

Martin Matthes

Adaptation Model for Corporate Car Sharing in the Car Rental Industry

Helsinki Metropolia University of Applied Sciences

Master of Engineering

Business Informatics

Thesis

08.11.2016

Author(s) Title	Martin Matthes Adaptation Model for Corporate Car Sharing in the Car Rental Industry
Number of Pages Date	58 pages + 3 appendices 08 November 2016
Degree	Master of Engineering (M.Eng.)
Degree Programme	Business Informatics
Instructor	Thomas Rohweder, Principal Lecturer
<p>The focus of this thesis was on developing an adaption model for implementing a corporate car sharing service within the existing infrastructure of a car rental company. The investigated case companies were a leading Finnish car rental franchisee and an international car sharing subsidiary, largely owned by the car rental franchisor, which offers corporate car sharing solutions in major European countries. Adapting this new service in Finland will help the car rental franchisee to assert its position as one of the market leaders in the competitive car rental industry. Due to confidentiality reasons, the case companies in this study are referred to as the “car rental franchisee”, its “franchisor” and the “car sharing subsidiary”.</p> <p>Primarily qualitative research methodology was utilised in this study. The conceptual framework of the thesis was based on common business modelling theories, which were used to analyse and compare business operations of the case companies. The resulting gap analysis, information collected from public sources, and interviews with stakeholders formed the basis for an adaptation plan.</p> <p>The evaluation of the gap analysis and interviews with stakeholders revealed that the initial approach of utilising the car sharing subsidiary’s technology platform does not represent the ideal solution for a corporate car sharing service in Finland. Operational procedures, on the other hand, can serve as blueprint to a large extent. The outcome of this study is an adaptation plan, including managerial recommendations for the first phase of the implementation process.</p> <p>The author recommends that a corporate car sharing service from the car rental franchisee in Finland will be executed as independent business operation, which matches the perception of the interviewed stakeholders. The recommended technology platform can be operated as a stand-alone system and does therefore not require any integration into the existing IT infrastructure. Key resources, partners and the car rental network are to be utilised on operational level.</p>	
Keywords	Corporate Car Sharing, Car Rental, Business Model, Finland

Contents

1	Introduction	1
1.1	Company Background	1
1.2	Business Challenge, Objective and Expected Outcome	2
2	Project Plan	3
2.1	Research Design	3
2.2	Data Collection and Analysis Approach	4
3	Framework	5
3.1	Best Practice of Business Modelling	5
3.1.1	Osterwalder: Business Model Canvas	6
3.1.2	Teece: Business Model Design	10
3.1.3	Johnson: Business Model Innovation	14
3.1.4	Beutel: Networked Business Model	17
3.1.5	Fielt: Business Model Comparison	21
3.2	Summary and Conclusion	24
4	Current State Analysis	26
4.1	Description of Existing Business Models	26
4.1.1	Corporate Car Sharing	26
4.1.2	Corporate Car Rental in Finland	30
4.2	Gap Analysis	35
4.2.1	Service Dimension	35
4.2.2	Customer Dimension	36
4.2.3	Financial Viability Dimension	37
4.2.4	Infrastructure Dimension	38
4.3	Summary of Key Adaptation Points	40
5	Building an Adaptation Plan	42
5.1	Foundation	42
5.2	Initial Adaptation Plan	43
6	Feedback on Adaptation Plan	50
6.1	Feedback Received	50
6.2	Final Corrected Adaptation Plan	52

7	Discussion and Conclusion	54
7.1	Summary	54
7.2	Managerial Recommendations	55
7.3	Validity and Reliability	56
	References	57

Appendices

Appendix 1. Notes of personal interview with stakeholder at the car rental franchisee

Appendix 2. Invers pricelist for “CloudBoxx” platform (30.07.2015)

Appendix 3. Investment break-even analysis (3 years rental)

1 Introduction

1.1 Company Background

The Finnish car rental industry is dominated by four international car rental organisations, which account for more than 70% of the domestic market volume. These international brands are typically operating based on franchisee networks in most countries and follow a global strategy trying to position themselves with a nationwide network in different business segments.

The investigated car rental franchisee has a market share of approximately 25% in terms of rental days in Finland, which makes it one of the largest vehicle rental company in the domestic market. The average rental fleet currently consists of approximately 2200 vehicles, which are available at a network of more than 60 rental locations in major cities and at all domestic airports. The car rental franchisee has expanded to another Scandinavian country in early 2014, and will increasingly share infrastructure and resources between both countries.

The Finnish car rental market as a whole stagnated in 2013, as the general economic situation worsened. Strong competition and decreasing demand were leading to a significant drop in the companies' revenue, but the rental volumes recovered during 2014 and are expected to grow by 2% annually until 2018 (source: Euromonitor International). This business environment requires a constant development of existing services as well as sourcing of new market opportunities in order to gain competitive advantage.

1.2 Business Challenge, Objective and Expected Outcome

The business challenge addressed in this thesis can be described as a general problem in the car rental industry, which is to assert in a highly competitive environment by keeping up with trends in individual transportation and offer superior solutions and services to (potential) customers. In particular, corporate car sharing is becoming an increasingly popular alternative to car rental or leasing.

The investigated car sharing subsidiary is a start-up that already offers corporate car sharing services in selected major European national markets. The car rental franchisee in Finland is interested to investigate these solutions for its domestic market.

Accordingly, the objective of this thesis project is to create an adaptation plan on how to implement the existing corporate car sharing services into the Finnish market, using the network and infrastructure of the car rental franchisee.

The outcome of the study is the actual adaptation plan for applicable solutions, including a business model. This will on the one hand help the car rental franchisee in Finland to retain valuable market share in this segment and, on the other hand, help the car sharing subsidiary to break into the Scandinavian market without the need to establish an own network.

2 Project Plan

2.1 Research Design

Following the **objective** of this thesis, a **literature review** on best practice of business modelling is the foundation for generating a conceptual framework, which is then used as main tool in the following steps of the process. The literature review comprises selected research articles addressing the definition and development of business models for different markets. The most suitable concepts are evaluated, with the goal to identify the core dimensions and elements of the business model to be used for a corporate car sharing service in Finland, thus the conceptual framework of this study.

The next step is a **current state analysis** (CSA) of corporate car sharing services offered by the subsidiary and corresponding car rental services as well as the infrastructure of the franchisee in Finland. In order to focus on the scope, the analysis is limited to an operational view study and aims at identifying the gaps between both operational networks. Based on the gap analysis, it will be possible to highlight the issues that need to be adapted for a Finnish market implementation and create an **initial adaptation plan**. The findings are to be tested in terms of a pilot project at a single key customer of the car rental franchisee. The final step of the research consists of collecting key **stakeholder feedback** and finalising the adaptation plan based on feedback received.

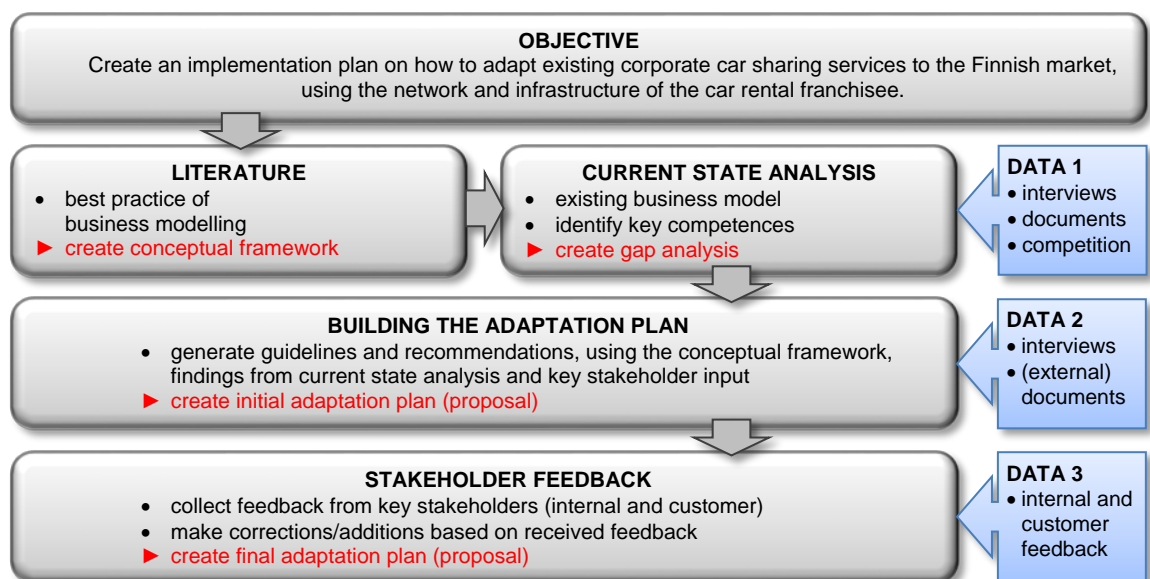


Figure 1. Research design flowchart with milestones (red)

2.2 Data Collection and Analysis Approach

The data collection is carried out in three phases throughout the project, during the current state analysis, while building the initial adaptation plan and finally when receiving stakeholder feedback.

The current state analysis mainly contains an operational view study and a gap analysis of existing corporate car sharing solutions at the subsidiary and corresponding services at the car rental franchisee in Finland. Consequently, the data collection at this phase consists foremost of stakeholder interviews at both organisations, and further of the evaluation of public and internal sources, such as documented procedures and publicly available material. In addition, a fundamental survey of corresponding corporate car sharing services, offered by competitors in Finland, is part of the first data collection phase.

The second phase of data collection occurs during the generation process of the initial adaptation plan. Additional interviews with stakeholders are supplemented by data collection from third parties, such as technology suppliers, which means that this step includes as well a basic evaluation of available technology platforms.

The third and final phase of data collection consist exclusively of feedback from stakeholders, based on the initial adaptation plan.



Figure 2. Data collection flowchart

3 Framework

3.1 Best Practice of Business Modelling

The term “business model” became popular in the early 20th century when companies introduced the so-called “bait and hook” model, which involves offering a product – the “bait” – at very low cost and then charging recurring amounts for related products or services – the “hook” – that are required to use the initial product. Good examples for this kind of business model are the sales of cheap razors and expensive razor blades or the sales of cheap computer printers and expensive printer ink cartridges.

With accelerated progress and globalisation, as well business models evolved over the years and are typically nowadays highly customised according to their business context and therefore rather complex. Accordingly, plenty of literature is available on the topic of business modelling and its effect on business operations. Even though there are as well many different definitions on business models, researchers distinguish between two main types: the linear business model and the networked business model. Linear business models describe operations where a company produces goods or services and sells them to customers; hence, value is created in one direction and consumed in the other. Networked business models, on the other hand, allow the interaction between different participants, while value is created and consumed within this network.

A business model is generally seen as essential part of a company strategy and as foundation for its operational procedures. Teece (2010) underlines the importance, when he argues:

“Get the business model wrong, and there is almost no chance of business success – get it right, and customize it for a market segment and build in non-imitable dimensions, and it will contribute to the firm’s competitive advantage.”

Promising business model definitions and elements for corporate car sharing activities are evaluated in the following sections of this chapter.

3.1.1 Osterwalder: Business Model Canvas

The probably most popular business modelling concept is the so-called “Business Model Canvas”, developed by Osterwalder and Pigneur in their book “Business Model Generation” (2010). The authors define that the core principle of a business model “describes the rationale of how an organization creates, delivers and captures value”. In order to simplify the creation process of a business model, they developed a hands-on tool that is easy to understand and work with – the “Business Model Canvas”. The fundamental idea is to project or print the canvas on a large space and sketch out the business model in a team effort by filling each of its building blocks with content.

Osterwalder and Pigneur suggest a universal business model, consisting of nine elements that cover the four main business dimensions – offer, customer, infrastructure and financial viability – and show how a company intends to make profit.

