, the answers must also be open enough so that the interviewee can share their knowledge without restraints. The interview guide can be found in the appendix, and the structure is based on initially asking very broad questions that offer opportunities to ask follow-up questions. After the first broad part of the interview (1.0), the focus shifts toward the crucial informative sections (2.0) that contain the main information pertinent to answering the research questions and ends with broad closing questions to ensure that all necessary information is captured before terminating the interview session (3.0). The closing section was used to ask questions for clarification and review some answers that might have been unclear or misinterpreted during the interview.

3.3.1.3 Data Analysis

Research aimed at generating a theory or an improved understanding based on people's subjective perceptions and experiences regarding a specific subject is often a good subject for the grounded theory approach (Suddaby, 2006). This was arguably the most relevant strategy for this qualitative research, as little research and theory regarding the topic could be found. Using this approach, it was possible to navigate around the subject and change focus when deemed appropriate during the interview and data gathering processes. Furthermore, the grounded theory approach is advantageous when seeking to understand a specific situation and subject, such as the overall transition towards the subscription economy. However, issues related to this approach included having to start with a broad research focus and narrow it down as the data gathering process was grounded in data. With this in mind, the overall focus of this thesis was to broadly focus on subscription-based business models, and the focus changed over time towards the specific components within business models and other areas of importance as the research progressed. Generally, the grounded theory approach is considered too time-consuming for a master thesis as the time available is too short (Suddaby, 2006). However, it is often used when data is largely constructed around knowledgeable individuals and their perceptions of the studied research topic, which is the case in this master thesis.

With this in mind, the aim was to use the approach known as the Gioia method, which attempts to develop a more rigorous, systematic, and transparent approach to research theory that was more suitable for the timeframe. (Gioia, Corley & Hamilton, 2013)

This method entails breaking down data into several smaller parts that can be more easily compared and analyzed between different cases (see figure 9 on the next page). This included assigning different topics with

labels that adequately explained wherein the transcripts different themes were discussed (Bryman & Bell, 2015). The coding process started with extracting relevant information nodes and quotes from transcripts, which acted as first-order codes. These codes were then analyzed and assigned an overarching meaning to them, which resulted in the second-order codes. These second-order codes could encompass several first-order codes. Finally, the aggregate constructs were made in a similar fashion. Several second-order codes were bundled together and analyzed to establish a connection and deeper meaning relating to the content of the transcripts (Gioia, Corley & Hamilton, 2013). This process follows the Gioia method as presented in figure 9.

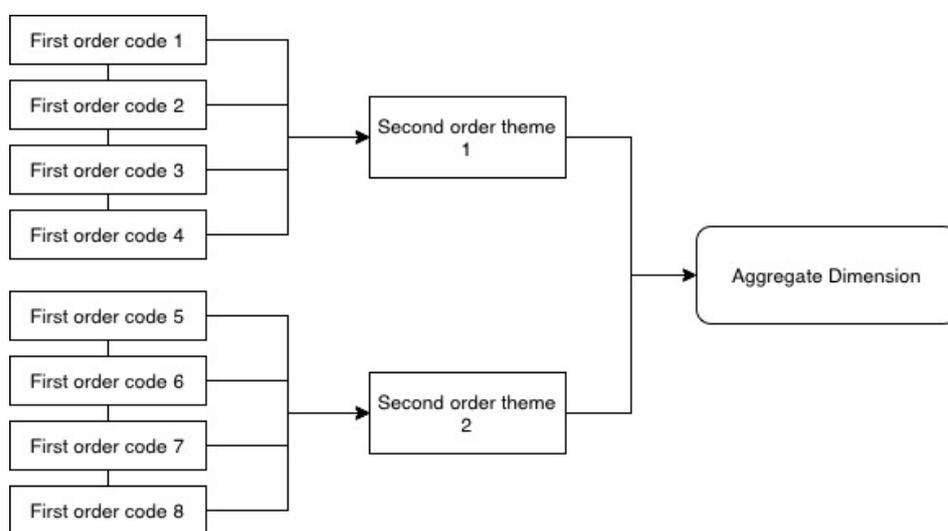


Figure 9: Coding process

Once this structure had been achieved, and all interviews were conducted, the thesis moved from a data structuring stage toward analysis. The Gioia methodology and the structured approach it requires helped to explain how these concepts and aggregate dimensions are related to each other and how the primary data provided could be used to answer the research questions chosen.

3.3.1.3.1 Explanation of Data Analysis Process

A challenge when using qualitative research methods is handling large amounts of data and identifying what information from the collected data is relevant. To better illustrate how the coding and extraction of information were done, it will be methodologically shown with examples. With this example, the quotes, concepts, and themes used to illustrate this coding process below were based on a question related to *value adding services* within the value proposition. The quotes are from the interview subjects.

First Order Codes

As previously stated, the Gioia methodology provides a systematic order to process and structure raw data into manageable data nodes that become easier to analyze. In the case of this thesis, it involved performing the data coding on the raw data - i.e., the interviews – and then developing a comprehensive compendium to gather and summarize the findings of the interviews to better display the findings. For instance, the first-order

concepts were initially based on relevant quotes and then shortened and summarized to make them more streamlined and relevant.

“With physical products it’s important for us to increase the utilization time between the customers and make sure that the product can be shared between as many customers as possible in as short a time as possible”

This initial quote was extracted from the interview transcripts, and was then turned into:

“ Our main goal is to increase utilization and reduce the time between customers so that the products time is never wasted “ (First order concept example)

Second Order Themes

The second part of the coding process based on the Gioia methodology is to organize and structure the first-order codes into second-order themes (Gioia, Corley & Hamilton, 2013). As mentioned earlier, this was done by making the comprehensive compendiums from the first order code-analysis, where the data coding was used to filter out relevant data from the raw data sources and then assign themes to the first-order codes. Since the research questions are focused on the two firms' business models, the second-order codes were performed to identify significant characteristics of their inherent business models and experiences.

By using the first-order concepts extracted as specified above, the second-order themes were established.

The second-order themes include the most important parts in terms of the research questions chosen. Specifically, this first-order concept suggests that one important aspect is to increase the amount of time that products are with the customers. As such, the second-order theme identified is:

“Improved utilization of products”

Aggregate Dimensions

Once the data was analyzed and categorized, and several second-order themes could be identified, it was possible to find aggregate dimensions that encompassed several themes into one, thus making it easier to identify the broader dimensions related to answering the research questions. A few of the identified second-order themes within the area of “value adding services” were the following:

“ Improved utilization of products”

“Reduced production costs”

“Information driven trend analysis”

The three above-mentioned second-order themes could then be connected under the aggregate dimension, which displays that *value adding services* are one aspect for firms to consider when transitioning towards the subscription economy. The rest of the aggregate dimensions were developed similarly.

3.3.2 Secondary Data Collection

The thesis focused on collecting secondary data from previous research conducted in the area of business models, the subscription economy, and neighboring topics, as well as knowledge performance indicators (KPI).

A narrative literature review was conducted to gain more information regarding the subject before collecting primary data. According to Patel and Davidsson (2003), this is a necessary step to chart the research field's current state and get an overarching view of the field before starting the primary data collection. The literature review is a systematic process used to better help the identification of existing knowledge by reviewing previous research on specific topics (Collis & Hussey, 2013). The benefit of the literature review was that it gave improved flexibility to modify the research boundaries during the primary data study.

One of the primary considerations when conducting a literature review is to be source-critical and not too reliant on the literature presented in the field. As such, it is also important to see the subject of interest from other perspectives (Patel & Davidsson, 2003). Furthermore, since the research on the subscription economy is so scarce, it was difficult to exclude relevant information from the topic at hand. As such, not only academic publications were considered, consultancy reports from respected organizations were also used to gain an improved comprehensive overview of the research field. Including non-academic publications can include more risk due to their bias. However, their findings in the research are often up-to-date and include a different perspective on the research.

Since the research area of subscription economy is scarce, it was essential to ensure that the literature review was made as exhaustive as possible. The databases used for the screening of secondary data collection were: Web of Science, Google Scholar, Emerald, Sage Journals Online, and JSTOR. Additionally, the standard Google engine was used to find non-academic reports. The keywords used in these processes were: *Business model, Business model Innovation, Subscription Economy, Subscription Business Models, Subscription-based Business models, The Subscription Economy, and combinations of the keywords.*

Before the data collection process started, the inclusion and exclusion criteria were decided upon to promote a more transparent research process.

Inclusion criteria

- Articles published by reputable non-academic journals (BCG, McKinsey).
- Articles published in reputable academic journals.
- Peer-reviewed journals.

Exclusion criteria

- Articles in languages other than Swedish or English.
- Sources that do not cover topics relevant to the research and do not contain the selected keywords.

3.4 Research Quality

For the qualitative part of the study, the interview guide and questions were essential to ensure that the right questions were asked. The resulting pilot study was conducted in collaboration with the supervisor in Gothenburg, after which it was used on two respondents with experience in the subscription economy who provided constructive feedback, which was then used to improve the questions.

Furthermore, the quality assessment used in business research is generally based on the criteria of reliability (whether the results of the research are repeatable or not), replicability (being able to replicate the research), and the validity (whether the conclusions are reliable).

Research suggests that these criteria are not relevant for qualitative research; instead, they are more useful when conducting quantitative research. For instance, it seems challenging to use concepts such as internal reliability (when observers agree on the exact results obtained) or external validity (generalizing the results beyond what the research specific context requires) within contexts where the researcher drives the entire analysis process. The context itself plays an integral role in the analysis process. Because of this, there appears to be a need to analyze qualitative research with other criteria that better incorporate the specifics of qualitative research (Bryman & Bell, 2011). For instance, Guba and Lincoln (1994;1985) suggest that trustworthiness and authenticity should be used to evaluate qualitative research.

The evaluation of trustworthiness is according to the research based on four sub-criteria:

Transferability: refers to the generalisability of the research, regardless of the context. While this is one of the most challenging criteria to meet, the researcher of the thesis thought it was necessary to include as many different points of view as possible and provide a better picture of the overall research without excluding relevant information. This was especially important during the interviews and data collection process.

Confirmability: this means acting in good faith and ensuring that the work was conducted objectively. While this can be difficult sometimes, the researcher tried to keep the behavior as professional as possible throughout the interview processes and thus avoid letting personal thoughts or beliefs interfere with the research.

Dependability: refers to the trustworthiness of the different steps conducted throughout the research, which can be reviewed through the documentation of research steps. This was deemed especially important for the

researcher of this thesis, and the collection of interviews and research data can thus be followed in great detail and transparency. For example, the interviews conducted were all recorded as part of this criteria, and the data coding process can be followed in extensive detail in the abstract.

Credibility: this is the criteria according to which the main results extracted from the data are credible in the context in which they were derived from. As such, for this research, it was especially important to review previous literature and any empirical findings to improve the scope of the research.

The discussion of authenticity, while relevant in different circumstances related to catalytic authenticity, ontological authenticity, tactical authenticity, educational authenticity, and fairness, is mainly related to discussions regarding social and political aspects of research. Since this research does not involve itself with such discussions, this criterion is not applied as a measure of quality. As such, the trustworthiness criterion has been the only criteria used.

4. Empirical Findings

In this part of the thesis, the main findings of the case study are presented, including the presentation of the qualitative data based on the interviews. The findings are structured in the same way the interview questions were asked, starting with value proposition, followed by value creation, value capturing, and ending with KPIs. Lastly, a summary of the findings is presented.

4.1 Subscription-Based Business Models of Tech Firms

This section is divided into four subcategories (value proposition, value creation, value capturing, and KPI) with individual coding results. The extracted data from the two firms included in the thesis are both compiled in the same subsections, although separated in order to illustrate the differences and similarities. This first part includes a general introductory overview of the case firms' observed business models.

Business model – Beleco

Beleco is a tech firm active in the subscription economy whose services can be regarded as a digital marketplace that supports the renting of furniture and office equipment through subscription services. The company's vision is, as explained by interviewee (1), *"our main goal is to become global, and there is a big focus on circularity, since the entire business model is built upon a product's lifecycle and improving the utilization of products."*

However, according to interviewee (3), the same question results in a slightly different answer, *"While it is true our business relates to the climate and the positive aspects that our business can have on society, I am more interested in understanding what else we can offer, for instance how people's behavior changes over time once they live a more free lifestyle,"* suggesting that the vision of the business is multi-layered and encompasses more than one thing. The same interviewee (3) continues to explain the underlying use of their service and explains that it is connected to the way people are restricted or liberated – *"a lot of people today are restricted in some way, such as those stuck in a relationship they want to get out of but think it's difficult or time-consuming since they own furniture together or other items, if they did not co-own products it would be easier to move forward."*

Beleco's business model is dependent on its relationship with producers and customers, where the producers that work with them are completely responsible for the ownership and longevity of the products, while the customers are responsible for treating the subscribed products fairly and paying for them in regular intervals (interview 3). The structuring of this business model is completely new to market and is regarded as a unique business model by others than Beleco themselves. For instance, RI.se, a Swedish research institute, has analyzed their business model extensively and compared it with others in the market and concluded that it is unique in the way they manage to shift the responsibility of ownership from the consumers to the producers,

incentivizing the producers to create products that can be easily repaired or design products whose component can be easily replaced and reused when deteriorated. As explained by interviewee (3):

“We don’t really have any competitors today, we have competitors in the sense that firms sell furniture, and there are a select few that lease furniture, but there are no competitors like us that focus on the development of the products at its core.”

The interviewee continues to explain that the main differentiation is how Beleco involves the producers in the business model, and that is why they stand out, suggesting that the involvement of the producers is what makes them unique.

Business model – Arvato Financial Solutions

Arvato Financial Solutions is a tech firm active in payment processing, debt collection, financing, and other areas. As explained by interviewee (6): *“The underlying objective is to make everything that occurs before and after invoicing as consumer-friendly as possible,”* suggesting that the organization's goal is strongly linked to the satisfaction of the consumers. This topic is further explained by interviewee (9), who mentions that the main goal is connected to *“being the most human-centric fintech”* and focusing on the consumers more than anything else. To reach that point, the strategy is to explore the option of working together with different business ecosystems active within the fintech industry in order to *“become relevant with our products and solutions with organizations in the market (9).”* As such, it is suggested that the development of relationships and finding business partners is considered important.

AFS is currently transitioning towards the subscription economy since they perceive it to be a financially beneficial solution as more and more companies are moving towards it, and more and more consumers are expecting firms to do it. The company is working on a B2B strategy where its focus is working with companies that, in turn, are directly involved with consumers. As explained by interviewee (9):

“Through those integrations (referencing to their products and services) we make it possible for clients to make financial transactions. This goes from making a purchase through buy-now-pay-later to different ways of subscription payments as well as in those cases where you don’t pay, debt collection, where we take responsibility for the consumers entire customer journey (from buying a product to collecting) and doing so in the most human centric way possible.”

Furthermore, Arvato Financial Solutions is moving towards the subscription economy because the market is developing, and they see trends forming where the growth of subscription companies and their valuations are higher than comparable traditional business models. Interviewees (7,8,9) all discuss this topic and mention

that they see that many of their current customers are moving towards subscription services and want to be able to support and retain them in the future.

The way they see themselves as different to their competitors is through their comprehensive offerings – *“We differ from our competitors in the market where they either focus on debt collection or another part of the customer journey, while we focus on the entire value chain.” (interview 9)*

4.1.1 Value Proposition

Beleco

Value adding services: This aspect considers the value adding services that are added, other than the immediate offerings. The interviewees' main area of interest refers to the way producers are involved in the process and how that has changed since before Beleco entered the subscription economy. As explained by interviewee (3):

Table 3. Coding results – Value Proposition Beleco

Second order codes	Aggregate dimensions
Pain relief	Value Adding services
Involving producers	
Improved CAPEX/OPEX	
Enabling complex billing structure	
Improved utilisation	
Reduced production costs	
Improved Cash flow	User-ship over ownership
Reduced initial investments necessary	
Purchasing power	
Accessibility	
Increased product variety	
Inventory control	
Flexibility	
Simplicity	Continuously improve customer benefits
Reduced emissions	
Reduced investment costs required	
Information driven trend analysis	

“Our producers are now much more involved in the process and have the possibility to scale up their investments and have much larger returns over time. So there are some clear financial advantages for the producers, previously their returns were limited on how much we purchased, while we now act more as a partner than a client.”