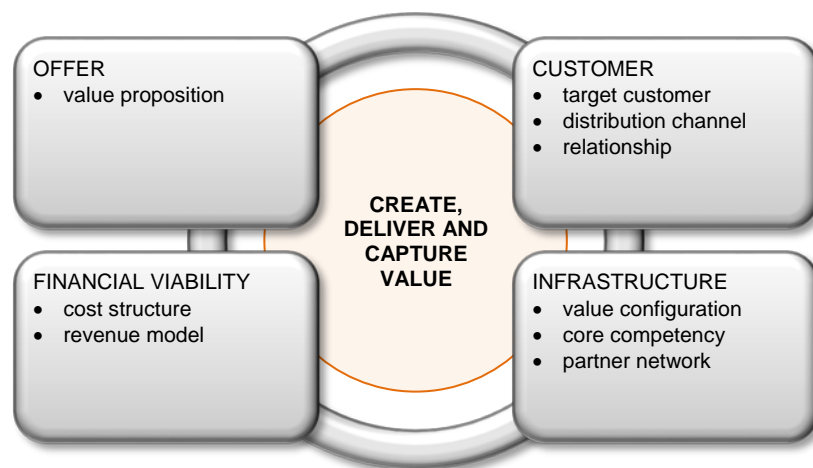


Figure 3. Business model according to Osterwalder and Pigneur

These nine elements of the business model are defined and challenged as follows:

- **Customer Segment (CS):** The different target groups that a company wants to reach and serve. These may be grouped into segments according to their needs or common behaviours. (Who are our most important customers? For whom we create value?)

- **Value Proposition (VP):** The actual product(s) or service(s) that are delivered to a customer segment and which therefore create value to them. Each value proposition solves a specific problem or satisfies a need, such as cost reduction, risk reduction, accessibility or convenience. (What value do we deliver to the customer? What bundles of services are we offering to each customer segment?)
- **Channels (CH):** Describes how a company reaches and communicates with its customers in order to deliver a value proposition. It is crucial to find the right mix of channels and question how customers want to be reached. This may as well be via partner channels, which leads to lower margins, but allows expanding and benefiting from partner strengths. Different channel types and phases are indicated in the table below. (Through which channels do our customer segments want to be reached? How are we reaching them now? How are our channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?)

CHANNEL TYPES			CHANNEL PHASES				
OWN	DIRECT	<i>Sales force</i>	Awareness How do we raise awareness about our products or services?	Evaluation How do we help customers to evaluate our value proposition?	Purchase How do we allow customers to purchase specific products or services?	Delivery How do we deliver a value proposition to customers?	After sales How do we provide post-purchase customer support?
		<i>Web sales</i>					
PARTNER	INDIRECT	<i>Own stores</i>					
		<i>Partner stores</i>					
		<i>Wholesaler</i>					

Figure 4. Channel types and phases in a business model
(from "Business Model Generation", p. 27)

- **Customer Relationships (CR):** The relationship types between a company and specific customer segments, which can reach from a personal to a fully automated relationship. (What type of relationship does each of our customer segments expect us to establish and maintain with them? Which ones have we established? How costly are they? How are they integrated with the rest of our business model?)

- **Revenue Streams (R\$):** The cash flow that a company generates from its customer segments, which can amongst others originate from asset sale, usage fees, subscription fees, renting/leasing, licensing, brokerage fees or advertising. Revenue streams are classified into fixed pricing (pre-defined based on static variables) and dynamic pricing (change based on market conditions) models. (For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each revenue stream contribute to overall revenues?)
- **Key Resources (KR):** The most important physical, intellectual, human or financial assets required to make a business model work. (What key resources do our value proposition require?)
- **Key Activities (KA):** The most important activities that a company must perform in order to make its business model work. (What key activities do our value propositions require?)
- **Key Partnerships (KP):** The network of partners and suppliers that is required to make the business model work. Partnerships offer the opportunity for optimisation, cost reduction, risk reduction and the acquisition of particular resources or activities. (Who are our key partners/suppliers? Which key resources are we acquiring from partners? Which key activities do partners perform?)
- **Cost Structure (C\$):** The costs incurred to operate a business model, which should typically be minimized. The structure can be cost-driven or value-driven, depending on the type of business and the customer segments. (What are the most important costs inherent in our business model? Which key resources are most expensive? Which key activities are most expensive?)

The “Business Model Canvas” is composed of these nine elements, as indicated in the figure below, whereat elements related to efficiency are located on the left side (marked with orange background) and elements related to value are located on the right side (marked with blue background). As the value proposition being the core factor of a business model, it is located in the centre of the canvas.

KP Key Partnerships	KA Key Activities	VP Value Proposition	CR Customer Relationships	CS Customer Segment
	KR Key Resources		CH Channels	
C\$ Cost Structure		R\$ Revenue Streams		

Figure 5. Business Model Canvas according to Osterwalder and Pigneur

The design process of a business model typically starts with mobilising a project team, which is then researching and analysing the different elements in order to acquire a full understanding of all business processes. After completing this fundamental step, viable business model options are generated and tested. The most feasible business model is finally implemented and modified according to the market requirements, such as market forces, industry forces, key trends and macroeconomics. An organisation must therefore observe all internal and external factors constantly and adjust the business model accordingly as a continuous process. This innovation process is not only about replacing an outdated model, but mainly about creating and capturing value for the company, its customers and society.

3.1.2 Teece: Business Model Design

Teece (2010) highlights that the “essence of a business model is in defining the manner by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit.”, which is in line with the other business model concepts discussed in this chapter. Beyond that, he emphasises the importance of understanding the connection between a business model, the business strategy, innovation management and economic theory. When comparing to traditional business models, Teece further underlines the need for businesses at present time to be much more customer-centric due to developments in global economy and technology. Therefore, it is crucial to have a deep understanding of the real customer need, identify the nature of costs, their probable future development and capabilities of competitors. Since information and substitutes are easily available compared to earlier times, the key success factors of any business model are how to deliver and capture value from new products and services. Even a business model with a remarkable value proposition is likely to fail when its system design does not comply with expectations regarding quality or price. In this context, it is not surprising that a common reason for commercial failure of outstanding technological achievements is not rarely due to little or no attention being given to the design of a suitable and sustainable business model.

Teece identifies five main elements in the design process of a business model, being:

- technology and features
- benefits to customer
- target customers
- revenue streams
- mechanism to capture value

The design process starts with selecting the technologies and features, which are embedded in the product or service, and determining the benefits that customers will have by using it. These two elements are the actual value proposition of the business model. The following steps are the identification of target customers and markets, the confirmation of revenue streams and the mechanism of capturing value. All these elements of the design process correspond to a large extent to the typical elements of traditional business models, with the only difference that the organisation’s infrastructure and key resources are not taken into consideration, which may be due to the focus on technology environments with a less physical production environment.

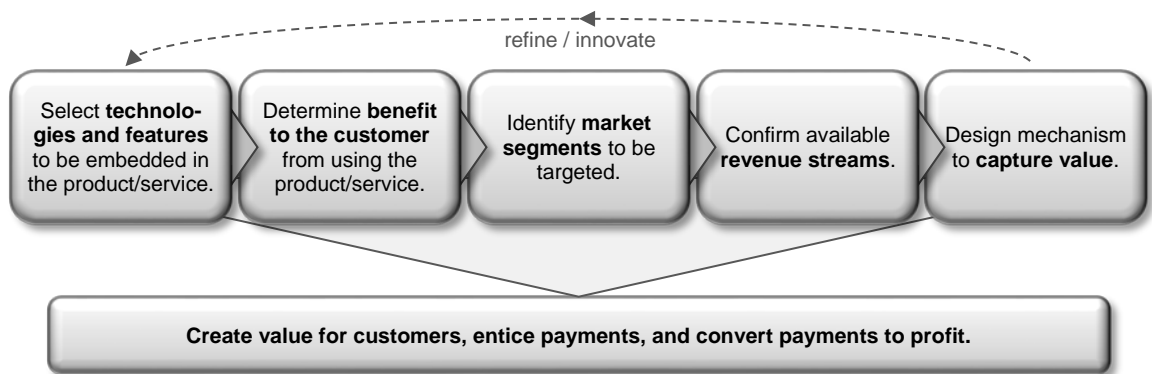


Figure 6. Business model design process according to Teece

When it comes to designing a new business model, Teece suggests to follow a strictly analytic approach by systematically analysing the single elements of existing business models in the market. Each element should be evaluated with intent towards further improvement, and finally designed with reference to each other element of the business model as well as to the business environment. The outcome of this process is a temporary model that needs to be tested and assessed against the current state of the business environment for which it is designed. Because of uncertainties during the process, the new business model is likely to be refined once it has been placed in practice.

The temporary business model should be questioned as follows in order to detect flaws or inconsistencies at an early stage:

- How will the product/service be used?
- How is it a solution to the customer's problem?
- What might customers be enticed to "pay" for value delivered?
- How large is the target segment?
- Do competitive offerings exist?
- Where is the industry in its evolution?
- Has the dominant design emerged yet?
- How should the product/service be presented as a solution to customer's problem, and not merely a novel item/gizmo?
- What will it cost to deliver value to the customer?
- Are costs' volume sensitive, and if so, how?
- What is the supplier specific customer value proposition?

- What is the related appropriation mechanism?
- How can imitators be held at bay?

Teece argues further that a business model is most likely to be profitable when – besides having a convincing value proposition – it differs from competitive models and is hard to replicate in the market, which counts especially for fast moving and highly competitive business environments. Developing a successful business model is typically insufficient to ensure competitive advantage in such a market, since its core elements are mostly quite transparent and easy to imitate by competitors. In practice, successful business models are very often “shared” by several competitors within a few years or even just months after being implemented initially. Thus, following a systematic strategy analysis, the ultimate goal in business modelling should be to establish a viable and yet differentiated model that is hard to copy and because of that guarantees a long-term competitive advantage.

The need for differentiation in highly competitive market environments, especially in online business, has led to an evolution of traditional to more advanced business models, such as the so called “freemium” (free and premium) business model as described by Fred Wilson (2006), an American venture capitalist, as:

“Give your service away for free, possibly ad supported but maybe not, acquire a lot of customers very efficiently through word of mouth, referral networks, organic search marketing, etc., then offer premium priced value added services or an enhanced version of your service to your customer base.”

These “freemium” business models are designed in a truly customer-centric way, since they offer a free (basic) product or service, being a great value proposition, and an additional service for those customers who want to pay for it. Even though revenue streams might be limited, the main reasons to establish such a “freemium” model are typically brand building purposes or the promotion of a related value added service.

Another key factor in business modelling is to capture value from innovation, since any model is likely to be updated over time in order to take advantage of developments in technology or within the organisation. Capturing value can be reached through an integrated business model that covers the entire value chain from design to distribution, through an outsourced business model that is mainly based on licensing fees or through a hybrid approach, which is most common. Using an innovation framework will allow mapping a business model to an innovation type and enable to consider where value

creation from intellectual property is viable. This is significant since revenue streams are traditionally generated from customers buying a product or service that has an intellectual property embedded within.

Teece concludes that there is more to a business model than just a logical way of doing business, but that its essence “is that it crystallizes customer needs and ability to pay, defines the manner by which the business enterprise responds to and delivers value to customers, entices customers to pay for value, and converts those payments to profit through the proper design and operation of the various elements of the value chain.”.

3.1.3 Johnson: Business Model Innovation

Johnson (2006) argues that any successful business model “consists of four interlocking dimensions that, taken together, create and deliver value”, with these dimensions being a customer value proposition, a profit formula, key resources and key processes. While the customer value proposition and the profit formula define the actual value for the customer and the organisation, the key resources and processes show how that value is delivered.

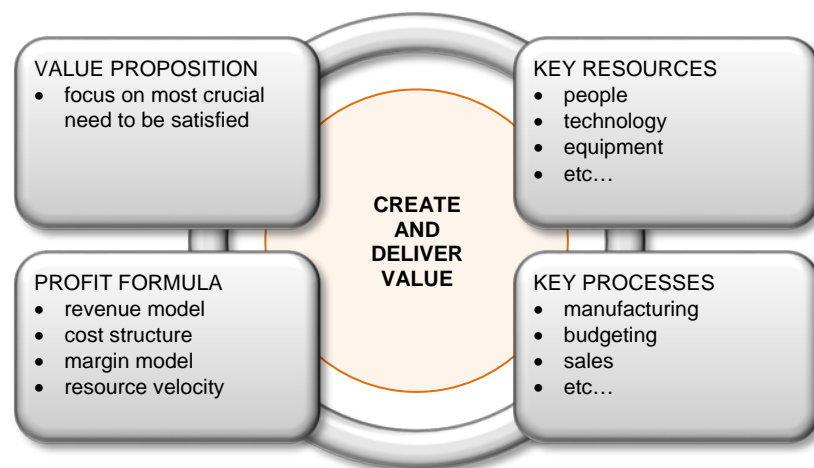


Figure 7. Business model elements according to Johnson

The most important dimension is the **customer value proposition**, which is the factor of the business model that helps the customer to solve a problem or satisfy a need. This need and its dimension must be fully understood before a successful business model can be established. The more precise (and cheaper) the value proposition of a business model will serve a customers’ problem or need compared to existing competitive offers, the more likely customers will switch to the product or service. In this context, it is important to focus on a single, most crucial problem to address, in order to reach a maximum degree of precision. Johnson et al. suggest to “think about the four most common barriers keeping people from getting particular jobs done: insufficient wealth, access, skill, or time.” and build the value proposition based on these factors.

The importance of business model creation and innovation is underlined by the statement that in competitive environments it is not enough to offer a well-working product or

service, but to wrap it into a predominant business model. Johnson et al. cite the Apple iPod as example, which has by far not been the first digital music player on the market, but the most successful due to Apple's business model innovation of making the download of digital music easy and convenient for their users.

The **profit formula** is the second most important dimension, since it defines how the company actually creates value for itself and for the customer.

The profit formula contains:

- a revenue model (pricing, volume)
- a cost structure (direct costs, indirect costs, economies of scale)
- a margin model (contribution from each transaction)
- a resource velocity (utilisation of resources and assets)

Johnson underlines that how to make profit is only one part of the business model and therefore the terms "profit formula" and "business model" must not be interchanged. He suggests a backward approach when developing a suitable business model, in terms of first setting the price required to deliver the customer value proposition, secondly determine the cost margins and finally identify the required key resources and processes.

The **key resources** are all assets, such as people, technology, equipment or channels, that are needed to deliver the value proposition to the target customer(s). In this context, it is important to focus mainly on *key* elements by which a competitive differentiation can be established, since this will be main reason for customers to favour a product or service. Operational and managerial **key processes**, such as manufacturing, budgeting, sales and training, are supporting the value proposition delivery to the customer and should be scalable in order to adapt to a changing demand. In addition, narrowing the focus of a value proposition will allow developing processes that integrate key resources more efficiently.

An organisation might be able to cover a new product or service with their existing business model when the new product or service is established within the same business segment, while developments outside a familiar business segment typically require a new business model along with a new company strategy.

The necessity for a change is given when there is the:

- opportunity to address large groups of potential customers who are not served by any existing solution
- opportunity to capitalise a new technology
- opportunity to focus on a specific “job to be done” and refine an existing product or service
- need to fend off low-end disrupters
- need to respond to competition

A fundamental problem in this context is that many managers do not understand their existing business model well enough to realise when it needs to be changed. As well, business model innovation is generally labelled as being difficult and therefore easily disregarded. Whether it makes sense to change an existing model can be determined by questioning it as follows:

- Articulate what makes your existing model successful. For example, what customer problem does it solve? How does it make money for your firm?
- Watch for signals that your model needs changing, such as tough new competitors on the horizon.
- Decide whether reinventing your model is worth the effort. The answer is yes only if the new model changes the industry or market.

However, business model innovation is not an easy task and should therefore only be tackled when addressing a specific customer need requires a significant change to all four dimensions of the existing business model. Johnson et al. suggest that an organisation should “not pursue business model reinvention unless they are confident that the opportunity is large enough to warrant the effort.”

3.1.4 Beutel: Networked Business Model

The majority of business models are typically designed for competitive environments, which contradicts the idea of collaboration. Beutel et al. have a different approach on business modelling since their focus lies on an integrated view of mobility services, which seem mutual exclusive in a traditional way of thinking. They identify the need for solutions serving “intermodal mobility” in order to support the trend of increasing spontaneous mobility in combination with a decreasing affinity to car ownership. Especially in rural areas it is crucial to supplement the – often patchy – public transportation network by individual transport solutions, such as car sharing.

Building up such a solution requires:

- collaboration between different transportation service providers
- the generation of a business model that supports mutual interdependencies
- a common technology platform that bundles information from the different transportation services providers

Beutel et al. (2014) suggest to develop a centralised technology platform on which the participants can provide their mobility services with three different levels of involvement, as defined by Buchinger et al. (2013), being an “independent partner scenario”, an “intervening partner scenario” and an “open service platform scenario”. The technology platform should be operated by a third party organisation that does not offer mobility services itself, in order to guarantee equality regarding performance and itinerary results. All information from the service providers, such as timetables and geographical data, would be combined on the platform and used to compute the best possible itineraries for a selected route. In addition, a combined electronic ticket and payment option for intermodal travel would be required. There are currently a number of open source platforms under development, such as the EU-funded SUPERHUB project, which aims at providing solutions that “adapt to people's mobility needs in terms of a user-centric open platform that combines various mobility offers in real time”.

A collaboration between different transportation service providers would not only enable users to travel flexible and efficiently, but as well grant access to new target groups for the business partners, potentially reduce external risks and enable them to innovate.

The application of modern information technology can be a key success factor for an organisation, because it opens new market opportunities, potentially increases customer satisfaction and utilises the existing infrastructure more efficiently. In this context, Beutel et al. highlight that traditional business models fail to address key aspects of such inter-modal mobility services provided via a common technology platform. Thus, the introduction of information technology will typically require re-designing or adapting the existing business model. The core of a suitable business model is the co-creation and capturing of value through collaboration of different service providers, and the architecture of its elements will then largely depend on the chosen level of involvement.

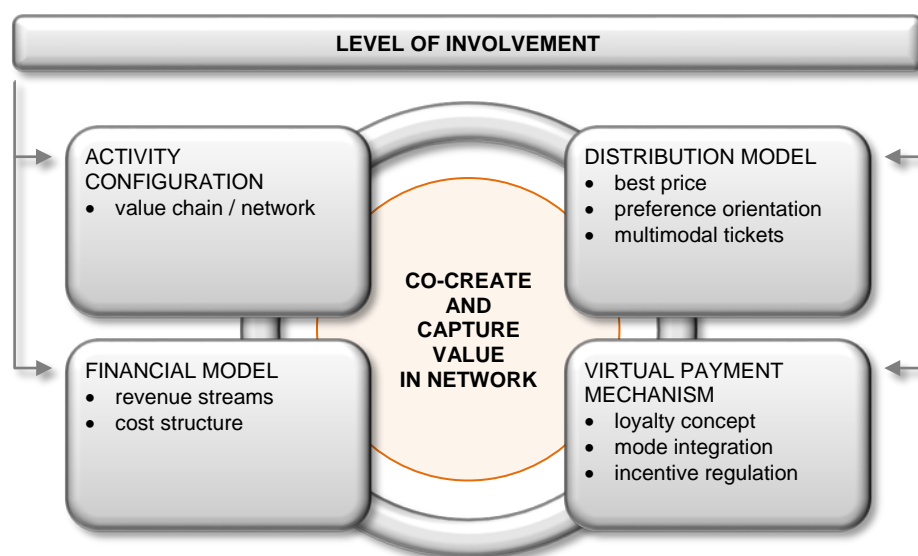


Figure 8. Business model framework according to Beutel et al.

Like in traditional business models, key elements are the **value proposition** (or value chain), the **activities** that are necessary to provide a service or product, and the extent to which a company is willing to differentiate itself from its competitors. In case of inter-modal mobility services, the information generated by the common technology platform is the actual value for the customer. Due to its intangible nature, this concept is commonly referred to as “virtual value chain” or “virtual value network” (Stabell and Fjeldstad, 1998). Some essential activities of the organisation – such as registration, reservation, billing, clearing and authentication – can be outsourced to the technology platform. How value is delivered to customers depends on the **distribution model**, which describes the way in which customers can actually purchase mobility services via the technology platform. Because of the inhomogeneity of transport solutions in the system, it is difficult to offer a monthly or flat-rate fee to customers, which makes it necessary to develop a different

payment model. Especially integrating transport solutions offered by individuals, such as car-pooling, are challenging because of diverse revenue streams. Therefore, the authors suggest introducing a **virtual payment mechanism** that allows users to earn credits by providing transportation, and spend them on other modes of transport within the system. The payment mechanism needs to be integrated into the technology platform in terms of a digital wallet functionality, and is as well applied on transport solutions that would typically be handled with a subscription model. It is important to realise that the design of virtual payments will directly influence the distribution model and activity configuration of the business model. The fourth and concluding element is the **financial model**, which describes the structure of revenue streams and costs that are required to create and deliver the value proposition to the target customers.

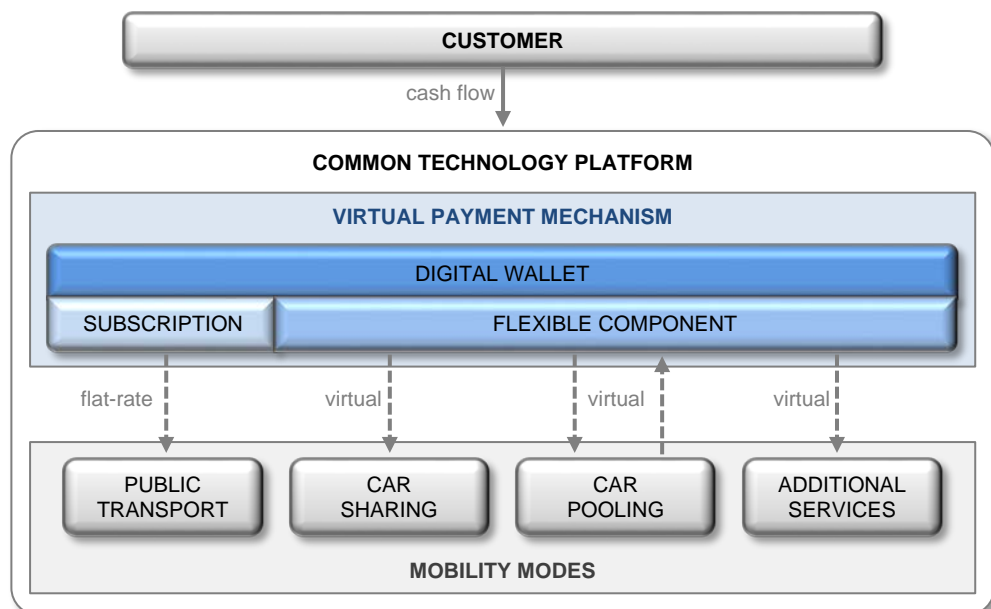


Figure 9. Connection of business model and revenue streams with virtual payment mechanism (Beutel et al., p. 149)

The key activities can be analysed with help of the traditional value chain model, as defined by Porter (1985). However, the collaboration of service providers within a value network makes it necessary to evaluate resources, dependencies, costs and relationships from a more holistic point of view compared to traditional business model analysis. Since all parties indeed act independently but yet are connected, their decisions and relationships have straightforward consequences on the performance of the whole network. The common goal must therefore be to utilise different competences and assets in

order to co-create value by efficient cooperation between all providers. The type of relationship between the involved parties is a strategic decision and can have several forms, such as alliances, equity investment, partnerships, joint ventures, consortia, marketing agreements, licensing, supply or manufacturing agreements.