This indicates that the use of producers has shifted from a customer to a partner relationship, and their involvement is an important part of the value proposition. This suggests that there are two aspects of Beleco’s value proposition; on the one hand, we have the producers of goods, and on the other, the consumers. The value adding services as described by interviewees (1,2,3) include the development of subscription billing and how it distinguishes from one-time payments. At the same time, it also includes the discussion of the complexities surrounding the shift in payment structure. *“The problems we solve are mainly related to the software aspect, where our software can handle large quantities of inventory in different time-periods, to different people, and with different subscription pricing.” (1)*

The discussion of tasks supported by software is a recurring theme in the interviews (1,2,3,4), which mentions how subscriptions are software-dependent and require heavy investments for firms that want to transition towards subscriptions and retain all aspects in-house. Those that want to outsource the software aspects such as logistics, inventory management, and billing need to rely on external partners.

Profitability is argued to be a big part of what makes the subscription economy interesting for businesses. It can be reached through a reduction in production costs and an increase in utilization by focusing on increasing the PLTV¹.

“Producers need to continuously sell products to be profitable, if they instead work with subscriptions, they no longer have to produce products all the time but instead produce smaller quantities and instead focus on repairing and reusing products.” (Interview 3)

The importance of increasing profitability is also mentioned to be based on increasing how much value can be extracted from the products, i.e., utilization rate, and how the lifetime value of the products can be increased by repairing and reusing. The use of subscriptions is suggested by interviewee (3) to help with the CAPEX/OPEX of firms since businesses that use subscriptions can prolong expenses by using recurring payments over larger one-time payments. This gives the consumers of subscriptions better financial control regarding expenses while also giving producers better control over their cash flow.

User-ship over ownership: The importance of flexibility is discussed in regards to simplicity and through user-ship over ownership, as explained by interviewee (2) *“Indirectly freedom in some way is a value we offer, the freedom in movement and how you don’t need to be locked down at a specific place and have to worry about your own furnitures. You can instead terminate the contract and return the furniture when you’re done and want to move somewhere else.”*. Another area of interest as discussed by interviewees (2,10) is the concept of inventory control:

“Inventory management is our process of making sure products are under control, so firms can know where their products are, what state they are in, if they need to be repaired and so on.” (2); Our platform measure where the producers products are, what shape they are in and so on, and we give the producers access to this information so they can improve their products.” (10)

This suggests that the use of Beleco’s service gives producers more control over their inventory by selling their products based on user-ship over ownership, which in turn directly results in increased data generation. This implies that the producers retain ownership of the products and, therefore, the responsibility of maintaining them. Within this context, environmental benefits should also be included. *“With the incentives for producers to reduce production by improving production quality the benefits for the environment is substantial.”* The quote by interviewee (2) suggests that with the use of subscriptions, and the focus on user-

¹ PLTV: Product Lifetime Value, refers to how much revenue a product will generate a business over the course of its lifetime.

ship, the producers have incentives to improve the quality of physical products, which has positive benefits for the environment.

The topic of accessibility is discussed in connection to user-ship and can be seen from different perspectives. Either from how consumers' purchasing power increases with subscriptions; *“Subscriptions result in improved purchasing power for customer, enabling them to rent very expensive products for a fraction of its value and pay over time.”* (11), how start-ups get access to offerings; *“Start-ups have difficulties applying for loans since they are new and aren't profitable yet, so they don't pass credit checks. With subscriptions they get access to more products.”* (11), as well as the increased variety of products offered (11).

Establishing subscriptions as a business model can, furthermore, result in cost reduction benefits, according to interviewee (3). *“The biggest problem customers have is cash flow when purchasing products, it's very capital intensive. We solve that problem since they now simply pay for what they need over time and pay in monthly installments, and once their demand changes, they just change the subscription accordingly, which saves a lot of problems such as inventory management, investment problems and so on”*. As a result, there are some cost reductions for participants, which are additionally improved through reduced initial investments.

Continuously improve customer benefits: How to improve the customer benefits and how it was of importance to Beleco in order to retain and acquire customers was another topic of importance. Two main areas found referred to: using information generated from users applied to trend analysis to better understand customer needs and wants, allowing Beleco to adjust their offerings accordingly; as well as the reduced investments required for consumers when acquiring furniture. As explained in interview (2):

“Value to the customers/users of the products/platform is another thing. For one, it is very flexible. You can change and renew your own furniture over time and whenever you want without large investments.” (2)

This opens up the opportunity to continuously update the offerings to the consumers based on their demands. This suggests that subscriptions are dependent on data generation and analysis to improve the value proposition and offerings. It also means that subscriptions reduce the need for initial investments. Customer satisfaction and benefits seem to be highly linked to flexible product offerings since reducing initial investment costs and having a flexible offering can be connected through subscriptions.

Arvato Financial Solutions

Value adding services: As a continuous part of the customer-centric focus, the value adding services for clients highlight the focus on clients and partners. The interviews (5,9,10) discuss these aspects by referring to building technical and scalable products and solutions used to remove pain points associated with the customer experience. *“Before we focused more on customizing the solutions to our clients, while we now try and also focus more on building scalable products.” (Interview 10)*

Table 4. Coding results – Value Proposition AFS

Second order codes	Aggregate dimensions
Focusing on scalability	Value adding services
Improve customer experience	
Focus on technical/standardisation	
Improve liquidity	
Complexity focus	User-ship over ownership
Improved flexibility	
Reducing bad payment experience	
Control of Embedded value	Continuously improve customer benefits
Shift in younger customers focus	
Changing focus based on trends	
Automation/cost reduction focus	
Reduced focus on penalty fees	
Reducing pain points associated with the customer experience	
Focus on customer retention	
Offering comprehensive solutions	
Entire value chain focus	
Agility in following trends	

By combining the customer experience value that AFS create with their financing services, the offerings to clients becomes unique (5). It is argued to improve the customer experience by removing pain points for the customers while also enabling firms to grow quicker through financing services. Value can also be added in different ways, according to interviewee (5) *“The creation of value depends on the business model. If a company provides subscriptions we can support their subscriptions, we can do financing and give them cash up front if they need liquidity.”*, suggesting that another way AFS creates value is by improving the liquidity of subscription businesses through pre-financing. As such, offering several value adding services seem to be important to improve the value proposition.

User-ship over ownership: One of the main variables for firms to consider is regarding the customer experience (6);

“With subscriptions we offer two things, the entire customer experience regarding invoicing which goes all the way from checking out, getting what you pay for, getting the payment choices and completing the payments, and the second part is being offered financing of these steps.”

This discusses the improved flexibility – in terms of different offerings - necessary for being part of the subscription economy. At the same time, interviewee (5,8) discusses the necessary focus on complexity and the importance of facilitating a good payment experience. Complexity and bad payment experience are correlating matters, where complexity includes the additional transactions that occur with subscription models, and bad payment experience can result from that.

“Companies now understand that bad payment experiences increases churn² and decreases customer life time value³. We help companies improve this and therefore reduce churn and improve CLTV.” (Interview 8)

Furthermore, promoting user-ship over ownership subscriptions can offer other possibilities for firms to grow their business. For instance, physical-product businesses can use subscriptions to retain control over products' embedded value, thus ensuring future access to materials (5).

Continuously improve customer benefits: A recurring theme of subscriptions is the focus on customers and how businesses focus on the wants of the customers by improving automation and cost reduction while reducing the focus on penalty fees or other add-on costs that can lead to churn. As discussed by interviewee (6); *“Before we focused on charging clients based on the number of transactions, thus making transactions the source of income. Now we instead focus on aligning our incentives with the clients. The result is more focus on automation and reducing production costs.”*, as well as; *“With recurring payments theres more focus on the clients revenue streams while removing the penalty fees that the customers have to pay.”*

There are no competitors similar to AFS according to the interviews conducted, due to the combination of the customer experience and financing and how those two skill sets make it possible for firms to grow (7). The fact that AFS offers the entire value chain is what makes them stand out, as mentioned by interview (9); *“I think we differ from our competitors in the market where they either focus on debt collection or another part of the customer journey, while we focus on the entire value chain.”*, as well as by (7); *“The true value we create is that currently if you want to be able to have access to pre-financing, the payment collection, billing invoicing, debt collection and so on you would need to partner up with at least 3 companies. We can do all of these things on our own.”* As such, they continuously improve and develop comprehensive offerings to suit the needs of the customers while removing pain points associated with the customer experience.

Using subscriptions, therefore, makes it easier to stay agile and follow trends by adapting the offerings due to the increased user information availability (6,7), which is necessary to keep up with the younger generations of today (9).

² Churn: Is most commonly expressed as the percentage of service subscribers who discontinue their subscriptions within a given time period.

³ CLTV: Customer Lifetime Value, refers to how much revenue a customer will generate a business over the course of their relationship.

4.1.2 Value Creation

Beleco

Data generation and analysis: Through the use of subscriptions, the potential to acquire and analyze more information becomes a possibility. This, in turn, makes it possible for firms to better understand their consumers and the products they offer. As explained by (3,10):

Table 5. Coding results – Value Creation Beleco

Second order codes	Aggregate dimensions
Improvement in production quality	Data generation and analysis
Encouraging product innovation	
Improved profitability	
Information gathering	
Understand customer behaviour	Relationship building
Partnership focus	
Improved knowledge about customers	
Customer access	

“Through the use of our service we gather a lot of user information that is useful to improve products and measurement systems.”

As a byproduct of improving utilization and involving the producers more in the production and delivery process of the products, incentives to improve production quality and encourage product innovation to increase profitability occurs. This is discussed by interviewees (1,3,10,11), although in different ways. Interviewee (11) mentions that the benefits of using high quality products is that they can be used for a longer period of time, which according to (1) gives financial motivation to keep the quality high for the producers since they are (3) paid on a recurring basis. As a result of the recurring payments, a lot of additional information can be acquired regarding the products (10): *“Through our information gathering and analysis of data producers better understand how to improve the products”*. For instance, if a particular chair model degrades in the same place over time it can be a sign of a potential area of improvement.

Relationship building: Subscriptions make it possible to improve the relationship between providers and customers. Subscriptions result in more data about customers and their behavior (11). Additionally, subscriptions give the providers more access to the consumers and reduces the gap between the producers of a good and the end consumers of a good. As a result, subscriptions offer a unique possibility to create better relationships with the end consumers (3). As such, with subscriptions a new way of thinking is required when dealing with customers (2): *“The main barrier that firms experience is related to connecting and attracting the customers to come to your products and stay connected with you over time and retaining the relationship through the subscription model.”*

As such, understanding the customers is a pre-requisite to be able to change their behavior and to retain them over time.

Arvato Financial Solutions

Data generation and analysis: Interviews (5,6,7) discuss the concept of how subscriptions increase the customer lifetime value. This is a result of improving the customer knowledge, since with more information about the customers companies can improve the customer experience (5,8).

“Subscriptions gives a company more access to customer communication and results in more available data.”

(interview 8)

Table 6. Coding results – Value Creation AFS

Second order codes	Aggregate dimensions
Improved knowledge about customers	Data generation and analysis
Reduction of churn	
From customer conversion to customer retention	
Encourage returning customers	
More customer data	
Reducing pain points for customers	Relationship building
Improving customer engagement	
Payments as a relationship building tool	
Increasing customer touch points	
Improved customer loyalty	
Improved customer understanding	
Facilitates customer acquisition	

This is further developed by the connection of voluntary and involuntary churn to CLTV, which interviewee (6) suggests that, in combination with payments, is an important driver to retain the consumers. By improving the customer journey and their experience the conversion rates can increase the likelihood of customers returning in the future (6). As a result, the value creation is partly focused on the retention of customers by improving the knowledge about the customers.

Relationship building: Subscriptions facilitate the creation of relationships with customers. Specifically, this is achieved by reducing pain points for customers and thus ensuring an improved customer experience (6), it is achieved by improving the customer engagement through increased communication tools such as cross/up-sales⁴. The increased communication results in more data (8), which can improve the CLTV by reducing churn and transferring payments into a relationship building tool (7) which can be done through the utilization of payment notifications and other strategies to increase customer touchpoints⁵ (9).

The concept of loyalty and customer retention takes precedent over customer acquisition since subscriptions result in constant contact with the customers, thus making it easier for firms to better understand their core customers, leading to stronger customer loyalty (8). This improved customer understanding is explained as (8):

“Subscriptions and the constant contact with the customers makes it easier for companies to understand what the consumers need, and provide that for them. It therefore leads to stronger customer loyalty.”

⁴ Upselling means to encourage customers to purchase a comparable higher-end product rather than cheaper alternatives. Cross-selling means to encourage customers to buy complementary items to the product.

⁵ A customer touch point is any direct or indirect contact a customer has with a company.

Another benefit is that subscriptions facilitates customer acquisition naturally, since the price of products become cheaper with subscriptions, making it seem more attractive to try it out for the consumers (7).

4.1.3 Value Capturing

Beleco

Recurring revenue stream: The main thought behind subscriptions is continuous subscriptions as presented by interviewee (4): *“Once the customer have the products they are charged every new month until they terminate the subscription and return the product.”*, and by (10), *“Its similar to phone subscriptions where you bind yourself to a specific period of time and pay in intervals.”*

Table 7. Coding results – Value Capturing Beleco

Second order codes	Aggregate dimensions
Monthly payments	Recurring revenue streams
Continuous subscriptions	
Preferability-based pricing	
Stable revenue streams	
Recurring revenue streams	
Better funding possibilities	
Inflate company valuation	
Automated billing process	Sophisticated software
Higher transaction intensity	
Difficulties analysing data	

Before Beleco transitioned towards subscriptions they charged upfront, where the customers paid a certain amount to rent products based on their value, while it is now more focused on charging based on the preferability of the consumers on a monthly basis (2,4). This means that they previously used short term renting as the main source of income and charged a fixed amount, while its now fluctuating based on the underlying value and demand of the products.

There are also cash flow benefits, as described by interviewees (1); *“The subscription model is built upon a revenue flow that is always coming in over time. So stability and financial control are important reasons for us moving towards it”*. Additionally, another aspect includes (11): *“The return of investment is slower initially in the short term, but once it is up and rolling it becomes a safety net since the revenues are constantly coming in every month.”*

More stable cash flows, in turn, results in better funding possibilities and a combination of these aspects resulting in inflated company valuations (10, 11).

Sophisticated software

Sophisticated software is discussed with the automated billing process in mind, suggesting that the use of recurring billing used by subscriptions require sophisticated software systems that can handle the monthly payments and the continuous subscriptions in a simple, yet cost efficient, manner. Furthermore, the use of subscriptions lead to an increase in transactions since there are more payments necessary every month compared to the use of linear billing systems, thus leading to higher transaction intensity (11).

This increased transaction intensity results in more information about customers, products and services and finally an improved understanding of the customers, market and the organisation itself. However, there are also some difficulties related to analysing large amounts of data (11) *“ Sometimes having more user data*

makes the analysis process more complicated since you have more variables to include.” It is therefore argued to require sophisticated software that can deal with the large amounts of data.

Arvato Financial Solutions

Recurring revenue streams: Subscriptions alter the way AFS capture value. Previously all costs related to transactions were analyzed to set a price, while they are now moving towards flat fees based on the overall average (9). The consensus is moving towards subscription products that are based on commission pricing, where revenues are based on transaction intensity compared to previously when they were based on transaction value (7,8):

“We are moving towards a more commission based revenue model and charge based on what value we can create for our clients.”