Besides the positive aspects of collaboration, there is surely the risk that a party acts opportunistic and does not share the common goal of maximising the value of the network. Therefore, the fundamental conditions for an efficient cooperation in a value network are first of all trust between the involved partners, and secondly earning the trust of customers, which is referred to as “relationship capital” (Osterwalder et al., 2002). Building this trust is the main requirement for customer satisfaction and customer loyalty.

3.1.5 Fiel: Business Model Comparison

Fielt (2014) argues that many researchers have tried to define the essence and purpose of a business model since the concept arose in the early 20th century, but that a general accepted definition has not yet been agreed on. In order to identify a common ground, he compares the most recognised business model concepts with regard to their core definition, their elements and archetype, and concludes that a business model can be defined as a “representation of the value logic of an organization in terms of how it creates and captures customer value”.

AUTHOR(S)	YEAR	DEFINITION
Mahadevan	2000	A business model is a unique blend of three streams that are critical to the business. These include the value stream for the business partners and the buyers, the revenue stream, and the logistical stream. (p. 59)
Rappa	2000	In the most basic sense, a business model is the method of doing business by which a company can sustain itself -- that is, generate revenue. The business model spells-out how a company makes money by specifying where it is positioned in the value chain.
Afuah and Tucci	2001	A business model is the method by which a firm builds and uses its resources to offer its customers better value than its competitors and make money doing so. It details how a firm makes money now and how it plans to do so in the long-term. The model is what enables a firm to have a sustainable competitive advantage, to perform better than its rivals in the long term. (p. 3-4)
Tapscott	2001	A business model refers to the core architecture of a firm, specifically how it deploys all relevant resources (not just those within its corporate boundaries) to create differentiated value for customers. (p. 5)
Morris et al.	2005	A business model is a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets. (p. 727)
Shafer et al.	2005	We define a business model as a representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network. (p. 202)
Chesbrough	2006	At its heart, a business model performs two important functions: value creation and value capture. First, it defines a series of activities that will yield a new product or service in such a way that there is net value created throughout the various activities. Second, it captures value from a portion of those activities for the firm developing the model. (p. 108)
Johnson, Christensen, and Kagermann	2008	A business model, from our point of view, consists of four interlocking elements that, taken together, create and deliver value. The most important to get right, by far, is the customer value proposition. The other elements are the profit formula, the key resources and the key processes. (p. 52-53)
Osterwalder and Pigneur	2010	A business model describes the rationale of how an organization creates, delivers, and captures value. (p. 14)
Teece	2010	In short, a business model defines how the enterprise creates and delivers value to customers, and then converts payments received to profits. (p. 173)
Zott and Amit	2010	A business model can be viewed as a template of how a firm conducts business, how it delivers value to stakeholders (e.g., the focal firms, customers, partners, etc.), and how it links factor and product markets. The activity systems perspective addresses all these vital issues [...]. (p. 222)

Figure 10. Selective overview of business model core definitions (from Fiel pp. 87)

While business model definitions have initially focused on the role of different actors in an organisation, the financial aspects became increasingly important over the years. There has anyhow been a disagreement on where to position a business model within the organisational structure of an enterprise and whether or not a business model is part of the strategy. As diverse as the opinions may be, the common definition has crystalized around a “value logic” during recent years. This value is usually understood as value proposition to the customer, but can as well be more abstract or complex in highly specific business models. Creating value and converting it to revenue can therefore be seen as a universal core definition of any business model. This definition is generic and abstract enough to cover a wide range of industries and contexts in which a business model is applied.

It is widely recognised that a business model consists of several elements – depending on the researcher as well referred to as building blocks, components, key questions or functions – and their relationship to each other. These elements can be located on different hierarchy levels, according to their importance for the core objective of the business model framework.

Comparing the definitions of different authors, the elements most frequently appearing in their research are:

- value offering
- economic model
- customer interface/relationship
- partner network/roles
- internal infrastructure/connected activities
- target markets

Fielt argues that the most well-known and widely used frameworks, such as the “Business Model Canvas” by Osterwalder and Pigneur or the “Four-Box” model by Johnson, are typically composed of four main dimensions. He identifies the essential dimensions of a business model as the **value proposition** being the central dimension, the **customer**, the **organisational structure** on company or network level and the **economic dimension**. Fielt further suggests that, depending on its purpose and business context, additional higher-or lower-order elements may be included in a business model, considering as well environmental, societal and non-financial aspects. The more elements are

included, the more complex the business model will be due to the interdependencies between the different elements.

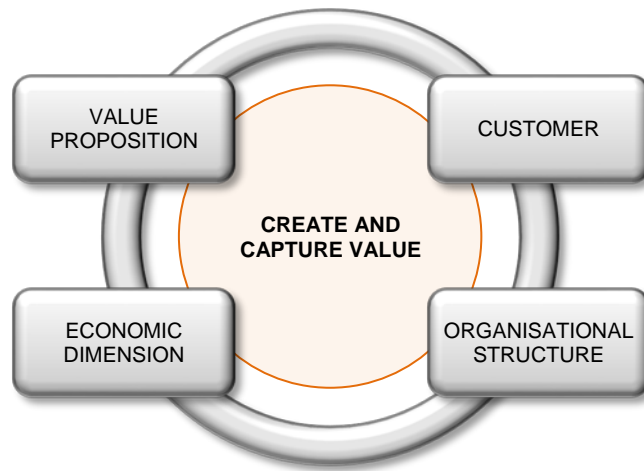


Figure 11. Most common business model dimensions according to Fiel

Besides traditional business models, used for pure manufacturing or service industries, the number of business models for virtual environments is constantly increasing, along with the development of online markets.

Fiel concludes his research with the definition that “a business model describes the value logic of an organisation in terms of how it creates and captures customer value and can be concisely represented by an interrelated set of elements that address the customer, value proposition, organizational architecture and economics dimension”. These four dimensions cover the fundamental questions on who, what, why and how value is created and captured in an organisation. Enriching the business model by a multi-level structure will improve its focus and increase the competitive advantage of a business. Finally, additional research regarding the dependencies between the different elements will further advance the framework.

3.2 Summary and Conclusion

As diverse and complex as business modelling concepts may be, it can be determined that their core common denominator is the definition of how an organisation creates, delivers and captures value. This definition is typically partitioned into four main business dimensions, as described also by Al-Debei and Avison (2010) in their V4 business model framework, universally being value proposition, value architecture, value network, and value finance. The dimensions itself are typically composed of elements, which thoroughly describe the structure and nature of the business model.

Comparing the business models discussed in the previous sections of this chapter, it seems only consequent to apply their widely accepted core dimensions onto any new business model and enrich them with elements that are specific to the industry or market in which it is supposed to function.

Based on the background and scope of this thesis, there is no need to design an entirely new business model, because corporate car sharing services are just an extension to existing business activities of the car rental franchisee in Finland. Hence, the core dimensions of the business model are already established, but their elements need to be adjusted or completed in order to be able to create, deliver and capture value within the new business segment. Anyhow, since current trends indicate an increasing importance of intermodal mobility, it is advisable to design the elements already at this point in a way that makes it easy to evolve them towards the needs within a value network.

The dimensions and elements of the adjusted business model, to be used as conceptual framework for current state and gap analysis, are summarised as follows:

The most important dimension is the **product or service**, containing the actual value proposition and the technology that is required to deliver the value to customers. The value proposition is the availability of a suitable rental vehicle, as and when required by the customer. The fundamental service of renting the vehicle to the customer at a rental location already exists within the current business model of the car rental franchisee, so the only addition is the availability of the vehicle at the customer's premises.

The second addition within this dimension is that granting access to the vehicle for an authorised customer – via either RFID card or smartphone – requires the vehicle to be equipped with corresponding on-board technology.

The **customer** is logically another important key dimension, since the business model is specifically adapted to function in B2B environments. Customer demands in these environments do typically not vary much from other market segments, with the exception that means of payment might be different. In terms of corporate car sharing, the biggest discrepancy lies in the distribution channels through which business clients are served.

The **financial viability** is the third dimension, and surely the most critical component, since corporate car sharing is a completely new business segment for the car rental franchisee. Thus, it is important to evaluate the revenue structure with special diligence. The cost structure, on the other hand, will for the most part remain the same, because all operations are carried out with the existing infrastructure and resources in the network. Additional costs will account for the electronic devices with which the vehicles are to be equipped and possibly for license fees.

The **infrastructure** is the concluding dimension of the business model. It contains key activities, such as operations and sales, as well as key resources, such as the car fleet, staff and business channels. Other important factors within this dimension are key partners and the car rental franchisor (brand).

The infrastructure is the only dimension in this business model that is internally influenced, while customers or competitors can influence the other three dimensions.

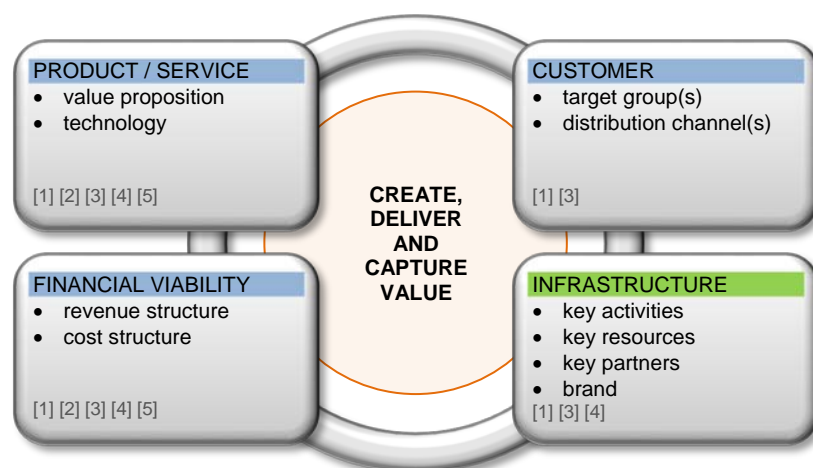


Figure 12. Business model (conceptual framework) for corporate car sharing

With reference to:

[1] Osterwalder (2010), [2] Beutel (2014), [3] Fieft (2014), [4] Johnson (2006), [5] Teece (2010)

4 Current State Analysis

4.1 Description of Existing Business Models

Based on the conceptual framework, the existing business models of the car rental franchisee in Finland and the car sharing subsidiary are described within this chapter. The focus lies on analysing the different elements of which the business model is build, and on carving out major gaps between current car sharing operations at the car sharing subsidiary and car rental operations at the franchisee in Finland. In case of the car sharing subsidiary, the analysis is limited to operations that concern corporate car sharing, since this is the core service to be adapted in the Finnish market. Consequently, the analysis of the car rental franchisee's business model dimensions aims exclusively at the business segment, in terms of traditional car rental as well as short-term leasing, in order to be able to compare the corresponding elements precisely.

4.1.1 Corporate Car Sharing

The corporate car sharing product from the subsidiary is “a tailored car-sharing solution that promotes business fleet pooling by improving the overall time and cost efficiency of the fleet management process” (2015), and was first launched in 2008 in France, followed by Belgium, Germany and the UK. Corporate car sharing has been the primary focus of the subsidiary, while the company extended its services later on to fleet management solutions and public car sharing services in cooperation with its partners. The subsidiary expects the European demand for corporate car sharing to increase from around 2.000 vehicles in 2015, to up to 100.000 vehicles by 2020 (2015).

The **value proposition** of the “Bettercar Sharing” service is in fact similar to the one in traditional car rental business, namely to provide the customer a vehicle for individual transportation at a specific location. The main difference towards traditional car rental in this aspect is the time factor, because the vehicle is permanently located at the customer's premises and can be used for transportation, basically at any time. Thus, the activity of vehicle transfer for a specific customer to a location is eliminated from the supply chain. The customer simply allocates and reserves a vehicle through the car sharing subsidiary's web portal or their smartphone app.

Each car sharing vehicle is equipped with on-board **technology**, which allows registered users to access, via either RFID card or smartphone, and operate the vehicle. The access method via smartphone is constantly becoming more popular, even though it might have disadvantages in locations with poor network coverage. Due to these potential usability problems, the car sharing subsidiary decided to equip the majority of its fleet with on-board technology based on vehicle access via RFID card. This system consists of a card reader device, a processing device, a keypad terminal with voice prompt, and a car key holder. In addition, a specific operator software is required at the backend.

The entire vehicle allocation and reservation process is executed by the user through the car sharing subsidiary's web portal or the smartphone app. The customer will receive an SMS, confirming the vehicle's registration number, 15 minutes prior to the selected



pick-up time. In order to access the vehicle, the customer needs to place the RFID card (or the smartphone) over the reader device, which is located in the lower windshield corner on the driver's side of the vehicle. The car is then unlocked upon successful identification of the customer and the corresponding reservation.

Figure 12. Typical RFID card reader used by the car sharing subsidiary

The processing device is located at a suitable position inside the vehicle. Depending on the chosen access method, either the Invers "iBoxx" (RFID card) or the Invers "Cloud-Boxx" (smartphone) platform is used. The keypad terminal is located in the glovebox of the vehicle, along with the vehicle's inspection report. The car key holder and a fuel card, which is used to re-fuel the vehicle, are attached to the keypad terminal. The customer must check the vehicle condition before departure and contact the car sharing subsidiary's service hotline via the keypad terminal, in case it does not comply with the condition indicated in the inspection report. In this context, it should be noted that the driver has a bigger own responsibility for the condition of the vehicle at the point when he/she starts using it, in order to avoid getting charged for vehicle damages that have by mistake not been recorded. Upon vehicle return, the key needs to be attached to the keypad terminal.

The vehicle doors will lock automatically when the customer places the RFID card over the reader device.

Since the investigated service is designed for corporate customers, the **target groups** are located in the B2B segment. The car sharing subsidiary managed to attract major European corporate customers, such as Michelin and Siemens, and conducts as well mobility projects with its customers. The car sharing subsidiary is mainly promoting the service to its target groups as cost-saving alternative towards operating an own vehicle fleet or paying for other individual or public transport solutions. In addition to economic factors, corporate car sharing claims to be more eco-friendly due to an integration of electric vehicles and the general use of smaller car types. Moreover, the customer organisation can utilise the service for internal marketing purpose amongst employees, since they can as well use the vehicles during after-work hours, which might be one reason for a denoted satisfaction rate of 95% (2015).

The **distribution channels** are to a large extent very similar to those used in the car rental industry, which is not surprising, because value proposition and target groups are overlapping. The more traditional distribution channels, such as direct marketing and the appearance in business forums or fairs, are supplemented by elaborated marketing efforts on social media platforms. Anyhow, B2B requires more direct marketing efforts, because the car sharing subsidiary's pricing models are typically not revealed in publicly available sources. Each potential customer will receive a custom offer, based on the amount of provided vehicles and the extend of the service level.

Accordingly, the **financial viability** originates from the agreed pricing model. The most common model in corporate car sharing is a flat-rate allowance with graduated pricing, depending on the amount of vehicles at the customer's premises. Opposite to a model where only the actual vehicle usage time is charged, as it is common practice with private car sharing, the flat-rate model enables a firm **revenue structure**. Corporate car sharing customers are usually invoiced on monthly basis, including any additional charges (e.g. traffic fines, damage excess) that may have occurred.

Similar to the car rental industry, major components to be considered within the **cost structure** are the fleet holding costs, human resources and marketing. The fleet holding costs include expenses for leasing and financing contracts, insurances, taxation and vehicle maintenance. The marketing expenses are – especially during the penetration

phase in a new market – comparably high, because the service needs to be introduced and illustrated to potential customers. All these costs must of course be considered when pricing a product or service.

Since the way in which customers are able to use the service differs from traditional car rental operations, the **infrastructure** is adapted to match the requirements of the value proposition. The vehicles undergo frequent “cleaning and servicing” (2015) at the customer’s premises, or at a service location nearby. In order to guarantee an ideal user experience, the condition of the vehicle is of essential importance. This implies that operating a corporate car sharing service requires a mobile service team, taking care of the on-site inspections, and a network of partners, such as local petrol stations.

Just like in traditional car rental, the **key activities** in corporate car sharing operations are focused on creating and delivering value to the customer. A major factor in this context are activities that are directly related to the value creation process, such as customer service and all operational process. Since end-users of the service are typically never in direct contact with a representative of the car sharing subsidiary, the service hotline employees and the IT infrastructure play a very important role in their infrastructure. Constant availability is essential for customer satisfaction, which counts for both levels of customers, the corporate and their employees as end-users.

Beside the vehicle fleet and staff, the most important **key resources** for the car sharing subsidiary’s operations are the web portal and the smartphone app, since there would be no reservation channel without these applications. Therefore, the IT provider is the single most important **key partners** in the business network of the car sharing subsidiary. Other key partners are petrol station operators, which are required to ensure servicing the vehicles close to or at the customer’s premises. In addition, since all vehicles are equipped with a fuel card from a specific chain, customers will re-fuel their vehicle at the petrol station partner.

With the car rental franchisor being the major shareholder at the car sharing subsidiary, there are clear expectations regarding business decisions in context with own global strategies. Anyhow, the car rental **brand** itself has only limited influence on operational level at the car sharing subsidiary. Since the car rental’s entry in 2015, the car sharing subsidiary uses the brand primarily for marketing purposes, since a well-established car rental brand helps to push car sharing services into new markets.

4.1.2 Corporate Car Rental in Finland

The car rental franchisee in Finland offers a wide range of products and services in different market segments, such as leisure and business travel, car replacement and commercial vehicle rental. The **value proposition** in all of these segments is to provide the customer a vehicle for individual transportation or – to state more precisely – to provide the requested and road-safe vehicle for the customer at the requested place and time. This is done either at a rental station or by delivering the vehicle to the customer. The successful combination of all factors is the actual value to the customer, satisfying the need for individual transportation. Being able to meet all the above requirements calls for a smooth coordination of all activities and resources within the company's infrastructure.

Since there are basically no vehicles dedicated to a specific target group or service, and therefore are not customised for a specific need in terms of on-board **technology** or other features, the entire fleet can be utilised to serve all kinds of customers. This ensures a high degree of flexibility regarding customer servicing, which is valued as being a competitive strength of the car rental franchisee in Finland.

The customer dimension of the business model is, according to the objective of this thesis, limited to **target groups** in the corporate customer segment, which can be fragmented into:

- small private companies
- medium and large private companies
- housing construction companies
- partner organisations e.g. insurance and leasing companies
- public and state-owned organisations

All types of B2B customers experience the same level of service, but receive custom car rental rates, depending on their (expected) rental volume. Large organisations will typically request service offers – so-called RFB (“Request For Bid”) – from several car rental companies and make a perennial agreement with the one that they feel meets their requirements best. This agreement usually includes rebates in case the organisation exceeds agreed rental volumes.

Once a new corporate customer has made an agreement with the car rental franchisee, an own contract number and account manager is assigned. The contract number guarantees their employees specific rates, conditions and other benefits upon rental. Additionally, the employees can subscribe to the international loyalty programme in order to receive additional personal benefits. The car rental franchisee promotes the programme heavily, since customer loyalty is one of the ultimate goals in the service sector.

The main point of contact for corporate customers at the car rental franchisee is the dedicated account manager, who is communicating with the counterpart at the customer's organisation and is taking care of all issues that concern the agreement. The direct sales potential via the account manager, supported by local rental location managers and e.g. newsletters, is the primary **distribution channel** of the business model in this context. Secondary distribution channels are traditional partner organisations, such as car dealers procuring replacement cars, or travel agents arranging business travels. However, as well former competitive (public) transport organisations are to be considered in this context, since multimodal mobility is getting increasingly important on the part of consumers.

The **financial viability** of the traditional car rental business model is to large extend due to a basic predictability of revenue streams and operational costs in the corporate segment. Fostering corporate customer loyalty by means of agreements and benefits allows the car rental franchisee to forecast rental volumes and – since rental rates are agreed with each organisation – **revenues** based on historic data. There are of course fluctuations, caused by the general economic situation or other external factors, but the business foundation in this segment remains essentially stable, assuming that customers are overall satisfied with the delivered value. The majority of revenue streams generated through corporate customers is handled via credit card payment and direct or central billing.

A major cost factor in car rental operations are fleet holding costs, which are composed of multiple elements, such as financing, insurance, taxes and maintenance. Similar to revenues, as well **costs** – in terms of fleet demand and related direct costs – can be forecasted based on historic data. The majority of vehicles in the rental fleet are acquired through leasing contracts or buy-back deals, arranged via domestic car importers or dealers, who repurchase the vehicles after an agreed term of use for an agreed price. This common practice allows the car rental franchisee to keep control over fleet costs

and minimise financial risks, which would otherwise occur if the vehicles were owned (“risk-vehicles”).

The **infrastructure** is surely the most complex and important dimension in the business model of the car rental franchisee, because the actual customer value is created through a well-coordinated interaction of its different elements. Each department contributes key activities that enable the organisation as whole to capture and deliver value to the customers.

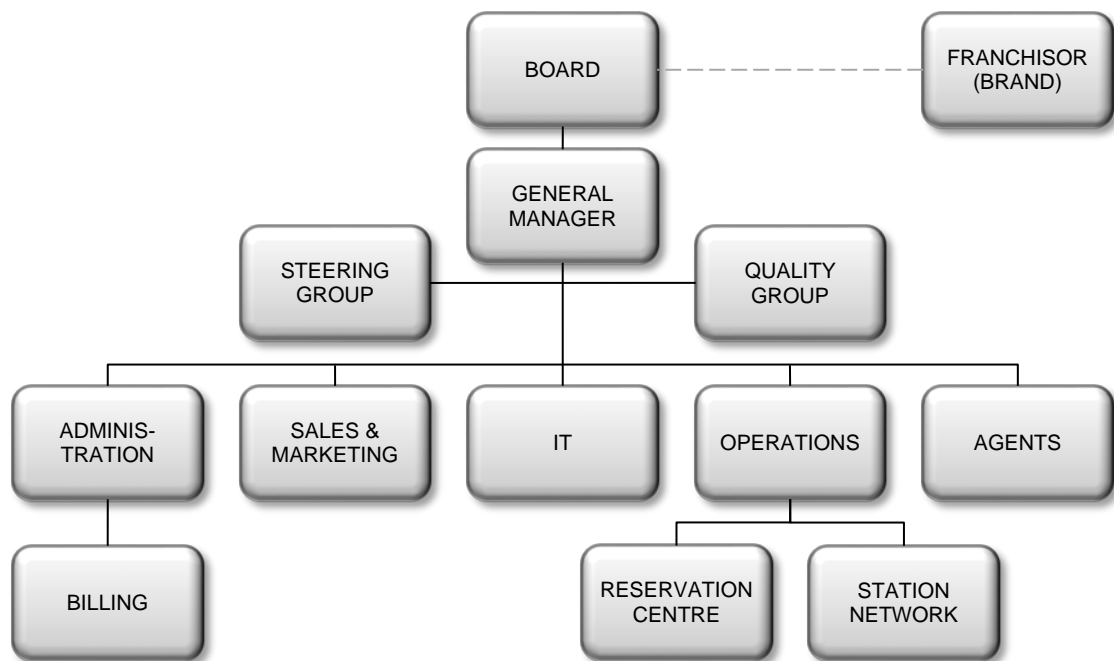


Figure 13. Simplified organigram of the car rental franchisee in Finland

The **key activities** in the car rental franchisee’s business model can be sub-divided into activities that are directly related to the actual rental process, and supportive activities that are only indirectly related. All activities are required to deliver value to the customer, but only some are obvious on a first glance. Directly related to the rental process are e.g. vehicle preparation, vehicle transfer and customer service, which is typically carried out by staff at the rental location. Background operations, such as reservation management, marketing, vehicle registration and invoicing, are in the first place essential in order to provide direct key activities.