Table 8. Coding results – Value Capturing AFS

Second order codes	Aggregate dimensions
Revenue based on transactions	Recurring revenue streams
Moving towards commissions	
Subscription products based on commissions	
Flat fees based on average transactions	
Revenues linked to performance	
Charging based on added value	
Risk and market dependent pricing	
Cash flow adaptation issues	
Revenue spread out over time	
Cash flow termination risk	
Requiring large amount of starting capital	
Stable cash flows	
Improved company valuation	
Improved CAPEX/OPEX	
Handling complex billing	Sophisticated software
Analysing customer data	
Transaction intensity focused	

With subscriptions the goal of capturing value has changed (6): *“Our goal is to earn money by improving the value created for our clients and thus charge based on that added value”*. The underlying argument is that if AFS can show their clients that the services improve the CLTV by a certain amount, then they can increase their fee by a percentage of that so that both parties gain from the increase.

While customized pricing was a big part of the previous business model it is still relevant for subscriptions. This is because pricing is risk and market dependent and can thus change depending on which industry or target customer you focus on. *“ Volume triggers price discussion, for instance price per transaction or percentage fee. The risk component aspect depends on how much knowledge we have about that specific industry.” (Interview 5)*

The discussion of cash flows is important for subscription-based business models. Some of the barriers mentioned were related to the quick termination of subscriptions, cash flow adaptation issues, having revenue spread out over time and the necessity of having large amounts of starting capital to survive the transition from traditional business model to subscription-based business model (6,7). Each year have peaks that are linked to sales patterns, the use of subscriptions can smooth out the curve, making revenue streams more stable and predictable (5). This predictability is useful for businesses since many valuations today are based on recurring revenues, suggesting that subscriptions result in improved company valuations (5). By using subscriptions, flexibility and freedom for the user is created, resulting in improved access to capital by renting products

instead of purchasing or investing in ownership (9). This flexibility and stability of cash flows is argued to benefit firms CAPEX/OPEX and improve their strategic planning as a result.

Sophisticated software: By focusing more on subscriptions it results in higher transaction intensity, which requires systems that are well developed and can support the increased intensity (9). While AFS themselves does not offer subscriptions they deal with handling the subscriptions of others. The result of this is suggested by interviewee (5) to be difficult since it requires well developed softwares that can support these complex billing systems. Furthermore, sophisticated software is highly related to the relationship building aspects of the value creation. Such systems need to deal with both transactions and analysis of data.

“Analysing data and information about customers becomes more important with subscriptions due to the relationship aspect.” (interview 6)

4.1.4 KPI

Beleco

Shift in KPI focus: There are many different KPIs that are important for Beleco, many of which are linked to the revenue aspect such as monthly recurring revenues, the amount of recurring sales, the monthly revenue growth and how the utilization rate increases over time. As discussed in the interviews: “*We basically have MRR⁶, New recurring Sales (combination of MRR and Churn) and Non recurring Sales, and these are our three revenue KPIs.*” (Interview 2), as well as “*MRR is our most important KPI (Interview 11)*”. This suggests that there are many KPIs of importance, and MRR is seemingly the most important one.

Table 9. Coding results – KPIs Beleco

Second order codes	Aggregate dimensions
From productivity KPIs to customer relationship KPIs	Shift in KPI focus
External factors driving KPI use	
From ATV to MRR	
Focus on MRR	
Utilisation rate	
Revenue/growth KPIs	
Revenue & growth still important	
MRR/New recurring sales, Non recurring sales	
Monthly revenue growth	
KPIs focused on customer behaviour	
New customer & Conversion rates	
Customer retention	
Focus on CLTV	
Customer acquisition	

The biggest difference in how KPIs were used by Beleco before the transition was that they didn’t check the MRR previously, and were instead focused on traditional metrics such as revenue and growth (4). Now the main KPI used is MRR, while it was average transaction value (ATV)⁷ before (11). As explained in the interviews there is a shift necessary in KPI focus for firms that want to transition towards subscriptions:

⁶ MRR: Monthly Recurring Revenues, how much revenue is gained each month.

⁷ ATV: Average Transaction Value, refers to the average amount of money spent by a consumer on a single transaction.

“Traditional businesses need to start thinking about Monthly Recurring Revenues, Churn rate, breakeven points and other things instead of solely focusing on productivity and sales.” (Interview 4)

“With our previous business model we didn't use churn as a KPI since it was not possible as payments were sporadic and daily.” (Interview 1). The shift therefore suggests that moving towards metrics such as MRR and churn becomes possible once subscriptions are used, since it becomes more predictable.

Customer-based KPIs: With subscriptions there are endless variations of KPIs to use. One of the main topics of interest are those focused on customers. The reason for this is seemingly because the topic of customers and developing relationships with them is a core concept for subscription-based business models. Therefore, having a focus on customer-based KPIs such as customer acquisition costs (11), customer retention by focusing on churn (4), CLTV (4), incoming unique customers, ATV, MRR (2) and other things, enables Beleco to follow the desires of the customers.

Arvato Financial Solutions

Shift in KPI focus: AFS’s KPIs are now focused on the frequency of transactions over the individual profitability of the transactions (6). Before the transition towards subscriptions the main focus was on revenues, EBIT and the average transaction value, while it’s now focused on revenues and the number of transactions instead (9). Profitability is thus not as important for AFS anymore, instead the focus is on transactions and other areas such as customer focused KPIs (8).

Table 10. Coding results – KPIs AFS

Second order codes	Aggregate dimensions
Transaction-based KPIs	Shift in KPI focus
From revenue to customer KPIs	
From profitability to transactions	
From EBIT to transactions	
Revenue KPIs	
Revenue & transaction KPIs	
Customer behaviour	Customer-based KPIs
Customer retention	

With the transition in mind the focus has shifted. Revenues are still somewhat important, while profitability metrics are less important (5,9). It is argued that firms that want to convert to subscriptions need to conduct a shift in KPI focus, re-aligning the KPIs towards what becomes most important after the transition.

Customer-based KPIs: AFS are moving towards a product focus over a solutions focus and are employing a more holistic strategy in order to better understand the consumers (5).

“We are moving towards products, also from a consumer and merchant perspective, to better understand what additional products we can bring to a merchant besides organic growth - such as how many features their consumers are using, do they use flex-pay, pause function, etc which gives us a more holistic view.”

KPIs are therefore used as a tool to better understand the customer needs. In combination with this, the focus is on customer retention KPIs such as churn, net retention rate⁸ and others that can help explain how to keep the existing customers in the future (5).

4.1.5 Summary of Empirical Findings

Table 11 on the next page illustrates the aggregate dimensions that could be observed within both case firms. It summarizes tables 3-10 showcased in previous sections of the empirical findings. Aggregate dimensions that were only observed within one firm were removed, and only those identified that have some connection to both firms were therefore included. However, there are clear differences in how the firms view the four dimensions of their subscription-based business model, which will be developed in the next chapter. The second-order themes observed within both case firms are also aggregated and presented here. The second-order themes belonging to Beleco have a white background, and the second-order themes from AFS have a light gray background.

⁸ Net Retention Rate: Is the percentage of recurring revenue retained from existing customers over a given time period (commonly on a monthly or annual basis).

5. Analysis

The main purpose of this chapter is to examine the previously presented findings and compare them to previous research. By interconnecting these two areas, including both primary data and previous literature, the analysis can achieve improved reliability of the identified answers to the research questions and overcome gaps in knowledge. The analysis section is structured according to the order of the research questions.

5.1 Subscription-Based Business Models of Tech Firms

5.1.1 Value Proposition

The value proposition discussion is paramount for both the users and providers of a product or service. Osterwalder and Pigneur (2010) argue that it refers to why and how a customer values an organization's offerings. For the organization, it highlights their understanding of how their offerings are perceived by their intended customer target market while building an ongoing relationship. In the context of tech firms and subscription-based business models there are three main areas identified, *user-ship over ownership*, *value adding services*, and *continuously improve customer benefits*.

User-ship over ownership

A recurring characteristic of the subscription economy is access over ownership, which appears to be the same for the sharing economy based on research presented by Bardhi and Eckhart (2012). However, it seems to go further than simply giving access to products or services. The findings from the thesis suggest that an important aspect of subscription-based business models is to offer flexible product use through simplicity and increased freedom of movement through user-ship over ownership.

Both firms have a similar view on flexibility and identify it as important to their value proposition. AFS discusses this in terms of improving the customer experience by offering different product offerings. Beleco also discusses flexibility in relation to customer satisfaction and the customer experience, but they also view flexibility as related to the associated freedom of movement aspect. However, the differences in how the two firms view flexibility can be due to Beleco offering physical products while AFS offers non-physical. Non-physical products arguably already have the freedom of movement component included in the offering.

Subscriptions have the potential to reduce environmental impact by promoting user-ship over ownership and by reducing the production and consumption of goods. Therefore, subscriptions can be considered a part of circular business models if implemented correctly. This includes the strategy of improving and developing longer-lasting products through user data generated by subscriptions that can be used by many over their lifetime. This is mentioned by Tzuo and Weisert (2018) in their paper, where they discuss the concept of circular subscription-based business models in connection with the subscription economy. This is made

possible by promoting increased responsibility for businesses by redirecting the ownership of products back to the producers, incentivizing them to produce good, longer-lasting products. Furthermore, with the increased responsibility towards ownership, tech firms that have a physical-product component can use subscriptions to retain control over the products' embedded value by re-using materials, thus ensuring future access to materials.

Another result of the focus on user-ship is that businesses can improve their cash flow by reducing the expenses for day-to-day operations and heavy investments. This is possible since firms subscribe to products instead of purchasing them, reducing the overall investments and risk. Furthermore, for subscription businesses that need cash up-front, pre-financing services, such as those provided by AFS, are useful to liquidate receivables when necessary. However, this is arguably relevant for all firms and is not simply limited to tech firms.

What is clear is that the services provided by both firms are aimed toward increasing the functionality of, or access to, their products or services. Suggesting that one of the core concepts within the value proposition is the way the product is still owned by the provider, and only its functionality, access, or use is sold. This finding aligns with Tukker's (2004) discussion of use-oriented value propositions and how the services provided, and the utility of product-use, is extracted by the customers.

A factor of importance for the value proposition of subscription-based business models is arguably, therefore, focusing on user-ship by offering products or services that are based on accessibility, functionality, and flexibility.

Value adding services

Both Beleco and AFS discuss the value adding services for partners and clients. The findings suggest that the value adding aspects are based on offering pain relief by enabling complex billing structures for firms that want to transition towards subscriptions, the involvement of the producers/external actors in the value creation process, offering improved financial control over CAPEX/OPEX, focusing on helping clients build scalable and technical products and using the services offered to improve the overall customer experience. It is, therefore, an arguably important part of the value proposition for tech firms' subscription-based business models. It is not necessarily only about providing the immediate offering to the customer/client. It is also about offering other services connected to the immediate offering, thus enhancing the overall benefits.

Cost reduction is discussed by Beleco, where the topic is related to risk diversification to the producers/partners, improved cash flow for clients, and reduced investments necessary due to flexible terms of user-ship. The findings regarding cost reduction suggest that it is an integral part of the value proposition since it reduces costs for both the users and providers, i.e., from both sides of the platform.

AFS discusses cost reduction in a similar way. The end-consumer is offered cost reduction through reduced penalty fees, while the clients are offered cost reduction through more automated and scalable services and thus a reduction in the price of services. Therefore, improving the profitability of partners seems to be important for both firms. However, while Beleco uses its value adding services to help its partners improve the product lifetime value (PLTV) and thus the revenue of their products, AFS does it by reducing costs through automation and scalability.

This suggests that subscription-based business models should be based on value adding services that create additional value to both the customers and producers, other than the direct value offered from their products/services.

Continuously improve customer benefits

While it is apparent that the two case firms are involved in two vastly different industries where one provides physical products and the other provides non-physical, it is also clear that their collective efforts are focused on customer satisfaction. However, the way they perceive customer satisfaction is slightly different. Beleco offers flexible solutions that reduce the overall initial investments required for firms when acquiring furniture while using information-driven trend analysis from consumer data collected from using the services to improve the company offerings.

For AFS, the focus is on “*being the most human-centric fintech*” implying that customer satisfaction is of importance. Customer satisfaction is focused on these two areas; having a customer-centric focus, as well as improving the customer experience. This is done through flexible offerings, dealing with higher frequency of transactions, reducing bad payment experience and churn, while also focusing on automation and removing penalty fees to reduce costs for the clients.

Both firms argue that data gathered can be used to understand their customers and see potential trends forming. However, AFS argues that following trends is arguably easier for non-physical product firms since they can instantly alter and launch new products through the software. Schuh et al. (2020) suggest that subscription-based business models need to be able to understand changing customer value and spot trends while employing a customer-centric value proposition. By using data generated from product use, firms can give their producers information about what, and how, improvements can be made.

Schuh et al. (2020) further argue that subscription firms should couple the value proposition and the profit mechanism to create dependencies between the customers and the firms. This is evident from the findings, where recurring revenue streams are used to gain information about the customers that can be used to continuously improve the customer benefits.

5.1.2 Value Creation

The value creation includes the numerous actions an organization undertakes to create, produce, sell and deliver its products or services to customers. It includes key activities that keep the business running, such as important key partners like suppliers, joint ventures or alliances with competitors, key resources used in the process, and other things like distribution, communication, and sales channels to customers (Osterwalder and Pigneur, 2010). While this involves many different areas, the two in focus are *data generation and analysis* as well as *relationship building*, as these seem to be crucial for tech firms in the context of subscription-based business models.

Data generation & analysis

It is clear both from the empirical findings and previous research (Riesener et al., 2020) that subscriptions result in added touchpoints with customers at a recurring rate since the value proposition is offered over several periods of time instead of a single period of time. As a result, more data is generated due to the added touchpoints and the recurring communication between consumers and companies. With this data, firms can adjust their value propositions and offerings to better meet and understand their customers. For product-based tech firms like Beleco, this entails analyzing the degradation of the physical products to understand how to best deliver and communicate with their customers. While for software-based tech firms like AFS, it means to better improve the payment experience for the customers.

As Beleco is a product-based tech firm, the topic of product lifetime value (PLTV) is discussed at length in the interviews, suggesting its importance for their business model. Their services improve utilization by involving the producers more in the production and delivery process of the products, which incentivizes them to improve the production quality and find innovative solutions to extend product lifetime value to improve profitability. This is possible due to Beleco's business model and how it encourages the re-use of products and improved utilization through the use of recurring payments. This generates information from the use of the products. Since AFS does not involve itself with products, this is a clear difference in their business models. However, this is arguably more related to the physical/non-physical discussion. Customer lifetime value (CLTV) can be improved in the same way the product lifetime value (PLTV) is improved, by applying data analysis to the aggregated user data and make changes that are in line with the customers' expectations and wants.

This is in line with the presented research by Riesener et al. (2020), who say that the subscription-based business models are built on gaining customer insights through software services. Those findings are then used to continuously improve the data collection process so that firms can capture the customers' needs better. Schuh et al. (2020) also argue that the value proposition and product-service systems represent a control point

for individual customer behavior. This control point represents an opportunity to continuously collect data and analyze it to detect changes in customer needs.

As such, both companies benefit similarly from the use of the added data. Emphasis should thus be put on data generation and analysis for tech firms, as it appears to be an important factor in improving firms' value propositions over time and meet the demands of the customers.

Relationship building

Connected to the discussion of PLTV and CLTV is the topic of relationships, and how customer and client relationships can deepen with the use of subscriptions. Both case firms have a similar view of how improved customer relationships can benefit tech firms. Subscriptions result in more data about customers and their behavior, offering the opportunity to improve the client-customer relationship. Furthermore, the increased amounts of touchpoints between the customers and the providers, made possible by using subscriptions, can improve customer engagement and increase communication through cross/up-sales. The recurring contact with customers, and the resulting improved understanding of the customers, in turn, leads to stronger customer loyalty. As such, understanding the customers is a prerequisite to being able to influence their behavior and retain them over time.

Collaborating with customers and partners is an essential part of subscription-based business models, as presented by Schuh et al. (2020). Both case firms consider this important. Beleco focuses on this by creating close relationships with its producers, and AFS focuses on this by developing partnerships with its clients. Beleco does it by involving the producers more in the process since the producers see increased revenues by producing better products and thus benefit from working with them more as partners. AFS attempts to reach business ecosystems by working with other firms and finding partners. As such, they align their incentives with the clients by focusing on automation and reducing their costs.