Due to their complexity and intersection, key activities and their corresponding key resources are summarised in the following table.

DEPARTMENT	KEY ACTIVITIES	KEY RESOURCES
ADMINISTRATION	<ul style="list-style-type: none"> human resources revenue management cost management 	<ul style="list-style-type: none"> staff IT infrastructure
AGENTS	<ul style="list-style-type: none"> customer service vehicle allocation 	<ul style="list-style-type: none"> own staff vehicle fleet
BILLING	<ul style="list-style-type: none"> invoicing and crediting complaint handling 	<ul style="list-style-type: none"> staff IT infrastructure
BOARD	<ul style="list-style-type: none"> domestic strategy business planning 	<ul style="list-style-type: none"> global strategy (historic) data
FRANCHISOR (BRAND)	<ul style="list-style-type: none"> global strategy global customer acquisition global marketing maintain global IT infrastructure 	<ul style="list-style-type: none"> staff global network IT infrastructure
GENERAL MANAGER	<ul style="list-style-type: none"> implementation of strategy coordination of departments 	<ul style="list-style-type: none"> global strategy IT infrastructure (historic) data analysis
IT	<ul style="list-style-type: none"> maintain domestic IT infrastructure 	<ul style="list-style-type: none"> staff global IT infrastructure
OPERATIONS	<ul style="list-style-type: none"> reservation handling vehicle purchase and sales vehicle transfers vehicle preparation and maintenance 	<ul style="list-style-type: none"> staff vehicle fleet IT infrastructure accessory suppliers
QUALITY GROUP	<ul style="list-style-type: none"> assure quality level of services 	<ul style="list-style-type: none"> staff ISO 9001 guidelines
RESERVATION CENTRE	<ul style="list-style-type: none"> reservation management 	<ul style="list-style-type: none"> staff IT infrastructure
SALES & MARKETING	<ul style="list-style-type: none"> customer acquisition and care loyalty management domestic marketing reporting 	<ul style="list-style-type: none"> staff IT infrastructure
STATION NETWORK	<ul style="list-style-type: none"> customer service vehicle transfer and allocation vehicle cleaning and maintenance local revenue management 	<ul style="list-style-type: none"> staff vehicle fleet IT infrastructure
STEERING GROUP	<ul style="list-style-type: none"> assist General Manager with implementation of strategy and business planning 	<ul style="list-style-type: none"> global strategy IT infrastructure (historic) data analysis

Figure 14. Key activities and resources within the organisation

The car rental franchisee's key competences in Finland originate from a comparably large network of rental stations, staff and partner organisations all over the country. In combination with 24/7 availability and a large variety of vehicle types and products, the car rental franchisee is able to offer flexible rental solutions for practically all transportation needs. A major goal is to achieve this high degree of flexibility as well with the new corporate car sharing service.

The car rental franchisee's domestic **key partners** can be classified as inbound partners – companies that provide key resources – and outbound partners, which are companies that provide sales channels or other services needed to deliver customer value. Typical inbound partners are car importers, car dealers, leasing and financing companies, and as well suppliers of equipment needed for vehicle operation. The main outbound partners, on the other hand, are IT hard- and software providers, advertising agencies and travel agents.

The franchisor (**brand**) can – at least partly – be classified as key partner, since global customer acquisition, marketing and related reporting are centralised in the international headquarters. Another important role of the franchisor is the allotment of new distribution channels, in terms of forging strategic partnerships or evolving existing software tools. Moreover, the connection to global distribution systems (GDS) is managed via the franchisor's global IT infrastructure, which means that it is a distribution channel for domestic business operations. Through its infrastructure, global reservation, rental and invoicing data is available for reporting to all countries that are connected to the system. Anyhow, the role of the franchisor exceeds a pure partnership relation, because in addition to value resulting from a partnership it provides global strategy, corporate identity and a business platform in return for license and reservation fees being paid by each franchisee country.

The **competitive situation** in the corporate car sharing segment in Finland is at this point relatively straightforward, with only one other major car rental organisation and a leasing company offering such services to its customers since 2016. Due to the early stage of introduction to the market, there are currently no figures publicly available, which could be used for a business analysis. Anyhow, it can be determined that, despite a successful implementation, profitability has been low in the starting phase of the service.

4.2 Gap Analysis

Gaps between traditional car rental at the car rental franchisee in Finland and corporate car sharing services are analysed within this chapter. The foundation for this analysis is the conceptual framework and the current state analyses of the car sharing subsidiary and the car rental franchisee.

4.2.1 Service Dimension

The value proposition of both services, traditional car rental and corporate car sharing, is essentially the same, because the value to customers in both cases is the use of a vehicle for individual transportation, which is provided to the customer upon previously agreed terms and conditions.

Anyhow, compared to traditional car rental, the car sharing customer needs to be more proactive, because the vehicle and its condition may not have been checked by operational staff of the car sharing subsidiary before the customer uses it. While a car rental customer usually receives a cleaned and checked vehicle, the car sharing customer needs to verify the actual vehicle condition by the inspection report, which is found in the glovebox. In case the vehicle condition differs from the one documented in the report, the customer must contact the service hotline via the keypad terminal and report the differences.

Another gap within this dimension is the required on-board technology for corporate car sharing services. The car sharing customer needs a special RFID card (or smartphone app) to access the vehicle. This means that each dedicated vehicle must be equipped with the corresponding hardware, depending on the selected access method, and supportive equipment (fuel card). In addition, an operator software at the backend and a connection between the keypad terminal and the customer service hotline is required.

The franchisor has piloted a car sharing service in the UK with this setup, using the expertise and reservation channels of the car sharing subsidiary. The technology platform ("iBoxx") has been provided by Invers, a market leader in car sharing applications, located in Germany. They offer as well another technology platform ("CloudBoxx") that is entirely operated via smartphone app. For utilisation in the Finnish market, this app would need to be available in Finnish (and Swedish) language.

A car sharing service is currently under development by the car rental franchisor on international level. Once this service is implemented globally, the franchisor's own reservation system and mobile app might as well be utilised for corporate car sharing services. In addition, the car sharing subsidiary has recently introduced a new version of its app, aiming at the private car sharing market. This new version supports intermodal mobility, in terms allowing the user to book car sharing, car rental and taxi services, by just using a single app. This development is likely to evolve in the nearer future.

Once all hardware and software requirements for introducing a corporate car sharing service are met, the reservation and usage procedures can be adopted from the car sharing subsidiary to the greatest possible extent:

- customer registers for service
- use smartphone app to allocate and reserve a vehicle
- access vehicle
- compare vehicle condition to inspection report in glovebox
- contact service hotline if condition differs
- ensure the fuel level is above $\frac{1}{4}$ full before returning the vehicle
- re-fuel if necessary, using the fuel card in the glovebox
- return and lock vehicle

4.2.2 Customer Dimension

Regarding the scope of this thesis, as well the target groups of both services are essentially the same, since the focus lies on corporate customers. These B2B customers are typically private and state-owned organisations, which need to offer occasional individual transportation to their employees. Both case companies aim at replacing a customer organisation's own vehicle fleet by sharing or respectively short-term leasing vehicles, mainly with the target of decreasing the customer's fleet holding costs.

The distribution channels for addressing these organisations are similar, but differ regarding how a business relationship is established in the first place. While the car rental franchisee typically proposes short-term leasing to customers that already used tradi-

tional car rental services before, the car sharing subsidiary needs to acquire the customer before it is able to provide the corporate car sharing service. Thus, the car rental franchisee can fully utilise the existing distribution channels via the sales and marketing department to promote any new B2B service. Since corporate car sharing may as well be interesting for target groups that have not rented vehicles from the car rental franchisee, it will be necessary to identify potential new target groups and appropriate distribution channels for marketing efforts.

4.2.3 Financial Viability Dimension

The car rental pricing model differs essentially from the ones typically used in corporate car sharing. While car rental customers pay for an agreed duration and vehicle class, corporate car sharing customers either pay a flat-rate for a specific amount of provided vehicles, or for the exact time that their employees used the service. Thereby, the second option does not allow forecasting actual demand or estimating expectable revenues, which is an uncertainty that should be avoided. Corporate car sharing is surely generating a lower revenue level per vehicle, compared to car rental. This is not only because of its pricing model, but as well because of not being able to conclude sales on additional services. These services, such as comprehensive cover insurance, which are typically sold directly to the customer before signing the rental agreement, are not practicable in corporate car sharing with currently available technical solutions.

Anyhow, the lower revenue level is acceptable, because otherwise the existence of corporate car sharing is not justifiable from a customer perspective. The cost-saving factor – in relation to operating an own fleet or renting vehicles – is after all one of the main sales arguments for corporate clients. In this context, the car rental franchisee will most likely be able to achieve lower costs regarding customer acquisition compared to the car sharing subsidiary, because the new service is primarily promoted to existing customers. The general prospect is that the more customers are attracted, the better the profitability will be under the bottom line.

The loss of additional sales at the counter could most likely be compensated by selling additional services to the corporate instead. Since contemporary car sharing on-board is capable of transmitting vehicle data, this feature can be utilised to offer e.g. fleet management services or advanced reporting to the corporate customer.

The corporate car sharing service will be integrated into the car rental franchisee's operational network, by means of utilising a proportion of the vehicle fleet, human resources and the existing rental location network. This operational integration will in the first place only generate moderate additional costs regarding the infrastructure. Anyhow, major costs will occur for vehicle on-board technology and new software licences. The degree of these cost factors mainly depends on the amount of vehicles that are allocated for the corporate car sharing service, keeping as well in mind that a larger volume of equipped vehicles may result in discounts on part of the technology provider.

4.2.4 Infrastructure Dimension

Since the core value proposition in the business model of the car sharing subsidiary and the car rental franchisee is the same, there are no major differences in the activities required to deliver value, but in fact there is a difference in the way how value is delivered to customers.

Car sharing operations do not require a dense location network to deliver the service. While with traditional car rental, vehicle cleaning and basic maintenance are typically performed at the rental location before each rental, this is not an option with (corporate) car sharing, because the vehicle is not located at the car rental franchisee's premises at the point when the customer starts using it. Thus, the full control over vehicle condition does not exist for corporate car sharing services. This is surely a major consideration for a quality-oriented car rental company like the car rental franchisee, especially since there are detailed international guidelines regarding the "ready to rent" condition of a vehicle.

Consequently, the car rental franchisee will need to rely much more on frequent on-site vehicle checks and on its customers when it comes to e.g. report damages or re-fill the tank after usage. On-site checks can be conducted with a mobile service van, as practised by the car sharing subsidiary. Another important factor in this context is the vehicle condition in terms of cleanliness and road safety, which is essential for customer satisfaction and which might be an opportunity of differentiation towards competitors. It is important to conduct frequent vehicle checks and update the vehicle's inspection report accordingly. Especially after a new damage has been reported by a customer, an employee of the car rental franchisee needs to evaluate the damage and decide whether or not it requires immediate repair. Besides gaining more control of the vehicle condition,

this procedure increases the visibility of the car rental franchisee at the customer premises, which is likely to strengthen customer trust in the new service and foster customer loyalty. Concerning this matter, the car rental franchisee's dense rental location network in Finland is a rather positive aspect, because it allows the employees (or partners) to inspect vehicles more frequently and react quickly on customer feedback.

The franchisor brand plays a different role for the car sharing subsidiary than it does for the car rental franchisee in Finland. With the franchisor being the major shareholder at the car sharing subsidiary, there are clear expectations regarding the focus of business operations in context with own global strategies. Thus, the degree of control is lower in franchisee countries, which leaves a certain margin of freedom in the way how business is executed.