Based on the findings of both firms, subscription-based business models appear to require a high degree of collaboration between customers/partners and the provider of the product. Additionally, both firms could benefit from engaging with business ecosystems and acquiring more partnerships. Therefore, relationship building is based on both extending the business-to-consumer relationship as well as the business-to-business relationship through collaboration.

5.1.3 Value Capturing

The value capturing process corresponds to the origin of revenues. It discusses the ways an organization receives money in exchange for its services, as well as the cost structure of the organization (Richardson, 2005; Osterwalder & Pigneur, 2010). Two topics identified for tech firms in this context are *recurring revenue streams* as well as *sophisticated software*.

Recurring revenue stream

The payment structure for subscriptions is related to charging based on a pre-determined billing period. For example, Beleco uses continuous subscriptions and bases them on a pre-determined period, such as every month, where the consumers pay an amount one month in advance based on the asset's underlying value. Furthermore, subscriptions are highly complicated with different billing times, prices, and to different consumers with or without discounts. This finding is in line with Schuh et al. (2020), who argue that recurring billing is a crucial part of the value capturing process of subscription-based business models. Other researchers such as Ebi et al. (2019) and McCarthy et al. (2017) further argue the importance of recurring payments for subscription-based systems and how firms' value proposition is frequently delivered to customers in exchange for the recurring payment structure.

While recurring revenue streams are important for Beleco, it is not used directly by AFS. However, they recognize the importance of recurring billing strategies for subscription-based business models since subscriptions are their new business objective. In order to focus on it, however, they charge for their services towards subscriptions based on commission. The understood reasoning for this is because subscriptions result in an increased number of transactions, which for service-focused businesses like AFS, makes it more profitable to use a commission model based on transactions over recurring billing.

The discussion of cash flows is seemingly important for subscriptions. Some of the issues related to cash flows for subscription-based business models are the quick termination of subscriptions, cash flow adaptation issues, having revenue spread out over time, and lastly, the necessity of large amounts of starting capital to survive the transition from traditional business model to a subscription-based business model.

On the other hand, subscriptions can help smooth out yearly sales curves – making revenue streams more stable and predictable. This predictability is useful for businesses since many valuations today are based on cash flows, suggesting that subscriptions result in improved company valuations. This is in line with the discounted free cash flow valuation presented by Damodaran (2012). More stable cash flows and improved valuations can also result in better funding possibilities and flexible resource planning (Ebi et al., 2019; Tzuo & Weisert, 2018). Therefore, the empirical findings suggesting that valuation will improve with increased cash flows arguably have some standing based on previous research.

Both firms rely on indirect revenue streams from businesses to fund their cost of business. For instance, for Beleco, this refers to their charge of connecting the providers to the consumers, which is a cost put on the producers. Similarly, for AFS, the services offered regarding recurring billing are put on the businesses that, in turn, offer products/services to the end consumer. The concept of direct/indirect revenue streams is discussed by Ritter and Schanz (2019), and indirect revenue streams are, according to their findings, arguably always a part of subscription-based business models. The empirical findings somewhat reiterate this. Although

since the findings regarding this topic were limited in the thesis, more research would be needed to determine the importance of direct/indirect revenue streams for tech firms.

Sophisticated Software

Something discussed by both firms is the importance of having developed software and billing products. While sophisticated software is not solely related to value capturing, as it is also included in the other business model dimensions, it is needed to gather and analyze the abundance of user-generated data. This suggests that sophisticated software is found in several dimensions of the subscription-based business models, and not only within value capturing. According to Beleco, this is used in combination with automated billing processes, suggesting that recurring billing strategies that are used by subscriptions also need some kind of automation that can support the complicated payment structures and the continuous billing systems. For AFS, the importance of having developed software services is linked to standardization and being able to make billing services automated and scalable. As such, a recurring theme in sophisticated software is to ensure its ability to automate, standardize and support complex subscription-based billing structures.

Previous research by Riesener et al. (2020) and Schuh et al. (2020) consider software important for subscription-based business models, and argues that it should be used to gather, record, and analyze data and that it has to be included as a service. However, something previous research has not discussed is the role of software in dealing with the complicated payment structures and the transaction intensity related to the recurring revenues. Furthermore, while previous research discusses sophisticated software within the confines of “data generation and analysis” in the value creation dimension, they have failed to further explore its role in the value proposition, value capturing, and its impact on customer-based KPIs.

5.1.4 KPI

The development of successful business models is a complex process. KPIs make assessing and monitoring the performance of a business, business unit, product, or other variables of measure easier to deal with. Therefore, the use of KPIs is arguably company-specific or depends on specific situations or markets. Their definitions are often based on business strategy, enabling businesses to translate abstract values into measurable components (Gilsing et al., 2021). For tech firms focused on transitioning towards subscription-based business models, the focus is on two areas, the overall *shift in KPI focus* as well as on *customer-based KPIs*.

Shift in KPI focus

A recurring theme discussed by both firms is the concept of changing what the KPIs are focused on. Both Beleco and AFS argue that revenues are still important indicators of firms' economic health, as it is for traditional firms. Beleco argues that the use of revenues as KPI should be measured through other tools, such

as MRR (Monthly Recurring Revenues) or similar metrics that better illustrate the recurring revenue streams of subscription businesses and focus on the more important variables of subscriptions.

AFS has a similar view on the use of revenues as KPI. Revenues are still important to keep track of, but the difference is that AFS focus on revenues in combination with transactions now, compared to revenues in combination with EBIT or other profitability metrics as they did before. However, the shift away from profitability metrics is arguably not only due to the shift towards subscriptions, but instead also has to do with the added focus on growth instead of profitability. A commonality is that both firms used average transaction value (ATV) previously, while Beleco is focused on MRR now, and AFS is focused on transaction intensity. This is connected to the research by Gilsing et al. (2021), who argue that KPIs are company or industry-specific. In this case, we have one firm more focused on understanding their recurring revenues (MRR) and another firm focused on the number of transactions. However, the common factor is that both firms regard revenues as an important KPI. As such, the specific shift in KPI focus is arguably company-specific (whether the focus is on MRR or transactions), but the general focus can be argued to be dependent on the industry since both have a similar change in KPIs (moving away from ATV).

Furthermore, a general shift in focus is argued by Tzuo and Weisert (2018) to be within finance. They argue that GAAP principles are outdated and should be more focused on customer lifetime value and other metrics that can better explain recurring revenue streams and values that can add value to firms. As such, the shift in KPI focus should involve removing traditional KPIs and introducing new KPIs that better explain the specific variables of importance related to the subscription economy. Tzuo and Weisert (2018) discuss these "new variables" as related to churn, customer acquisition, and up/cross-selling, all of which were discussed by both case firms during the interviews, indicating a connection between the previous research and the empirical findings.

Customer-based KPIs

A recurring theme from the empirical findings is that the choice of KPIs is dependent on the underlying company value proposition, value creation, and value capturing. As such, choosing KPIs naturally depends on what the firms deem important to improve their product or service in the eyes of the consumers. Mcgrath (2010) argues that KPIs can make abstract variables and values more tangible with the introduction of information. Making intangible information more tangible seems especially important for KPIs related to customer values and behavior. The two case firms seem to focus on improving their ability to understand customer behavior, in order to meet their demands quickly and anticipate trends.

Furthermore, it seems like there are endless variations of KPIs that can be used to monitor the customers. However, some of the more important KPIs identified that are important for both firms are CLTV, churn (voluntary and involuntary), customer retention, and customer acquisition costs. Using KPIs such as these

makes it possible for firms to understand the changing customer values by monitoring the levels of churn and thus the number of customers that terminate subscriptions.

5.1.5 Summary of Analysis

Previous research conducted in the area of subscription-based business models by Schuh et al. (2020) found four main characteristics that should be considered for firms in machinery and plant engineering: (I) continuous performance improvement of customer benefits, (II) long term collaborative relationship with customers and partners, (III) periodic/recurring payments and (IV) knowledge of the changing customer value. These four characteristics are also found in the empirical findings, more specifically, in each subsection of the chosen research subjects. These findings in the research by Schuh et al. (2020) are, therefore, arguably, also relevant for tech firms' subscription-based business models.

- (I) *Continuous performance improvement of customer benefits* is identified in the value proposition, through “*Continuously improve customer benefits*”.
- (II) *Long term collaborative relationship with customers and partners*, is found within the value creation,” *Relationship building*”.
- (III) *Periodic/recurring payments*, is found within “*Recurring revenue streams*” in value capturing.
- (IV) *Knowledge of the changing customer value*, is found partly in the value creation as one of the main offerings of subscriptions is the data generation and analysis of the customers, as well as in the KPIs “*Customer-based KPIs*”.

Therefore, there are some clear connections between previous research and the empirical findings from the case study. However, the empirical findings of this thesis further develop the specific reasons why the findings by Schuh et al. (2020) are also accurate for tech-based firms while also including other neglected areas in previous research.

Table 12 on the next page summarizes the main takeaways from the research. Based on this, tech firms that want to transition towards subscription-based business models should consider each section when determining their value proposition, value creation, value capturing, and KPIs.

Table 12. Summary of factors identified as important to subscription-based business models

Value Proposition	<i>User-ship over ownership</i>	<i>Continuously improve customer benefits</i>	<i>Value adding services</i>
	Important to focus on flexible products or services instead of focusing on ownership	Update products or services according to changing customer behavior	Offer additional products or services other than core offering
Value Creation	<i>Relationship building</i>	<i>Data generation & analysis</i>	
	Collaborate with both customer and partners	Gather/analyse data to better understand customer demands	
Value Capturing	<i>Recurring revenue streams</i>	<i>Sophisticated software</i>	
	Work directly/indirectly with subscriptions. Requires software to handle the transactions	Software is needed to gather/analyse user data and handle the increased number of transactions resulting from subscriptions	
KPIs	<i>Shift in KPI focus</i>	<i>Customer-based KPIs</i>	
	Focus more on KPIs relevant to tech firms using subscriptions	Use customer-based KPIs to better understand the customer values and behavior to meet their demands and follow trends	

It is clear that the sections within the subscription-based business models are highly connected. By using recurring revenue streams, it improves the generation and analysis of customer data by increasing the number of touchpoints between the customers and the company, which can be used to better understand the customer values and help firms continuously improve the benefits of their customers. In order to measure these values and ensure that the business model is aligned properly the use of customer-based KPIs are used. Selecting the correct KPIs appears to be fundamental for the continuous development of tech firms' subscription-based business models.

Other connections between the sub-sections of the subscription-based business models can also be seen in relationship building. It is possible to deepen the relationship with customer and partners by, again, utilizing the added touchpoints that recurring revenue stream offers. This includes helping other firms develop complex recurring billing structures and support their transition to subscription-based business models, involving the producers of products into the value creation process by giving them access to customer data and information to improve product quality and longevity, as well as reducing costs of billing services by improving automation and scalability. The use of KPIs, in this case, is also dependent on a shift in KPIs. By applying relevant KPIs that suit the objective of the organization, such as CLTV, PLTV, MRR, churn, net retention rate, and so on, it becomes easier to understand if the business model objectives are being reached.

There are also some differences in how the two case firms view the aspects identified as second-order themes. For instance, Beleco discusses “Improved CAPEX/OPEX” within “value adding services” in their value proposition. They argue that their products offer the customers better financial control as they can prolong

expenses over time and thus better control their cash flow. AFS, on the other hand, argues that “improved CAPEX/OPEX” is part of “recurring revenue streams” in value capturing since the flexibility and stability of cash flows for businesses using subscriptions result in improved strategic planning of their own financials. This means that Beleco views improvement in CAPEX/OPEX from the customer perspective, while AFS views it from the firm perspective.

Throughout the analysis, it's clear that the one thing that connects all sub-sections of subscription-based business models for tech firms is sophisticated software. For example, recurring billing, which is one of the main pillars of subscription-based business models, heavily relies upon it in order to handle the complex and large amounts of transactions that subscriptions require. Furthermore, sophisticated software is also used to collect and analyze customer data to improve the value proposition as outlined before. Previous research (Riesener et al., 2020; Schuh et al., 2020) discusses the role of software for subscription-based business models in the context of data gathering and analysis but fails to recognize its role within value proposition, value capturing, and KPIs. Such as dealing with complicated payment structures and transaction intensity and applying it to relevant KPIs.

For instance, while customer-based KPIs are discussed in (IV) as a way to better understand the trends forming and the changing customer values, previous research does not include discussions regarding the general shift in KPI focus. This implies the shift companies need to undertake to fully transition their business model towards subscriptions and, therefore, align their KPIs with the value proposition, value creation and value capturing aspects presented in this section of the thesis. One main takeaway from tech focused subscription-based business models is that revenue KPIs remain important while profitability KPIs do not. Additionally, the use of MRR and transaction intensity can help firms better understand their progress and growth. Therefore, tech firms should focus on using subscription-based KPIs that help firms understand the changing customer value so they can better anticipate the customer needs and follow trends.

6. Conclusion

The final chapter of the thesis will present the concluding marks and answer the chosen research questions in a summarized manner. Future areas of research will also be presented to discuss what can be done in the future to widen the research topic and give more substance to the proposed findings.

The study aimed to investigate subscription-based business models used by two tech firms within the subscription economy in order to gain a better understanding of the choices made by such firms active within the market. Based on the findings and previous research within the topic, the study further aimed to identify possible areas of focus within value proposition, value creation, value capturing, and KPIs that could increase awareness of important factors that should be of focus for tech firms that want to employ subscription-based business models.

What factors are considered part of the value proposition of tech firms within the subscription economy?

What are the most significant value creation aspects for tech firms within the subscription economy?

What is the value capturing process for tech firms within the subscription economy?

What are the main uses of KPIs by tech firms within the subscription economy?

During the research process, it became clear early on that there is a lack of research into subscription-based business models, even less regarding subscription-based business models for tech firms, and that the general concept of such models lacks proof of concept based on empirical findings that can guide firms when making business model oriented decisions. Therefore, the focus of the research questions was to gain a better understanding of how the business model of a tech firm could be constructed in the best manner possible to prepare them for the subscription economy.

The findings of the thesis suggest that tech firms should consider three main factors for their value proposition: *Value adding services*, *User-ship over ownership*, and *Continuously improve customer benefits*. In relation to their value creation, the following two aspects: *Data generation & analysis*, and *Relationship building*. In terms of the value capturing process, the two processes in focus are: *Recurring revenue streams*, and *Sophisticated software*. Lastly, the main uses of KPIs require: *Shift in KPI focus*, and *Customer-based KPIs*.

The four dimensions of a subscription-based business model (value proposition, creation, capturing, and KPI) and the identified factors mentioned above are highly connected in several ways. While there are aspects to

consider within each dimension, the main point is that for such business models to work, highly *sophisticated software* is needed to handle the complexities surrounding *recurring revenue streams* and the subsequent *user-data generation and analysis* since those three factors are, in turn, responsible for many of the other factors in the dimensions. For instance, without sophisticated software to deal with the recurring revenue streams and the generation and analysis of data, it would not be possible to increase the touchpoints between customers and companies, thus making it difficult to improve relationship building. Similarly, it would not be possible to adapt as quickly to the customer wants and needs and meet their demands by continuously improving the customer benefits without data generation and analysis. In connection to all of this, a shift in KPI focus is necessary since it enables tech firms to monitor their progress within the different dimensions, with a focus on revenue KPIs (moving from profitability focus to MRR or transaction intensity) and the customer-based KPIs (churn, net retention rate, customer retention, CLTV, PLTV).

6.1 Limitations and Future Research

Due to the nature of the research questions and the scarcity of previous research conducted on the topic, this research was largely based on the qualitative interviews. While the interviews were conducted rigorously and meticulously, the results are limited by the case study sample size. As such, it is probable that the findings are not fully representative of their population and more research with larger sample sizes would be necessary to better answer the research questions.

This thesis and its findings can help the development of the research stock within the topic of subscription-based business models and guide firms that want to transition towards the subscription economy. The experience achieved from the interviews, the two participating firms, and the comparisons and similarities between them can hopefully give such guidance for understanding the important questions tech firms need to ask themselves when deciding to transition towards subscriptions. The thesis contributes to the existing literature and has potentially added more aspects that researchers can consider for future research. As the subscription economy and the adjoining business models are, to a certain extent, a relatively unexplored topic, several possible continuations can be made.

Firstly, more comprehensive studies can be conducted to further develop and corroborate the findings to determine other factors that have possibly been overlooked or legitimize some of the findings. Secondly, it would be interesting to go beyond the subscription-based business model entirely and explore functioning models and the inherent structure that supports it in order to further investigate the relationship aspect of subscriptions, thus trying to investigate and identify complex business ecosystems and the underlying connection between the various actors of the value chain.

7. Reference List

- Andonova, Y., Anaza, N. A., & Bennett, D. H. (2021). Riding the subscription box wave: Understanding the landscape, challenges, and critical success factors of the subscription box industry. *Business Horizons*.
- Bardhi, F., & Eckhardt, G. M. (2012). Access-based consumption: The case of car sharing. *Journal of consumer research*, 39(4), 881-898.
- Bryman, A., & Bell, E. (2011). *Business Research Methods* 3rd ed. New York.
- Bryman, A., & Bell, E. (2015). *Business research methods* (Vol. 4th). Glasgow: Bell & Bain Ltd.
- Catulli, M., Cook, M., & Potter, S. (2017). Consuming use orientated product service systems: A consumer culture theory perspective. *Journal of Cleaner Production*, 141, 1186-1193.
- Christensen, C., Raynor, M. E., & McDonald, R. (2013). *Disruptive innovation*. Harvard Business Review.
- Chung, J. B. (2020). Factors for Customer Attitudes and Intention to Use for the Subscription Based Online Service in Korea. *경영경제연구*, 42(1), 1-17.
- Constantiou, I., Marton, A., & Tuunainen, V. K. (2017). Four models of sharing economy platforms. *MIS Quarterly Executive*, 16(4).
- Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (Vol. 666). John Wiley & Sons.
- Denscombe, M. (2017). *EBOOK: The good research guide: For small-scale social research projects*. McGraw-Hill Education (UK).
- Di Leo, A., Michelini, L., & Principato, L. (2020). Sharing platform and innovative business models: enablers and barriers in the innovation process. In *Food Industry Wastes*(pp. 431-449). Academic Press.
- Dubey, A., & Wagle, D. (2007). Delivering software as a service. *The McKinsey Quarterly*, 6(2007), 2007.
- Ebi, M., Hille, M., Doelle, C., Riesener, M., & Schuh, G. (2019). Methodology for the risk and reward evaluation of industrial subscription models. *Production at the Leading Edge of Technology*, 613– 622.
- Ertz, M., Karakas, F., & Sarigöllü, E. (2016). Exploring pro-environmental behaviors of consumers: An analysis of contextual factors, attitude, and behaviors. *Journal of Business Research*, 69(10), 3971-3980.
- Eriksson, P. & Kovalainen, A. (2008). *Qualitative methods in business research*. London: Sage Publication Ltd.
- Ferrell, O. C., Ferrell, L., & Huggins, K. (2017). Seismic shifts in the sharing economy: Shaking up marketing channels and supply chains. *Journal of Marketing Channels*, 24(1-2), 3-12.
- Fosker, N., & Cheung, B. (2021). Pricing and proposition testing in subscription economies. *Applied Marketing Analytics*, 6(3), 211-220.
- Freed, Luke, Landon Bishop, David Gregory, Varun Kolachina, Emily Shteynberg, Faiza Sultana, Derrick Zhang, and Darsh Bhalala. "Implications of the Subscription Economy." (2022).

- Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry*, 27(3), 284-300.
- Gilsing, R., Wilbik, A., Grefen, P., Turetken, O., Ozkan, B., Adali, O. E., & Berkers, F. (2021). Defining business model key performance indicators using intentional linguistic summaries. *Software and Systems Modeling*, 20(4), 965-996.
- Grewal, R., Chandrashekar, M., & Citrin, A. V. (2010). Customer satisfaction heterogeneity and shareholder value. *Journal of Marketing Research*, 47(4), 612-626.
- Grieco, C. (2021). Innovating the innovated: Business model innovation process in sharing economy companies. *Creativity and Innovation Management*.
- Grieco, C., Michelini, L., & Iasevoli, G. (2021). Which sharing are we betting on? Analysing the financial attractiveness of sharing business models. *Journal of Cleaner Production*, 128067.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194), 105.
- Haase, M., & Kleinaltenkamp, M. (2011). Property rights design and market process: Implications for market theory, marketing theory, and SD Logic. *Journal of Macromarketing*, 31(2), 148-159.
- Handcock, M. S., & Gile, K. J. (2011). Comment: On the concept of snowball sampling. *Sociological Methodology*, 41(1), 367-371.
- Hagiu, A., & Wright, J. (2015). Multi-sided platforms. *International Journal of Industrial Organization*, 43, 162-174.
- Heikkilä, M., Bouwman, H., Heikkilä, J., Solaimani, S., & Janssen, W. (2016). Business model metrics: an open repository. *Information Systems and e-Business Management*, 14(2), 337-366.
- Kindström, D., Kowalkowski, C., & Sandberg, E. (2013). Enabling service innovation: A dynamic capabilities approach. *Journal of business research*, 66(8), 1063-1073.
- Klopčič, A. L., Hojnik, J., Bojnec, Š., & Papler, D. (2020). Global Transition to the Subscription Economy: Literature Review on Business Model Changes in the Media Landscape. *International Research Journal*, 18(4), 323-348.
- Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: measuring and managing the value of companies* (Vol. 499). John Wiley and sons.
- Lah, T., & Wood, J. B. (2016). *Technology-as-a-Service Playbook: How to Grow a Profitable Subscription Business*. Technology Services Industry Association.
- Lee, H., & Kim, J. H. (2020). Effects of Consumption Value on Consumer Attitude in Purchasing HMR Products through Subscription Service. *Journal of Digital Convergence*, 18(9), 71-79.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. sage.
- McCarthy, D. M., Fader, P. S., & Hardie, B. G. (2017). Valuing subscription-based businesses using publicly disclosed customer data. *Journal of Marketing*, 81(1), 17-35.

Source: McKinsey.com (2018). Available at:

<https://www.mckinsey.com/~media/McKinsey/Industries/Technology%20Media%20and%20Telecommunications/High%20Tech/Our%20Insights/Thinking%20inside%20the%20subscription%20box%20New%20research%20on%20ecommerce%20consumers/Thinking-inside-the-subscription-box-New-research-on-ecommerce-consumers.pdf> :Accessed: 11/11-2021

McGrath, R. G. (2010). Business models: A discovery driven approach. *Long range planning*, 43(2-3), 247-261.

Mühlbach, S., & Arora, P. (2020). Behind the music: How labor changed for musicians through the subscription economy. *First Monday*.

NANNELLI, M., FRANCH, M., & DELLA LUCIA, M. A. R. I. A (2019). Business Models for Sustainability (BMfs) in the sharing economy. *Emerging platforms in accommodation service*.

Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers* (Vol. 1). John Wiley & Sons.

Patel, R., & Davidson, B. (2003). *Forskningsmetodikens grunder. Att planera, genomföra och rapportera en undersökning*. Studentlitteratur.

Puschmann, T., & Alt, R. (2016). Sharing economy. *Business & Information Systems Engineering*, 58(1), 93-99.

Richardson, J. E. (2005). The business model: an integrative framework for strategy execution. *Available at SSRN 932998*.

Richardson, L. (2015). Performing the sharing economy. *Geoforum*, 67, 121-129.

Riesener, M., Doelle, C., Ebi, M., & Perau, S. (2020). Methodology for the implementation of subscription models in machinery and plant engineering. *Procedia CIRP*, 90, 730-735.

Ritter, M., & Schanz, H. (2019). The sharing economy: A comprehensive business model framework. *Journal of cleaner production*, 213, 320-331.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques* (pp. 1-312). Thousand oaks, CA: Sage publications.

Schor, J. (2014). *Debating the sharing economy*. Great transition initiative. Tellus Institute: Cambridge, MA, USA.

Schor, J. (2016). Debating the sharing economy. *Journal of Self-Governance and Management Economics*, 4(3), 7-22.

Schor, J. B., & Fitzmaurice, C. J. (2015). Collaborating and connecting: the emergence of the sharing economy. In *Handbook of research on sustainable consumption*. Edward Elgar Publishing.

Schuh, G., Wenger, L., Stich, V., Hicking, J., & Gailus, J. (2020). Outcome Economy: Subscription Business Models in Machinery and Plant Engineering. *Procedia CIRP*, 93, 599-604.

Schuh, G., Frank, J., Jussen, P., Rix, C., & Harland, T. (2019). Monetizing industry 4.0: Design principles for subscription business in the manufacturing industry. In 2019 IEEE international conference on engineering, technology and innovation (ICE/ITMC) (pp. 1-9). IEEE.

Suddaby, R. (2006). From the editors: What grounded theory is not. *Academy of management journal*, 49(4), 633-642.

Sun, W., Zhang, K., Chen, S.-K., Zhang, X., & Liang, H. (2007). Software as a Service: An Integration Perspective. *Service-Oriented Computing – ICSOC 2007*, 558

Tukker, A. (2004). Eight types of product–service system: eight ways to sustainability? Experiences from SusProNet. *Business strategy and the environment*, 13(4), 246-260.

Tzuo (2022): The Subscription Economy Index report. Available at: <https://www.zuora.com/resource/subscription-economy-index-report-trends-for-the-asia-pacific-region/> (accessed 22th April, 2022)

Tzuo, T., & Weisert, G. (2018). *Subscribed: Why the subscription model will be your company's future-and what to do about it*. Penguin.

Van Ostaeyen, J., Van Horenbeek, A., Pintelon, L., & Duflou, J. R. (2013). A refined typology of product–service systems based on functional hierarchy modeling. *Journal of Cleaner Production*, 51, 261-276.

Wilhelm,A. (2020) ‘Microsoft shares rise after it beats revenue, profit expectations, Azure posts 62% growth’, available at: <https://techcrunch.com/2020/01/29/microsoft-shares-rise-after-it-beats-revenue-profit-expectations-azure-posts-62-growth/> (Accessed 28th January, 2022)

Wirtz, B., & Daiser, P. (2018). Business model innovation processes: A systematic literature review. *Journal of Business Models*, 6(1), 40-58.

Yin, R.K. (2003). *Case study research design and methods* third edition. Applied social research methods series, Vol

8. Appendix

8.1 Appendix A - Interview Guide

This section includes the questions asked during the interview process.

Introduction questions

1.0 Background

- What is your role in your company?
- How would you describe your organisation?
- What would you say is the underlying objective of your organisation?
- Why do you think that more and more firms are moving towards the subscription economy? And more importantly, why are you moving towards it?
- Do you think there are any other reasons why firms are moving towards the subscription economy?

2.0 Value Proposition

- What is the main product/service that your company offers?
- Who are the main target customers of your firm?
- In what way does your company today differentiate itself from its competitors?
- What is the main problem that your company and its products solve for your customers (in terms of value proposition)?
- Have things changed since entering the subscription economy? (Main product, main target customers, how to differentiate, main problem solved)

2.1 Value Creation

- How would you define the value that is created by your firm today? - How was that value perceived before entering the subscription economy?
- How do your products create value for your customers? - Is that value created in a similar way as compared to before your organisation entered the subscription economy?
- How do your products create value for your partners? - Is that value created in a similar way as compared to before your organisation entered the subscription economy?

2.2 Value Capturing

- How does your firm capture value from selling products/services? - Is this the same way you captured value before entering the subscription economy?
- How does your firm collect revenue from your customers? (One-time sales, recurring billing, leasing, renting?)
- What is your opinion on using subscription-based billing, do you find it to be a good alternative to one-time payments?
- Has the way of capturing value changed over time since you started the transition towards the subscription economy?

2.3 KPIs

- How do you measure performance in your company?
- What are some of the different ways performance is measured, can you give me some examples? (Such as improvements in certain areas such as revenues, growth..)
- Has the way of measuring performance in your organisation changed over time, since the entrance to the subscription economy?
- Can you give me some examples of organisational level KPIs used before your firm entered the subscription economy?

- Can you give me some examples of organisational level KPIs used today by your firm now that you have entered the subscription economy?

3.0 Finishing questions

Is there anything else you would like to add or discuss before we finish this interview?

8.2 Appendix B – Codes and Themes

This section includes the codes and themes identified from the interviews. The findings are presented on the next page.

First-order categories (Interview Quotes)
Value Proposition (Beleco)

Second Order Categories

Aggregate Dimension

We offer a lot of pain relief to firms that want to become circular but lacks the technological knowhow, since our API can help them with the transformation. (Interview 2)

Pain relief

Our producers are now much more involved in the process and have the possibility to scale up their investments and have much larger returns over time. So there are some clear financial advantages for the producers, previously their returns were limited on how much we purchased, while we now act more as a partner than a client. (Interview 3)

Involving producers

With one time payments it's more limited as it's an initial payment, where subscriptions are over time, which means that businesses that use subscription models when they are customers can handle their CAPEX and OPEX much better. (Interview 3)

Improved control over CAPEX and OPEX

The problems we solve are mainly related to the software aspect, where our software can handle large quantities of inventory in different time-periods, to different people, and with different subscription pricing. (Interview 1)

Enabling complex billing structures

Our main goal is to increase utilisation and reduce the time between customers so that the products time is never wasted (interview 3)

Improved utilisation of products

Producers need to continuously sell products to be profitable, if they instead work with subscriptions they no longer have to produce products all the time but instead produce smaller quantities and instead focus on repairing and reusing products. (Interview 3)

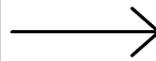
Reduced production costs

Customer behaviour and preferences can be analysed through user data, providing improved customer understanding. (Interview 2)

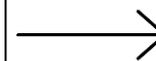
Information driven Trend analysis

Value to the customers/users of the products/platform is another thing. For one, it is very flexible. You can change and renew your own furniture over time and whenever you want without large investments. (Interview 2)

Reduced initial costs required



Value adding services



Continuously improve customer benefits

With the incentives for producers to reduce production by improving production quality the benefits for the environment is substantial. (Interview 2)

The biggest problem customers have is cashflow when purchasing products, its very capital intensive. We solve that problem since they now simply pay for what they need over time and pay in monthly instalments, and once their demand changes they just change the subscription accordingly, which saves a lot of problems such as inventory management, investment problems and so on. (Interview 3)

Customers use our services because they no longer need to pay upfront and exhaust capital intensive investments into furniture and other products. (Interview 3)

Inventory management is our process of making sure products are under control, so firms can know where their products are, what state they are in, if they need to be repaired and so on. (Interview 2)

Indirectly freedom in some way is a value we offer, the freedom in movement and how you don't need to be locked down at a specific place and have to worry about your own furnitures. You can instead terminate the contract and return the furniture when you're done and want to move somewhere else. (Interview 2)

The customers care about availability and simplicity of getting access to products in a pain free way, which is what we offer (interview 11)

Subscriptions result in improved purchasing power for customer, enabling them to rent very expensive products for a fraction of its value and pay over time. (Interview 11)

Start ups have difficulties applying for loans since they are new and aren't profitable yet, so they don't pass credit checks. With subscriptions they get access to more products. (Interview 11)

since we incorporate many providers onto our platform we offer a wider range of products than any one single producer could ever do. (Interview 11)

Reduced emissions

Improved cash flow

Reduced initial investments necessary

Inventory Control

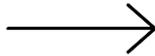
Flexibility

Simplicity

Purchasing power

Accessibility

Increased product variety



User-ship over ownership

First-order categories (Interview Quotes)

Value Proposition (Arvato Financial Solutions)

Second Order Categories

Aggregate Dimension

One of the aspects we handle is the complexity, and for traditional firms that are used to selling 3-4 products per month, now with subscriptions you need to do it more times more frequently with smaller volumes. So, it's completely different. (Interview 5)