In terms of implementing a corporate car sharing service in Finland, this means that the franchisee can choose exactly the solution, which can be integrated into its operational infrastructure in an efficient and optimal way, without interfering the core business.

4.3 Summary of Key Adaptation Points

Based on the gap analysis in the previous chapter, the key adaptation points within the different business model dimensions are summarised in the following table.

DIMENSION	ELEMENT	CAR SHARING	CAR RENTAL
Service / Product	Value Proposition	individual transportation	individual transportation
	Technology	on-board technology, smartphone app	none
Customer	Target Group(s)	corporate customers	corporate customers
	Distribution Channel(s)	customer acquisition	existing customers
Financial Viability	Revenue Structure	car sharing model	car rental model
	Cost Structure	vehicle fleet, hr, network	vehicle fleet, hr, network
Infrastructure	Key Activities	vehicle transfer and maintenance	vehicle transfer and maintenance
	Key Resources	vehicle fleet, staff, IT infrastructure	vehicle fleet, staff, IT infrastructure
	Key Partners	inbound and outbound partners	inbound and outbound partners
	Brand	major shareholder	franchisor

Figure 15. Summary of analysis with gaps highlighted

The most significant adjustments are to be made in the **technology** element of the business model, since operating a corporate car sharing service requires not only specific hard- and software, but as well new procedures.

This includes in detail:

- each vehicle must be equipped with on-board technology
- operator software at backend is required
- smartphone is required to use service
- (branded) app with user interface in Finnish/Swedish language is required
- each vehicle must be equipped with a fuel card
- dedicated and cost-free service hotline number is advisable

The responsibility for checking the vehicle condition prior usage is largely shifted towards the **customer**, because he/she may be accountable for damages that have not been noticed or reported by the previous customer.

Promoting and marketing corporate car sharing in Finland will primarily be done through direct **distribution channels**, being the account managers of existing corporate customers. In addition, well-trying sales and marketing channels, such as fair appearances and social media advertising, can be utilised to attract new customers.

In order to ensure a general predictability of economic figures, the **revenue structure** should be based on a flat-rate pricing model, as widely used in the corporate car sharing market. A suitable pricing level needs to be determined by means of market survey. The corporate customer will be invoiced on monthly basis, according to the amount of vehicles that have been provided. Additional services, such as fleet management, should be developed and promoted after the corporate car sharing service has been implemented.

The **cost structure** overlaps with the car rental operations, because the same resources are largely utilised for both services. Anyhow, additional costs will occur due to initial technology investments and monthly license fees. Another new cost factor will be the mobile service van that is used to inspect the fleet of sharing vehicles. Marketing costs can be neglected, because of using direct distribution channels.

The **infrastructure** needs comparably few adjustments in order to comply with corporate car sharing operations. The shift from rental location based towards on-site based vehicle cleaning and maintenance can be arranged via deployment of a mobile service van and staff, who conduct frequent vehicle checks at the customer location.

Since corporate car sharing service will be operated as stand-alone system, it needs to be coordinated with the franchisee's rental operations. While this manual coordination might be manageable with the existing infrastructure and few customers, it is advisable to appoint special resources for corporate car sharing customers within the operational or sales department. This step is likely to increase customer satisfaction and loyalty in the corporate business segment.

5 Building an Adaptation Plan

5.1 Foundation



The global sharing economy is expected to increase significantly in comparison to the traditional rental sector, which will as well affect onto the global car rental industry. PricewaterhouseCoopers (2014) suggests that the sharing economy will account for up to 50% of the business by 2025. In the same period, the turnover in the car sharing sector is expected to grow by 23%, compared to only 2% growth in the car rental sector.

Figure 16. Expected turnover (USD bn) growth of global sharing economy vs. the rental sector (source: PricewaterhouseCoopers, 2014)

These predictions emphasise that (corporate) car sharing will be an important business segment for any organisation engaged in the automotive sector and related industries. The new corporate car sharing service is expected to open new market opportunities for the car rental franchisee and generate revenues on a mid-term range.

The ultimate goal is to integrate the corporate car sharing service into the car rental franchisee's existing infrastructure, without altering key operations more than necessary. Since the core customer value – individual transportation – remains the same, as well key resources and key activities required to deliver this new service will basically remain the same.

Thus, the biggest challenges seem to be:

- a) setting up the required car sharing technology
- b) coordinating the service with traditional rental activities
- c) handling administrative issues, such as e.g. invoicing traffic fines and damages

5.2 Initial Adaptation Plan

With the franchisor and the car sharing subsidiary already using car sharing technology from Invers, their solutions are as well preferred for a corporate car sharing service in Finland. They offer different pricing models for both technology platforms, which are illustrated in the following table, without making claim of being complete.

Technology platform	iBoxx	CloudBoxx		
Vehicle access method	RFID card		smartphone	
Pricing model	purchase	purchase	rent A	rent B
On-board technology / vehicle	1.033,- EUR	499,- EUR	249,- EUR	0,- EUR
Monthly fee / vehicle	113,34 EUR	9,90 EUR	15,90 EUR	25,90 EUR
Operator fee / month	0,- EUR	299,- EUR	299,- EUR	299,- EUR
Project management, training and software	17.055,- EUR	17.055,- EUR	17.055,- EUR	17.055,- EUR
Cost estimate for a pilot with 30 vehicles				
Initial investment	48.045 EUR	32.025 EUR	24.525 EUR	17.055 EUR
Monthly costs	3.400 EUR	596 EUR	776 EUR	1.076 EUR
Annual cost (first year)	88.845 EUR	39.177 EUR	33.837 EUR	29.967 EUR
Annual cost (following years)	40.800 EUR	7.152 EUR	9.312 EUR	12.912 EUR

Figure 17. Pricing models and cost estimate for “iBoxx” and “CloudBoxx” telematics platform (source: Internal quotation / CloudBoxx InCar Technology pricelist from 2015 Jul 30)

Weighing up the cost-value ratio and considering the Finnish mobile network coverage as well as the general technology standard, the vehicle access via smartphone is suggested to be the method of choice. This method has already been implemented by a Finnish leasing company for their corporate car sharing service, and it can therefore be assumed that it is as well feasible for the car rental franchisee. Further, it can be assumed that the typical corporate car sharing target group will be in possession of a smartphone.

Under these conditions, it is not necessary to utilise the car sharing subsidiary’s own smartphone app and IT infrastructure, because of their different technology approach.

Instead, the entire system needed to set up a corporate car sharing service can be provided by Invers.

The “CloudBoxx” telematics platform seems to offer an attractive system, which is easily installed into a large variety of car models and can be operated as stand-alone system. Therefore, it fulfils the car rental franchisee’s objective to run the corporate car sharing service as independent business operation in Finland, in order to avoid integrations with the existing IT infrastructure.

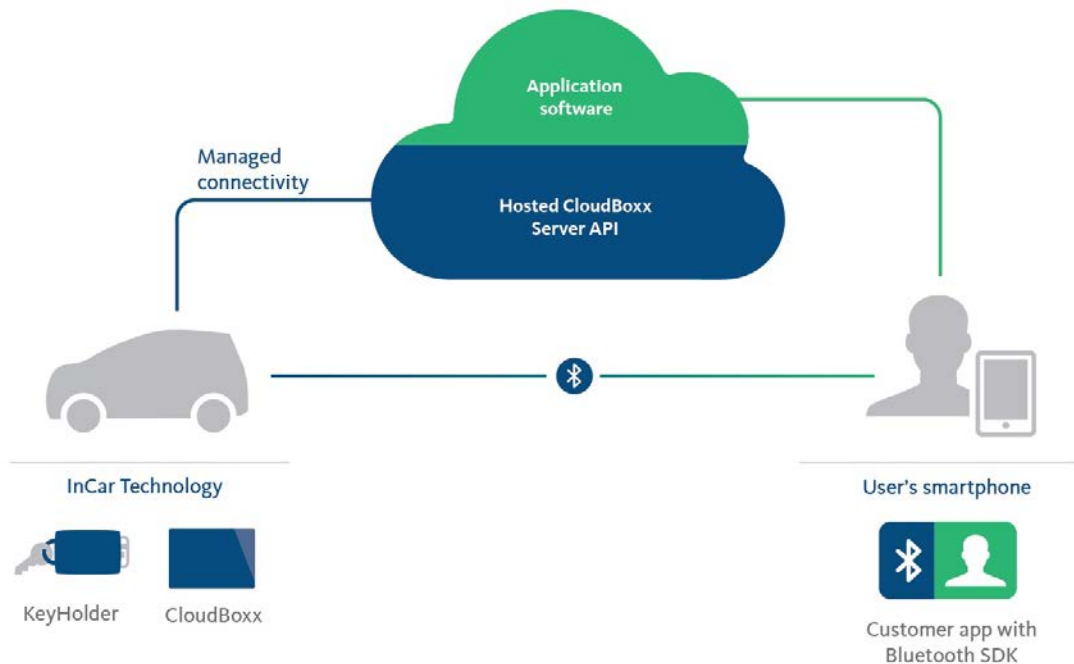


Figure 18. Concept of the “CloudBoxx” vehicle telematics platform (source: CloudBoxx – The AlwaysOn Telematics Platform for car sharing applications)

The “CloudBoxx” platform includes a cloud-API that enables real-time communication between the app, the cloud server and the vehicle. Thereby, the app is utilised as user interface during the entire car usage, displaying for instance guidelines and the PIN code of the fuel card. The app does not require a permanent connection to the server, which makes it as well usable in locations with poor network coverage. For the car rental franchisee, it is necessary for the app being branded and have a Finnish (and Swedish) language user interface. This will require some development efforts on the part of the provider.

Beside for pure car sharing operations, the “CloudBoxx” platform can be used to transmit certain vehicle parameters and the vehicle’s position, which can be recorded and monitored by an operator via the cloud server. These technical aspects could be utilised by the car rental franchisee at a later stage, in terms of offering fleet management services to corporate customers, as done by the car sharing subsidiary in its markets of operation. The integrated connection to the customer service hotline, as available with the “iBoxx” solution, is not applicable in this case. All customer phone calls related to the service can be handled via the smartphone (app), from where they can be directed to the car rental franchisee’s customer service centre. In addition, setting up a dedicated and cost-free service hotline number for corporate car sharing customer is advisable. Trained staff at the franchisee’s service centre will be able to assist customers in case of problems and process reports regarding the vehicle condition.

Since the car rental franchisee aims at a flexible solution and cannot be sure about future global developments on the part of the franchisor regarding corporate car sharing, it is advisable to select one of the two “CloudBoxx” rental models. Rental model A is composed of a one-time fee of EUR 249 for on-board technology and a monthly fee of EUR 15,90 (both per vehicle), while model B only contains a monthly fee of EUR 25,90 per vehicle. Costs on software and project management are the same for both models.

In order to determine which rental model is more cost-efficient, the total accumulative costs – containing initial investment plus monthly costs – over several years are illustrated in the chart below. The calculations are performed for 10, 50 and 100 vehicles, comparing in each case rental model A and B. The conclusion is that, no matter what amount of vehicles, model B is cheaper for a rental period up to two years. For any rental period exceeding two years, model A is the better option.