With subscriptions we offer two things, the entire customer experience regarding invoicing which goes all the way from checking out, getting what you pay for, getting the payment choices and completing the payments, and the second part is being offered financing of these steps. (Interview 6)

Companies now understand that bad payment experiences increases churn and decreases customer life time value. We help companies improve this and therefore reduce churn and CLTV. (Interview 8)

For physical products subscriptions make sense since there is a lot of embedded value in them, scarce resources the companies want to retain. Subscriptions are not just a means of a business model, its also about ensuring that you have access to materials needed to create the product. (Interview 5)

Before we focused more on customizing the solutions to our clients, while we now try and also focus more on building scalable products. (Interview 10)

By combining the customer experience value we create with financing services our offerings become unique. Those two skill sets enable firms to grow through financing, while removing pain points associated with the customer experience. (Interview 5)

To reach subscription ecosystems we don't see ourselves as a BPO partner, but rather as a provider of standardised and technical products that create value within the ecosystems. (Interview 9)

Value creation depends on the business model. If a company provides subscriptions we can support their subscriptions, we can do financing and give them cash up front if they need liquidity. (Interview 5)

Complexity focus

Improved flexibility

Reducing bad payment experience

Control of Embedded value

Focusing on scalability

Improve customer experience

Focus on technical and standardisation

Liquidity



User-ship over ownership



Value adding services for clients

Subscription business models are very good for agile ways of thinking, making it easy for businesses to follow trends. (Interview 7)

Younger generation consumers today have a larger need of not making a large eco-footprint, which of course makes it possible to re-use products in the market (Interview 9)

Subscription firms have the advantage of adapting more quickly and improve over time according to trends. (Interview 6)

There are no competitors that have our combination of customer experience and financing, which makes us unique. And those two skill sets enable firms to grow through financing, while taking away the pain points associated with the customer experience. (Interview 7)

We are trying to move away from debt collection, we rather want to earn money from the customer journey and making sure that customers stay with our clients (Interview 7)

The true value we create is that currently if you want to be able to have access to pre-financing, the payment collection, billing invoicing, debt collection and so on you would need to partner up with at least 3 companies. We can do all of these things on our own. (Interview 7)

I think we differ from our competitors in the market where they either focus on debt collection or another part of the customer journey, while we focus on the entire value chain. (Interview 9)

Before we focused on charging clients based on the number of transactions, thus making transactions the source of income. Now we instead focus on aligning our incentives with the clients. The result is more focus on automation and reducing production costs. (Interview 6)

With recurring payments there's more focus on the clients revenue streams while removing the penalty fees that the customers have to pay (interview 6)

Agility in following trends

Shift in younger customers' focus

Changing focus based on trends

Reducing pain points associated with the customer experience

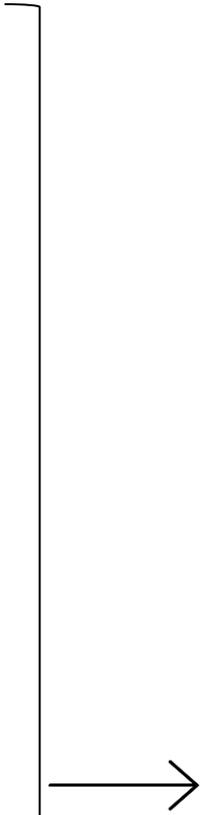
Focus on customer retention

Offering comprehensive solutions

Entire value chain focus

Focus on automation and cost reduction

Reduced focus on penalty fees



Continuously improve customer benefits

First-order categories (Interview Quotes)
Value Creation (Beleco)

Second Order Categories

Aggregate Dimension

The benefit of encouraging the use of high quality products is that they survive for a longer period of time and can be used more (interview 11)

Keeping products in use over a long period of time gives financial motivation to keep production quality high for the producers (Interview 1)
Through our information gathering and analysis of data producers better understand how to improve the products (interview 10)

With our business model the producers are paid every month, which means that after a period of time products will be at a breakeven point, which means that the producers have financial incentive to produce longer lasting products Interview 3)

Through the use of our service we gather a lot of user information that is useful to improve products and measurement systems (interview 3)
For producers the value creation is longer lifetime value of products through our delivery of increased information about the products. (Interview 10)

Improved profitability

Improvement in production quality

Encouraging product innovation

Information gathering

Data generation and analysis

With our previous business model we worked more independently, while we now act more as a partner than as a client with the producers. (Interview 3)

Subscriptions results in more data about the customers and their consumption behaviour (interview 11)

With subscriptions the providers get more access to the consumers and minimise the gap between producers and consumers (interview 10)

The main barrier that firms experience is related to connecting and attracting the customers to your products and stay connected with you over time and retaining the relationship through the subscription model. (Interview 2)
With subscriptions a barrier is to change the consumption behavior of consumers depending on the products (interview 11)

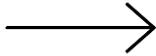
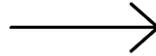
Partnership focus

Improved consumer knowledge

Customer access

Understand customer behaviour

Relationship building



First-order categories (Interview Quotes)
Value Creation (Arvato Financial Solutions)

Second Order Categories

Aggregate Dimension

Every consumer and data points we add to the customers helps, once we have any kind of risk we can use the aggregated data to help improve the consumer experience. (interview 5)

Payments is an important driver in customer life time value due to involuntary and voluntary churn. (Interview 6)

For companies the financing horizon is longer, and from a customer perspective its less about conversion and more about retention. (Interview 7)

Subscriptions gives a company more access to customer communication and results in more available data (interview 8)

By improving the customer journey and experience through conversion rates it increases the likelihood of returning customers. (Interview 6)

Creation of value is linked to reducing pain points, and in this case that means turning payments into a relationship building tool (interview 6)

Through subscription payments its possible to communicate with the customers and send messages regarding cross/up-sales. (Interview 6)

Improving CLTV, which we can do in two ways, not have churn, and also transfer payments, which has historically been the pain point, into a relationship building tool. (Interview 7)

Working with payment notifications to increase customer touchpoints (interview 9)

Because you sell something at a lower price you convince consumers to try out the products and if you deliver this first time experience really well they will stay. (Interview 7)

Constant contact with the customers makes it easier for companies to understand what the consumers need, and how to provide that for them. It therefore leads to stronger customer loyalty. (Interview 8)

By focusing on customer loyalty firms no longer have to focus on customer acquisition. (Interview 5)

Improved knowledge about customers

Reduction of churn

from customer conversion to customer retention

More customer data

Encourage returning customers

Reducing Pain points for customers

Improving customer-engagement

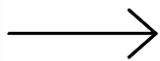
Payments as a relationship building tool

Increasing customer touchpoints

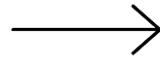
Improved customer loyalty

Improved customer understanding

Customer loyalty reduces need for customer acquisition



Data generation and analysis



Relationship building

First-order categories (Interview Quotes)
Value Capturing (Beleco)

Second Order Categories

Aggregate Dimension

For the monthly subscriptions we charge a monthly payment, and the customers pay one month ahead of time. (Interview 4) Its similar to phone subscriptions where you bind yourself to a specific period of time and pay in intervals. (Interview 10)

Once the customer have the products they are charged every new month until they terminate the subscription and return the product. (Interview 4)

Before the transition we charged upfront, where the customer paid to rent the product which was based on a percentage of the products value. Now we charge every month and adjust pricing to the consumers preferability (Interview 4) (Interview 2)

Subscriptions are a more secure way of securing revenues over time and get stability and control over the company's finances. If a firm sells a subscription you have secured cash flow over time. (Interview 1)

The subscription model is built upon a revenue flow that is always recurring. So stability and financial control are important reasons for us moving towards it (Interview 1). The return of investment is slower initially in the short term, but once it is up and rolling it becomes a safety net. (Interview 11)

Recurring cash flows make it easier for firms to secure funding (interview 10)

The subscription strategy creates higher valuations for organisations, so I think it becomes attractive for organisations to use the subscription model to inflate the value of the organisation. (Interview 11)

Sometimes having more data makes it difficult to analyze without correct software systems (interview 11)

We charge by card or invoice, and the flow is automated and we do therefore not have to do anything to the billing process since we have built this system ourselves. (Interview 4)

The use of subscriptions lead to more transactions, but we still use invoicing and a billing engine to pay kickback to providers (interview 11)

Monthly payments

Continuous subscriptions

Preferability-based pricing

Stable revenue streams

Recurring revenue streams

Better funding possibilities

Inflate company valuation

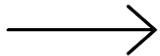
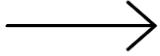
Difficulties analysing data

Automated billing process

Higher transaction intensity

Recurring revenue streams

Sophisticated software



First-order categories (Interview Quotes)

Value Capturing (Arvato Financial Solutions)

Second Order Categories

Aggregate Dimension

Volume triggers price discussion, for instance price per transaction or percentage fee. Its based on risk and how much knowledge we have about that specific industry. (Interview 5)

If we can show our clients that we improve their CLTV by a certain amount we can increase our fee by a percentage of that. (Interview 6)

Our goal is to earn money by improving the value created for our clients and thus charge based on that added value (interview 6)

We use several charging modules. Commission fees for BNPL is one, where you get a percentage of the transaction (interview 8)

We are moving towards a more commission based revenue model and charge based on what value we can create for our clients. (Interview 7)

Business focused on subscriptions will be based on a commission model for our transaction based services (interview 9)

Previously we looked at all costs related to a transaction, now we're moving towards a flat fee built on the transaction fees (interview 9)

Many large organisations have problems adapting to the financial planning and cash flow structures inherent to subscription. (Interview 6)

Firms can experience issues since revenue trickles in over time. (Interview 6)

Companies need to have capital to withstand cancellations. (Interview 7)
If you offer a product the customers don't like it can be cancelled immediately. (Interview 6)

Cash flow issues, and the access to capital can make it difficult to grow quickly. Without deep pockets it can be an issue to work with recurring revenues. (Interview 7)

Pricing is risk and market dependent

Revenues linked to performance

Charging based on added value

Revenues based on transactions

Moving towards commission pricing

Subscription products based on commission pricing

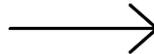
Flat fees based on average transactions

Cash flow adaptation issues

Revenue spread out over time

Cash flow termination risk

Requiring large amount of starting capital



Recurring revenue streams

In terms of having peaks that are linked to the yearly sales patterns, the subscription model smooths out the curve and makes it more stable and predictable. (Interview 5)

Predictability is good for banks, since a lot of the valuations that you currently see are based on recurring revenue. (Interview 5)

Subscriptions creates flexibility and freedom for the users, and the financial aspect is very relevant since it enables companies without access to capital to rent products instead of investing and therefore help them handle their expenses. (Interview 9)

Using subscriptions is difficult since it requires well developed softwares that can handle the complex billing (interview 5)

Analysing data and information about customers becomes more important with subscriptions due to the relationship aspect (interview 6)

As we are focusing more on transaction intensity over transaction value now it means that we need to have systems that can support that (interview 9)

Stable cash flows

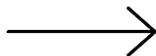
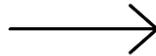
Improved company valuation

Improved CAPEX/OPEX

Handling complex billing

Analysing customer data

Transaction intensity focused



Recurring revenue streams (continuation)

Sophisticated software

First-order categories (Interview Quotes)
KPI (Beleco)

Second Order Categories

Aggregate Dimension

So we basically have MRR, New recurring Sales (combination of MRR and Churn) and Non recurring Sales, and these are our three revenue KPIs. (Interview 2) MRR is our most important KPI (Interview 11)

One KPI that is very interesting for us is MRR (Monthly recurring revenue) and also the growth of the MRR (MRRMOM, Monthly recurring revenue month over month), so how much the MRR grows every month. (Interview 4)

Utilisation rate is important, which means the amount of time the products are with the customers (interview 4)

Traditional businesses need to start thinking about Monthly Recurring Revenues, Churn rate, breakeven points and other things instead of solely focusing on productivity and sales. (Interview 4) With our previous business model we didn't use churn as a KPI since it was not possible as payments were sporadic and daily. (Interview 1)

I think the recent shift in KPIs has also been due to external factors, such as the focus on home offices due to the pandemic (interview 10)

The only shift is that we didn't check the MRR back then, instead we used a traditional rental revenue per month, how much revenue we got from rentals each month. (Interview 4)

Our main KPI is MRR now, while it was ATV before (interview 11)

Previously it was more traditional where we focused on growth and revenue and so forth. Also, we focused on trying to establish popular products and accessibility/occupancy rate. (Interview 2)

Additionally, revenue and growth was the absolutely most important KPIs we used, so we were more traditional back then. We still measure these things now, but they are definitely not as important now as they were back then. (Interview 4)

MRR, New recurring Sales and Non recurring sales

Monthly revenue growth

Utilisation rate

From productivity KPIs towards customer relationship KPIs

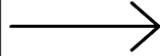
External factors driving KPI use

Focus on Monthly recurring revenue

From ATV to MRR

Revenue/Growth KPIs

Revenue and growth still important



Shift in KPI focus

We measure things like growth, but also amount of new customers, the amount of current customers that are still part of the subscription model, we measure ATV (Average transaction value) both in new sales and the MRR per customer. (Interview 2)

We measure incoming unique customers on the platform, we measure conversion rate, we measure in which channel the customer enter our platform, , we measure organic CPC (costs per click). (Interview 2)

We use Churn, the amount of people that terminate subscriptions, this gives a net retention rate on the opposite end, which is something we also value. we focus even more on retaining customers now and was more focused on finding new customers all the time before. (Interview 4)

CLTV is also of importance, but its closely connected to churn and net retention rate, so for instance, if a customer is with us for 18 months with a specific product and terminates the contract, then that specific order is terminated. (Interview 4)

One KPI we look at is customer acquisition costs (interview 11)

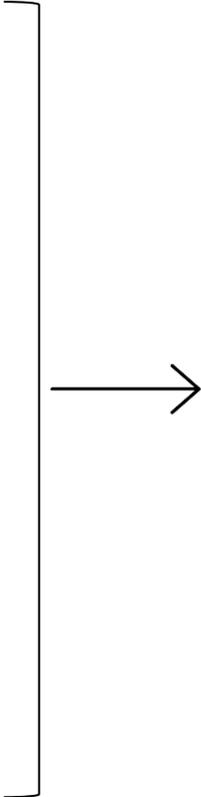
KPIs focused on customer behaviour

New customers and conversion rates

Customer retention

Focus on customer life time value

Customer acquisition



Customer based KPIs

First-order categories (Interview Quotes)
KPI (Arvato Financial Solutions)

Second Order Categories

Aggregate Dimension

We are moving towards products, also from a consumer and merchant perspective, to better understand what additional products we can bring to a merchant besides organic growth - such as how many features their consumers are using, do they use flex-pay, pause function, etc which gives us a more holistic view. (Interview 5)

We focus on churn, customer based value and so on, the most drastic change we have done in terms of KPIs stems out of the strategic rethinking in terms of how we think about the transformation from a solutions towards a product oriented company to keep the customers. (Interview 5)

Now our KPIs are more focused on the amount of transaction compared to how profitable they are individually (Interview 6)

Previous focus was on revenues and EBIT, and its now focused on revenues and transactions instead (interview 9)

With subscriptions there is a general trend in moving away from traditional KPIs such as revenue and ebit, and moving towards inclusive customer focused KPIs such as churn. (Interview 8)

We're now focused more on transactions than on how profitable each individual transaction is. (Interview 7)

We have a holistic view of performance with typical points such as revenue and contributions, but also the promotion score to see how happy customers are with our services. (Interview 5)
Revenues and transactions are still important (interview 9)

Customer behaviour

Customer retention

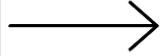
Transaction based KPIs

From EBIT to transactions

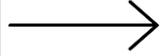
from revenue KPIs towards customer KPIs

From profitability to transactions

Revenue KPIs



Customer based KPIs



Shift in KPI focus

Thesis Summary

Transitioning towards the subscription economy

- *A case study into tech-focused subscription-based business models*

SUPERVISORS

Prof. Pietro De Giovanni – *Luiss Guido Carli*

Viktor Ström – *University of Gothenburg*

CO-SUPERVISOR

Prof. Behzad Maleki Vishkaei – *Luiss Guido Carli*

AUTHOR

Christoffer Lindström

MAT. 741161

Introduction

Over the previous years, subscription businesses in the Subscription Economy Index (SEI) have consistently outgrown traditional enterprises. The index compares the growth of the subscription economy with that of traditional firms based on the members of the S&P 500. The findings show that the SEI has a 10-year CAGR of 17.5%, compared to 3.8% of the S&P 500 firms, indicating that the subscription trend is lasting and growing exponentially (Tzuo, 2022). By 2023 it is estimated that 75% of organizations that sell directly to customers will offer some kind of subscription service (Freed et al., 2022). The subscription economy has expedited a new era known as "The End of Ownership," in which customers are less interested in owning goods and more inclined to obtain outcomes through easy-to-access services (Tzuo, 2022).

Even though the subscription economy is one of the leading emerging trends of the current economy, the literature on the topic is scarce and not near the point of exhaustion (Tzuo & Weisert, 2018). This is explained by the fact that much of the research conducted on the subscription economy is highly specific to certain cases, and much of the existing research can be found in the neighboring area of the sharing economy. Within subscription-based business models, the research content is similarly scarce, with the primary sources of information proposed by Riesener et al. (2020) and Schuh et al. (2020). However, their research is focused on machinery and plant engineering firms. Since previous research is focused on specific cases and does not include research into subscription-based business models of tech firms, it can arguably make it more difficult for tech firms to understand how to position their subscription-based business models efficiently. Therefore, more research is needed to close the existing knowledge gap and help tech-based organizations implement subscription-based business models.

Thus, the thesis aims to better understand how tech firms can utilize business model strategies to enter the subscription economy. To achieve the thesis purpose, the focus is on identifying the different factors of two tech firms' value proposition, value creation, value capturing, and KPIs. Based on this, four research questions have been developed, which are stated below.

(1.1) What factors are considered part of the value proposition of tech firms within the subscription economy?

(1.2) What are the most significant value creation aspects for tech firms within the subscription economy?

(1.3) What is the value capturing process for tech firms within the subscription economy?

(1.4) What are the main uses of KPIs by tech firms within the subscription economy?

Literature Review

The literature review in this chapter seeks to include recent research in business models, business model innovation, the subscription economy, and related subjects. In addition, the literature review aims to provide a comprehensive overview of prior academic research on these topics to explain where there is agreement and which areas of the literature are most relevant for future research.

Sharing Economy

In recent years the sharing economy has been regarded as a haven for disruptive innovation, having drastically changed both the way the world consumes content, goods, and services and the overall economy's perspective of value creation. Contrary to the traditional market model, which is primarily based on ownership, the Sharing Economy is built on the using and sharing of products and services (Puschmann & Alt, 2016).

Furthermore, the Sharing Economy has been accredited as the solution to the climate crisis. Many regards its promises on environmental issues as better resource utilization, reduced idle capacity through access over ownership and using goods until the very end of their lifespan. The increasing use of leasing, renting, and co-ownership of goods by the hands of organizations motivate research on innovating production methods to improve the quality of materials to increase the longevity of products so that more revenue can be extracted from a minimal number of resources. (Puschmann & Alt, 2016)

The discussion of leasing and renting in the sharing economy are some of the aspects that connect it with the subscription economy.

Subscription Economy

The subscription model implies the use of recurring payments in exchange for content, products, or service. Well-known examples of content-based subscriptions are represented by actors such as Netflix and Spotify. For physical products, there are companies such as Hello Fresh and Birchbox, and for services, Amazon Prime and traditional gym subscriptions (Fosker & Cheung, 2021). Specifically, these implementations have proven that changing towards the subscription economy can be immensely beneficial. These businesses often offer additional services included in the subscription, such as improved customer support, personalization, continuous updates, and the periodic launch of new content or products (Freed, Bishop, Shteynberg, Manaviditya, Sultana, Kolachina, Bhalala & Zhang, 2022). As a result, the businesses with such offerings often value retaining customers more than finding new ones. Recurring characteristics of these firms include having a high degree of responsiveness, constant customization, and improvements of their products and services while building long-term relationships with their customers.

The growth of the subscription economy has seen unprecedented levels over the past decade and is expected to continue its rise in the coming years. By 2023 it is estimated that 75% of organizations that sell directly to customers will offer some kind of subscription service (Freed et al., 2022). The Subscription Economy Index

(SEI) compares the growth of the subscription economy with that of traditional firms, which are firms not using subscription-based business models, and displays their CAGR⁹ over time. Specifically, the traditional firms included in the report are based on the members of the S&P 500. The findings show that the SEI has a 10-year CAGR of 17.5%, compared to 3.8% of the S&P 500 firms, indicating that the subscription trend is lasting and growing exponentially (Tzuo, 2022). This suggests that the subscription economy, and consequently subscription-based business models, are becoming more and more relevant for firms to convert to.

One benefit of using the subscription model is more sustainable and predictable income revenue streams from the customers, which provides benefits such as maintaining predictable free cash flows and handling investments (Freed et al., 2022). From the customers' perspective, there are three primary reasons users are drawn to subscriptions: convenience, cost, and discovery (Freed et al., 2022).

Since subscription-based business models are a relatively new phenomenon, especially when linked with digital technologies and internet of things (IoT), the topic of subscriptions is highly relevant for studies on why some companies fail to grow and retain their customers (Fosker & Cheung, 2021). The previous research conducted by Fosker and Chung (2021) suggests that firms involved in subscriptions need to have clear and developed subscription-based business models with value propositions that are adjusted to the subscription economy. While they discuss some aspects of value propositions (retention levers), they do not include an extensive analysis of other potential aspects, nor do they include value creation or value capturing aspects, which are fundamental for business models (Osterwalder & Pigneur, 2010).

Business models

Osterwalder and Pigneur (2010) explain how business models are dependent on how organizations create, deliver and capture value. Therefore, businesses need to have a clear understanding of these aspects to have the best chance of success. The research by Ritter and Schanz (2019) displays the three aspects with a focus on the sharing economy. As such, the research by Osterwalder and Pigneur (2010) and Ritter and Schanz (2019) therefore makes it arguably relevant to use the value proposition, value creation, and value capturing dimensions to also determine subscription-based business models.

The development of successful business models is a complicated process. KPIs¹⁰ make assessing and monitoring the performance of a business, business unit, product, or other variables of measure easier to deal with. Therefore, KPIs can be argued to be company-specific or depend on specific situations or markets. In

⁹ CAGR: Compounded Annual Growth Rate

¹⁰ KPI: Key Performance Indicator

addition, their definitions are often based on business strategy, enabling businesses to translate abstract values into measurable components. (Gilsing, Wilbik, Grefen, Turetken, Ozkan, Adali & Berkers, 2021)

As such, the effectiveness of KPIs in their pursuit to support the decision-making is highly dependent on the timing for which they are applied in the business model process (Wirtz & Daiser, 2018). Furthermore, since KPIs rely on information to concretize abstract variables into something more tangible, their success as a tool is highly limited if there is significant uncertainty or limited data, as there often is during business model innovation phases (McGrath, 2010).

Subscription-based business models

The understood impact of the subscription economy on businesses is fundamentally centered around the way firms conduct their business and how their business models are developed. There are many important variables for developing subscription-based business models.

Subscription firms' primary focus is on relationships and developing a recurring revenue stream for long-term growth (Tzuo & Weisert, 2018). Additionally, the focal point is on relationships as a whole and how the subscription firms put the relationship with the customers at the forefront, surrounded by the customer journey cycle of interaction which is supported by the cycle of back-end business processes (see figure 1 "New Business Model"). (Tzuo & Weisert, 2018)

Tzuo and Weisert (2018) say that the subscription economy entails an added focus on customers due to customers having increased needs and expectations and companies that need to fulfill them. Additionally, due to the benefits of subscription-based business models and user information generation, it's possible to continuously update the value proposition and transform the business model according to the current customer needs and trends (Schuh et al., 2019).

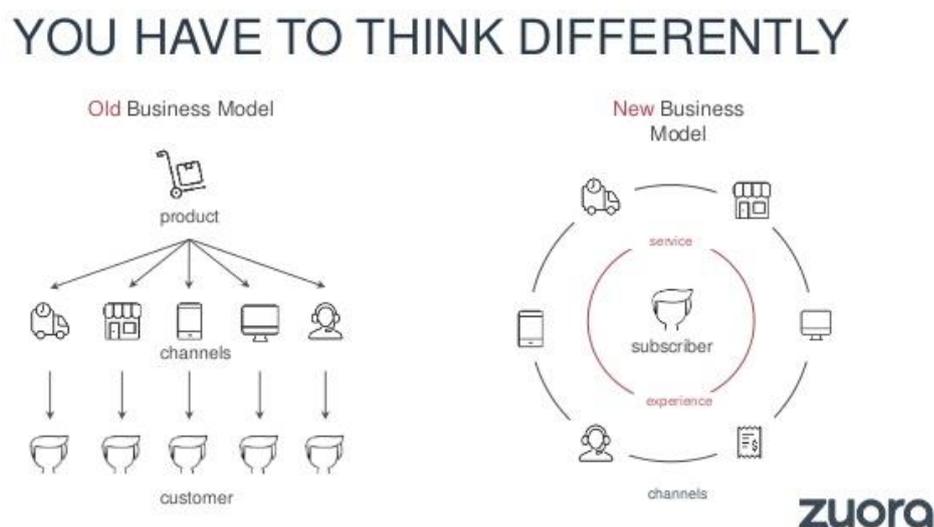


Figure 1. *Subscribed: Why the subscription model will be your company's future and what to do about it.* Tzuo and Weisert (2018)

Recurring revenue streams and cash flow predictability

When discussing subscription-based business models, a suitable method of development is providing frequent delivery of the organizations' value proposition in exchange for recurring payments through subscription-based systems (Ebi et al., 2019). A benefit of this is that cash flows are predictive, allowing for flexible resource planning since subscription firms gain revenue at the start of each selected period (Ebi et al., 2019; Tzuo & Weisert, 2018). By improving cash flow predictability, which is arguably a benefit of using subscription-based business models (McCarthy, Fader & Hardie, 2017), company valuations will improve (Koller, Goedhart, & Wessels 2010; Damodaran 2012). There are many benefits of having higher company valuations. Most importantly, it opens up an opportunity to loan capital for investments into the business or for acquisitions. Another argument for choosing subscription-based business models is that producing physical products is capital intensive. Therefore, using subscriptions makes it possible to reallocate investments and improve the number of predictive revenues (Schuh et al., 2019).

Issues related to the transition of business models, going from a traditional (linear) to a subscription-based (circular), are presented by "the fish model" created by Lah and Wood (2016). The model suggests that revenues will initially go down as part of the implementation phase when converting toward a subscription-based business model. They will, however, rise above their original levels over time once the transformation has been completed. (Lah & Wood, 2016)

Previous Research in Subscription-Based Business Models

Some of the newest and most relevant research articles that discuss subscription-based business models can be seen in table 1 below.

Table 1. Previous research in subscription-based business models

Authors and year of publication	Area of research
Riesener et al., 2020	Discusses the use of a methodology to design and implement subscription-based business models (focus on machinery and plant engineering)
Schuh et al., 2019	Presents a management model used to deal with transitioning towards subscription-based services. (Industrial model focus)
Schuh et al., 2020	Discusses four characteristics that define subscription-based business models. (focus on machinery and plant engineering)
Tzuo & Weisert 2018	Discusses the specific aspects firms need to change to adopt a subscription-based business model

An aspect these researchers agree upon is the fact that software has to be included as a service, instead of the traditional way of enterprise resource planning (Riesener et al., 2020; Schuh et al., 2020). However, one thing the studies also have in common is the fact that none of them include any form of empirical research aimed at tech firms, indicating that there is a theoretical gap in researching the subscription-based business model transition in practice and adding information to the research area of subscription-based business models focused on tech firms.

Subscription-based business models and their characteristics need to be viewed in the form of a framework. To facilitate this process, Schuh et al. (2020) suggest that four main characteristics should be considered: (I) continuous performance improvement of customer benefits, (II) long term collaborative relationship with customers and partners, (III) periodic/recurring payments and (IV) knowledge of the changing customer value (Schuh et al., 2020).

The previous research conducted by Tzuo (2022) and Tzuo and Weisert (2018) suggests that firms involved in subscriptions need to have clear and developed subscription-based business models with KPIs that are adjusted to the specifics of the subscription economy. However, while they discuss some aspects of KPIs (financial aspects and customer-based KPIs), they do not include an extensive analysis of other potential KPIs relevant to subscription-based business models. More specifically, they do not include relevant KPIs for tech firms that use subscription-based business models. Therefore, more research is arguably needed to give subscription tech-firms insight into what kind of KPIs they should use to better develop and improve their business models.

Methodology

The methodology will be detailed in this chapter, including the research strategy, the structure of the data collection procedure, and the applicable coding rules utilized to analyze the acquired data.

The research process initially started with a peaked interest (for the researcher) in subscriptions. The way products included in the topic can impact consumer behavior and the materialistic freedom they result in. From this added interest, discussions with relevant actors took place to find an interesting topic within this area while still making it suitable for a master thesis. Once the subject was decided, the literature review screening process started, resulting in identifying a research gap. With the research gap identified, discussions with experts within the area resulted in the extrapolation of interesting research questions that could be applied to companies of interest to the researcher.

Since the relationship between business model innovation and the transition of tech firms towards the subscription economy has not been extensively researched before, the research is exploratory. This means that the research aim is more general to generate descriptive research and evidence through observations, compared to testing an accepted theory in the field (Bryman & Bell, 2011). Therefore, the chosen strategy was the abductive approach since an inductive approach relates to the generation of a theory, and a deductive approach would be difficult to pursue with the limited amount of research published on the topic (Gehman, Glaser, Eisenhart, Gioia, Langley & Corley, 2018). The interviews conducted during the study were, thus, based on going back and forth between data collection and analysis of previous research.

The data collection process was initiated alongside the literature review from this point on. A pilot interview guide was used in different iterations to prepare for the interviews, resulting in a perfected interview guide used to conduct interviews. The data retained from the interviews were analyzed and used to answer the chosen research questions combined with the secondary data.

With the research questions in mind, the strategy was to analyze the two firms' business models based on the value proposition, value creation, value capturing aspects and relevant KPIs for each of the two firms, thus covering the business model analysis of the research questions. The thesis collected the primary data through semi-structured interviews. For the two firms included in the thesis, this entailed contributing with several interviews with different employees carrying different perspectives relevant to the research objectives. A total of 11 interviews from two tech firms were conducted to create the study's empirical findings, which in combination with the literature review, answer the selected research questions.

The most overarching sampling approach used in qualitative research when conducting non-probability sampling is purposive sampling (Denscombe, 2017), which is also used in this research. Purposive sampling, in this case, implies that the strategic selection of individuals interviewed within the two firms investigated needs to be highly specified. This is because the research needs to encompass individuals within the two organizations that know different things about their organizations' business models and partnerships to get an overarching understanding. The drawback to this strategy is that the generalizability is relatively low. It is a non-random sampling strategy where the interviewer decides whom to interview and for what reason. However, while this is an issue in certain research fields where the sample must represent the overall population, it is not important in this case study where only two firms are included, and the objective is not to find a general understanding of a topic, but rather an in-depth understanding of a specific topic.

The interviews with the two organizations were based on several rounds of interviews and data collection, all the while going back and forth to the literature when new areas of interest appeared. This was done until theoretical saturation was reached. Then, no more interviews were conducted once all relevant information had been gathered, and new interviews did not add value to the overall research objective. All interviews were

conducted online between the beginning of January and the end of April. The interviews were conducted in Swedish and English and recorded through Zoom, and then transcribed meticulously to ensure that the coding process used the correct meaning and translation.

After the interviews were conducted, the aim was to use the Gioia method, which attempts to develop a more rigorous, systematic, and transparent approach to research theory that was more suitable for the timeframe (Gioia, Corley & Hamilton, 2013). This method entails breaking down data into several smaller parts that can be more easily compared and analyzed between different cases. See figure 2 presented below:

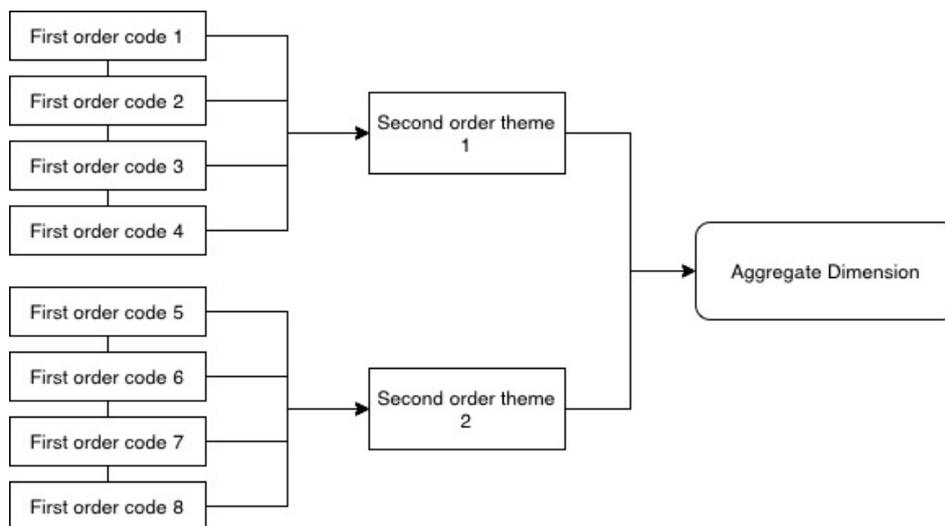


Figure 2: Coding Process

- First-order concepts contain data-centered codes. These first-order concepts are derived from the interview transcripts.
- Second-order themes where the central theme is derived from the data-centered codes. These concepts are the main overall subject that several first-order concepts are encompassed under. This implies that the overall second-order themes are constructed by using multiple first-order concepts, which adds value as the overall information gathered becomes more structured and analyzed.
- Aggregate dimensions where the overall core themes are derived. This section uses the second-order concepts to explain under which general theme and research question they belong. (Gioia et al., 2013)

Once this structure had been achieved, and all interviews were conducted, the thesis moved from a data structuring stage toward analysis. The Gioia methodology and the structured approach it requires helped to explain how these concepts and aggregate dimensions are related to each other and how the primary data provided could be used to answer the research questions chosen.

Thesis Result and Conclusion

The primary purpose of this chapter is to examine the findings and compare them to previous research. By interconnecting primary data with previously conducted research the analysis can achieve improved reliability of the identified answers to the research questions and overcome gaps in knowledge.

With the interviews conducted and the second-order codes and aggregate dimensions identified (see table 3 in appendix), it was possible to analyze the findings. Only aggregate dimensions observed with some connection to both firms were included. However, there are clear differences in how the firms view the four dimensions of their subscription-based business models.

Previous research conducted in the area of subscription-based business models by Schuh et al. (2020) found four main characteristics that should be considered for firms in machinery and plant engineering: (I) continuous performance improvement of customer benefits, (II) long term collaborative relationship with customers and partners, (III) periodic/recurring payments and (IV) knowledge of the changing customer value. These four characteristics are also found in the empirical findings, more specifically, in each subsection of the chosen research subjects. These findings in the research by Schuh et al. (2020) are, therefore, arguably, also relevant for tech firms' subscription-based business models.

- (I) *Continuous performance improvement of customer benefits* is identified in the value proposition, through “*Continuously improve customer benefits*”.
- (II) *Long term collaborative relationship with customers and partners*, is found within the value creation,” *Relationship building*”.
- (III) *Periodic/recurring payments*, is found within “*Recurring revenue streams*” in value capturing.
- (IV) *Knowledge of the changing customer value*, is found partly in the value creation as one of the main offerings of subscriptions is the data generation and analysis of the customers, as well as in the KPIs “*Customer-based KPIs*”.

There are some clear connections between previous research and the empirical findings from the case study. However, the empirical findings of this thesis further develop the specific reasons why the findings by Schuh et al. (2020) are also accurate for tech-based firms while also including other neglected areas in previous research.

Table 2. Summary of factors identified as important to subscription-based business models

Value Proposition	<i>User-ship over ownership</i>	<i>Continuously improve customer benefits</i>	<i>Value adding services</i>
	Important to focus on flexible products or services instead of focusing on ownership	Update products or services according to changing customer behavior	Offer additional products or services other than core offering
Value Creation	<i>Relationship building</i>	<i>Data generation & analysis</i>	
	Collaborate with both customer and partners	Gather/analyse data to better understand customer demands	
Value Capturing	<i>Recurring revenue streams</i>	<i>Sophisticated software</i>	
	Work directly/indirectly with subscriptions. Requires software to handle the transactions	Software is needed to gather/analyse user data and handle the increased number of transactions resulting from subscriptions	
KPIs	<i>Shift in KPI focus</i>	<i>Customer-based KPIs</i>	
	Focus more on KPIs relevant to tech firms using subscriptions	Use customer-based KPIs to better understand the customer values and behavior to meet their demands and follow trends	

Table 2 above summarizes the main takeaways from the research. Based on this, tech firms that want to transition towards subscription-based business models should consider each section when determining their value proposition, value creation, value capturing, and KPIs.

It is clear that the sections within the subscription-based business models are highly connected. For example, using recurring revenue streams improves the generation and analysis of customer data by increasing the number of touchpoints¹¹ between the customers and the company, which can be used to better understand the customer values and help firms continuously improve the benefits of their customers. To measure these values and ensure that the business model is aligned correctly, customer-based KPIs are used. Selecting the correct KPIs appears to be fundamental for the continuous development of tech firms' subscription-based business models.

Other connections between the sub-sections of the subscription-based business models can also be seen in relationship building. It is possible to deepen the relationship with customers and partners by, again, utilizing the added touchpoints that the recurring revenue streams offers. This includes helping other firms develop complex recurring billing structures and support their transition to subscription-based business models, involving the producers of products in the value creation process by giving them access to customer data and information to improve product quality and longevity, as well as reducing costs of billing services by improving automation and scalability. The use of KPIs, in this case, is also dependent on a shift in KPIs. By

¹¹ A customer touch point is any direct or indirect contact a customer has with a company.

applying relevant KPIs that suit the organization's objective, such as CLTV¹², PLTV¹³, MRR¹⁴, churn¹⁵, net retention rate¹⁶, and so on, it becomes easier to understand if the business model objectives are being reached.

There are also some differences in how the two case firms view the aspects identified as second-order themes. For instance, Beleco discusses “Improved CAPEX/OPEX” within “value adding services” in their value proposition. They argue that their products offer the customers better financial control as they can prolong expenses over time and thus better control their cash flow. AFS, on the other hand, argues that “improved CAPEX/OPEX” is part of “recurring revenue streams” in value capturing since the flexibility and stability of cash flows for businesses using subscriptions result in improved strategic planning of their own financials. This means that Beleco views improvement in CAPEX/OPEX from the customer perspective, while AFS views it from the firm perspective.

Throughout the analysis, it's clear that the one thing that connects all sub-sections of subscription-based business models for tech firms is sophisticated software. For example, recurring billing, one of the main pillars of subscription-based business models, heavily relies upon it to handle the complex and large amounts of transactions required by subscriptions. Furthermore, sophisticated software is also used to collect and analyze customer data to improve the value proposition as outlined before. Previous research (Riesener et al., 2020; Schuh et al., 2020) discusses the role of sophisticated software for subscription-based business models in the context of data gathering and analysis but fails to recognize its role within value proposition, value capturing, and KPIs. Such as dealing with complicated payment structures and transaction intensity and applying it to relevant KPIs.

For instance, while customer-based KPIs are discussed in (IV) as a way to better understand the trends forming and the changing customer values, previous research does not include discussions regarding the general shift in KPI focus. This implies the shift companies need to undertake to fully transition their business model towards subscriptions and, therefore, align their KPIs with the value proposition, value creation, and value capturing aspects presented in this section of the thesis.

One main takeaway from tech-focused subscription-based business models is that revenue KPIs remain important while profitability KPIs do not. Additionally, MRR and transaction intensity can help firms better understand their progress and growth.

¹² CLTV: Customer Lifetime Value, refers to how much revenue a customer will generate a business over the course of their relationship.

¹³ PLTV: Product Lifetime Value, refers to how much revenue a product will generate a business over the course of its lifetime.

¹⁴ MRR: Monthly Recurring Revenues, how much revenue is gained each month.

¹⁵ Churn: Is most commonly expressed as the percentage of service subscribers who discontinue their subscriptions within a given time period.

¹⁶ Net Retention Rate: Is the percentage of recurring revenue retained from existing customers over a given time period (commonly on a monthly or annual basis).

Therefore, tech firms should focus on using subscription-based KPIs that help firms understand the changing customer value to better anticipate the customer needs and follow trends.

The findings suggest that the four dimensions of a subscription-based business model (value proposition, creation, capturing, and KPI) and the identified factors within are highly connected in several ways. While there are factors to consider within each dimension, the main point is that for such business models to work, highly sophisticated software is needed to handle the complexities surrounding recurring revenue streams and the subsequent user-data generation and analysis since those three factors are, in turn, responsible for many of the other factors in the dimensions. In connection to all of this, a shift in KPI focus is necessary since it enables tech firms to monitor their progress within the different dimensions, with a focus on revenue KPIs (moving from profitability focus to MRR or transaction intensity) and the customer-based KPIs (churn, net retention rate, customer retention, CLTV, PLTV).

This thesis and its findings can help the development of subscription-based business models and guide firms that want to transition towards the subscription economy. The experience achieved from the interviews, the two participating firms, and the differences and similarities between them can hopefully give such guidance for understanding the important questions tech firms need to ask themselves when deciding to transition towards subscriptions. The thesis contributes to the existing literature and has potentially added more aspects that researchers can consider for future explorative research. However, while the interviews were conducted rigorously and meticulously, the results are limited by the case study sample size. As such, it is probable that the findings are not fully representative of their population and more research with larger sample sizes would be necessary to better answer the research questions.

As the subscription economy and the adjoining business models are, to a certain extent, a relatively unexplored topic, several possible continuations can be made in future research. Firstly, similar, more comprehensive studies can be conducted to further develop and corroborate the findings to determine other factors that have possibly been overlooked or legitimize some of the findings.

Secondly, it would be interesting to go beyond the topic of subscription-based business models entirely and explore functioning models and the inherent structure that supports them to investigate the relationship aspect of subscriptions further, thus trying to research and identify complex business ecosystems and the underlying connection between the various actors of the value chain.

References of the Summary

Bryman, A., & Bell, E. (2011). *Business Research Methods* 3rd ed. New York.

Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (Vol. 666). John Wiley & Sons.

Denscombe, M. (2017). *EBOOK: The good research guide: For small-scale social research projects*. McGraw-Hill Education (UK).

Ebi, M., Hille, M., Doelle, C., Riesener, M., & Schuh, G. (2019). Methodology for the risk and reward evaluation of industrial subscription models. *Production at the Leading Edge of Technology*, 613– 622.

Freed, Luke, Landon Bishop, David Gregory, Varun Kolachina, Emily Shteynberg, Faiza Sultana, Derrick Zhang, and Darsh Bhalala. "Implications of the Subscription Economy." (2022).

Fosker, N., & Cheung, B. (2021). Pricing and proposition testing in subscription economies. *Applied Marketing Analytics*, 6(3), 211-220.

Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry*, 27(3), 284-300.

Gilsing, R., Wilbik, A., Grefen, P., Turetken, O., Ozkan, B., Adali, O. E., & Berkers, F. (2021). Defining business model key performance indicators using intentional linguistic summaries. *Software and Systems Modeling*, 20(4), 965-996.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational research methods*, 16(1), 15-31.

Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: measuring and managing the value of companies* (Vol. 499). John Wiley and sons.

Lah, T., & Wood, J. B. (2016). *Technology-as-a-service playbook: how to grow a profitable subscription business*. Point B, Inc.A

McGrath, R. G. (2010). Business models: A discovery driven approach. *Long range planning*, 43(2-3), 247-261.

Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers* (Vol. 1). John Wiley & Sons.

Puschmann, T., & Alt, R. (2016). Sharing economy. *Business & Information Systems Engineering*, 58(1), 93-99.

Ritter, M., & Schanz, H. (2019). The sharing economy: A comprehensive business model framework. *Journal of cleaner production*, 213, 320-331.

Schuh, G., Frank, J., Jussen, P., Rix, C., & Harland, T. (2019, June). Monetizing industry 4.0: Design principles for subscription business in the manufacturing industry. In 2019 IEEE international conference on engineering, technology and innovation (ICE/ITMC) (pp. 1-9). IEEE.

Schuh, G., Wenger, L., Stich, V., Hicking, J., & Gailus, J. (2020). Outcome Economy: Subscription Business Models in Machinery and Plant Engineering. *Procedia CIRP*, 93, 599-604.

Tzuo, T., & Weisert, G. (2018). *Subscribed: Why the subscription model will be your company's future-and what to do about it*. Penguin.

Tzuo (2022): The Subscription Economy Index report. Available at: <https://www.zuora.com/resource/subscription-economy-index-report-trends-for-the-asia-pacific-region/> (accessed 22th April, 2022)

Wirtz, B., & Daiser, P. (2018). Business model innovation processes: A systematic literature review. *Journal of Business Models*, 6(1), 40-58.

Appendix of the Summary

Table 3. Summary of second order codes and aggregate dimensions

Value Proposition	Value Creation	Value Capturing	KPIs
Pain relief Involving producers Improved CAPEX/OPEX Enabling complex billing structure Improved utilisation Reduced production costs	Improvement in production quality Encouraging product innovation Improved profitability Information gathering Improved knowledge about customers	Monthly payments Continuous subscriptions Preferability-based pricing Stable revenue streams Recurring revenue streams Better funding possibilities Inflate company valuation	From productivity KPIs to customer relationship KPIs External factors driving KPI use From ATV to MRR Focus on MRR Utilisation rate Revenue/growth KPIs
Value Adding Services Focusing on scalability Improve customer experience Focus on technical/standardisation Improve liquidity Improved Cash flow	From customer conversion to customer retention Encourage returning customers More customer data Reduction of churn Understand customer behaviour Partnership focus Improved knowledge about customers Customer access	Revenue based on transactions Moving towards commissions Subscription products based on commissions Flat fees based on average transactions Revenues linked to performance Charging based on added value Risk and market dependent pricing Cash flow adaptation issues Revenue spread out over time Cash flow termination risk Requiring large amount of starting capital Stable cash flows Improved company valuation Improved CAPEX/OPEX	Revenue & growth still important MRR/New recurring sales, Non recurring sales Monthly revenue growth Transaction-based KPIs From revenue to customer KPIs From profitability to transactions From EBIT to transactions Revenue KPIs Revenue & transaction KPIs
Reduced initial investments necessary Purchasing power Accessibility Increased product variety Inventory control Flexibility Simplicity Reduced emissions Complexity focus Improved flexibility Reducing bad payment experience Control of Embedded value	Reducing pain points for customers Improving customer engagement Payments as a relationship building tool Increasing customer touch points Improved customer loyalty Improved customer understanding Facilitates customer acquisition	Recurring revenue streams	KPIs focused on customer behaviour New customer & Conversion rates Customer retention Focus on CLTV Customer acquisition Customer behaviour Customer retention
Reduced investment costs required Information driven trend analysis Shift in younger customers focus Changing focus based on trends Automation/cost reduction focus Reduced focus on penalty fees Reducing pain points associated with the customer experience Focus on customer retention Offering comprehensive solutions Entire value chain focus Agility in following trends	Relationship building	Sophisticated software	Customer-based KPIs

Beleco
AFS