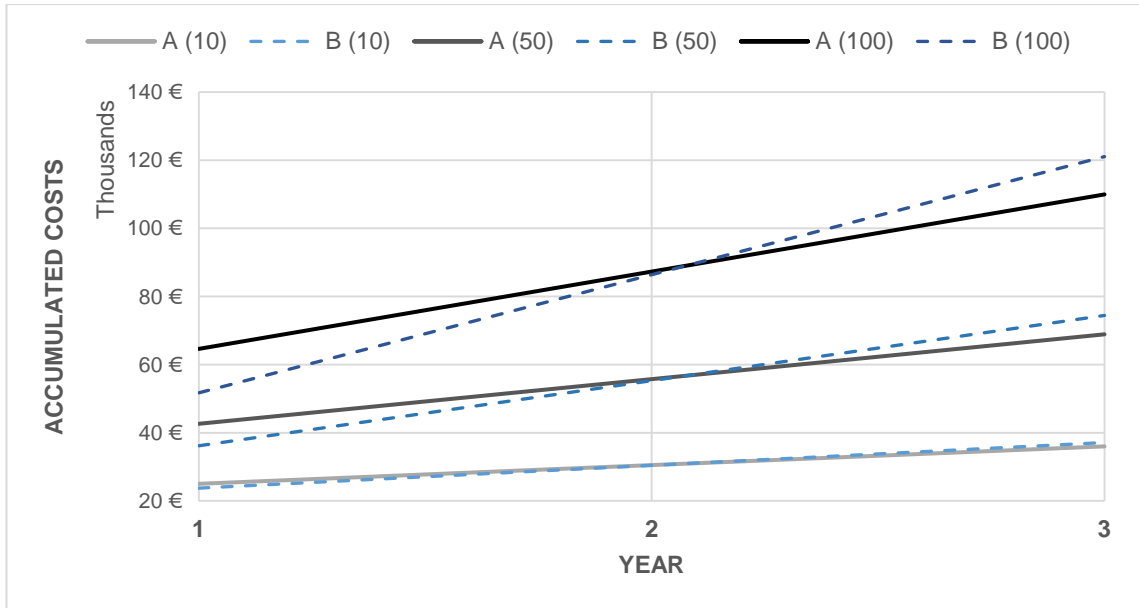


Figure 19. Accumulative costs for “CloudBoxx” rental models A and B (10/50/100 vehicles)

Assuming that the franchisor will not introduce its own corporate car sharing service on global level within the next two years, the “CloudBoxx” rental model A would be the most suitable choice for the car rental franchisee. Hence, the following calculations are based on this rental model.

All investments and fees for the “CloudBoxx” platform will increase the vehicle holding costs, in which the return on investment improves, the more vehicles are equipped with

ADDITIONAL COST / VEHICLE / DAY (MODEL A)			
VEHICLES	RENTAL PERIOD		
	3 YEARS	4 YEARS	5 YEARS
10	+ 3,29 €	+ 2,84 €	+ 2,58 €
20	+ 2,02 €	+ 1,77 €	+ 1,62 €
30	+ 1,60 €	+ 1,41 €	+ 1,30 €
40	+ 1,39 €	+ 1,23 €	+ 1,14 €
50	+ 1,26 €	+ 1,12 €	+ 1,04 €
60	+ 1,17 €	+ 1,05 €	+ 0,98 €
70	+ 1,11 €	+ 1,00 €	+ 0,93 €
80	+ 1,07 €	+ 0,96 €	+ 0,90 €
90	+ 1,03 €	+ 0,93 €	+ 0,87 €
100	+ 1,00 €	+ 0,91 €	+ 0,85 €

the technology, and the longer the rental period lasts. Thereby it should be noticed that the rental model denotes a significant drop of around 50% in the additional average holding cost once 30 or more vehicles are equipped with on-board technology.

Figure 20. Additional vehicle holding costs per day, for “CloudBoxx” rental model A

The following graph illustrates the drop in additional average vehicle holding costs, depending on the amount of equipped vehicles and the rental duration of the equipment.

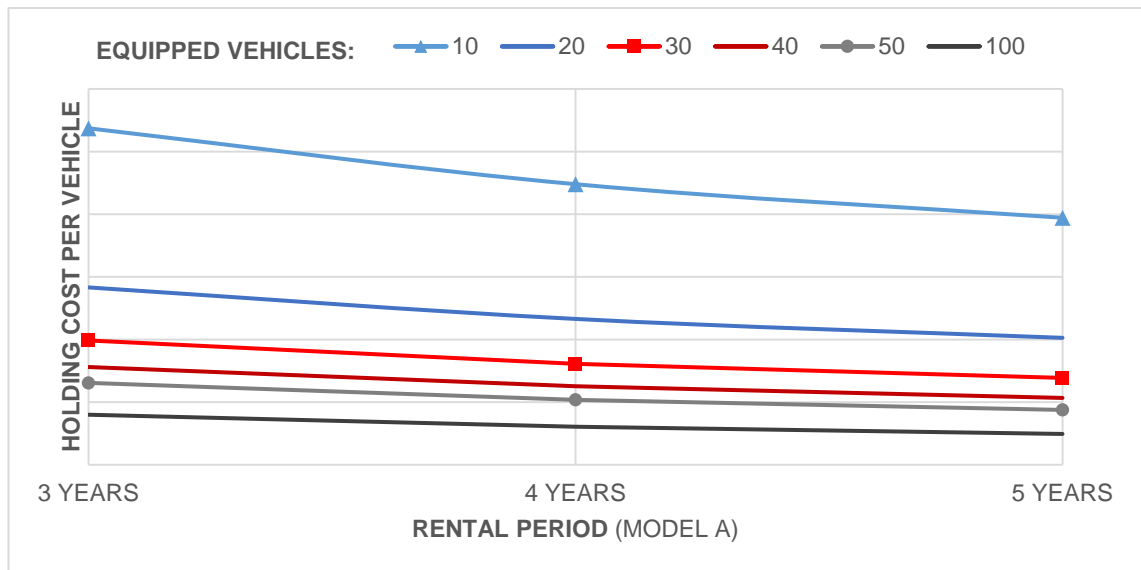


Figure 21. Holding costs for vehicles equipped with “CloudBoxx” on-board technology

Based on the available pricing data and above calculations, it is therefore advisable to allocate a corporate car sharing fleet of at least 30 vehicles, in order to reach an ideal ratio regarding the initial investment. Further discounts that could possibly be negotiated with the technology supplier are not taken into consideration at this point.

A pricing model for the corporate car sharing service can be established, based on the management decision regarding the total amount of allocated vehicles, the vehicle holding costs, and other costs directly related to the service. Developing a monthly flat-rate model with graduated pricing, depending on the amount of vehicles provided to the customer, seems to be a feasible approach in this context.

In order to estimate a realistic demand for the new corporate car sharing service, the actual implementation process should start with initiating a customer survey. The results should give information about how many, and which types of vehicles need to be allocated and equipped in order to provide a satisfactory service level. In case of starting the service with a pilot project at a single customer, the amount of vehicles should of course be agreed with the organisation.

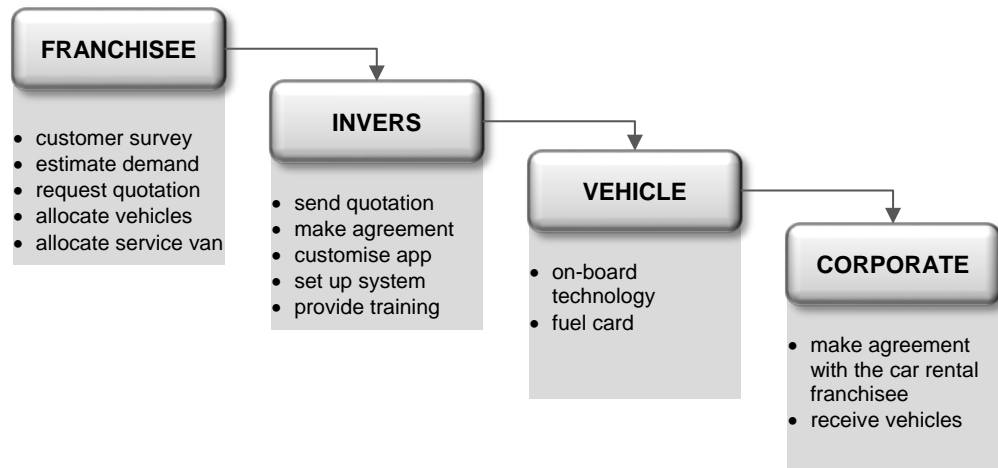


Figure 22. Implementation process flow with key steps

With fleet demand and rental duration of the equipment being determined, a corresponding quotation can be requested from Invers. After an agreement has been signed, the entire system, including vehicle on-board installations, can be set up and the car rental franchisee's users should be trained. In parallel, the provider needs to brand and customise the smartphone app before it can be utilised for the service in Finland. Having all hard- and software components in place, the car rental franchisee further needs to allocate a service van from the existing fleet that is used to perform on-site vehicle checks, and equip each designated vehicle with a fuel card. At this point, the service is ready to be introduced to the market.

The following chart illustrates the relationships between the different components and stakeholders in the suggested corporate car sharing environment. Compared to car rental, the technology components and employees of the customer organisation play a more important role within the network.

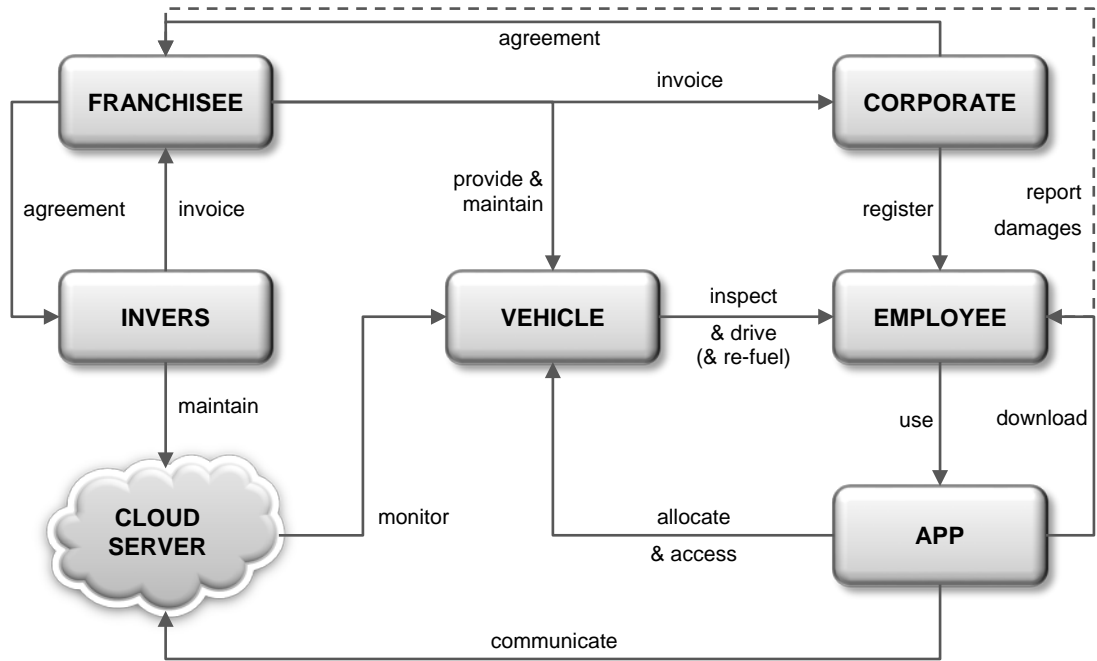


Figure 23. Simplified corporate car sharing relationship environment

Possible traffic fines and vehicle damages should be invoiced from the customer organisation, to which the vehicle in question has been provided. Through the fleet management capabilities of the suggested “CloudBoxx” platform, it can be determined which employee has been using the vehicle at a specific time.

6 Feedback on Adaptation Plan

6.1 Feedback Received

Due to the partial deviation from the original objective of this thesis – utilising the car sharing subsidiary's technology platform for a corporate car sharing service in Finland – the initial adaptation plan has been exclusively presented to stakeholders at the car rental franchisee. With the technology platform being a key component of the service, internal feedback from management is regarded to be most relevant.

The received feedback contains two main concerns:

- a) Accessibility of vehicles
- b) Charging additional services and fees

The accessibility of corporate car sharing vehicles must be ensured at any time, especially in locations with poor network coverage, such as underground car parks.

The “CloudBoxx” product description states that:

“Communication with our servers can be established via GSM, GPRS and UMTS. Intelligent fallback strategies allow communication by SMS or even autonomous operation if higher-level connectivity breaks down or is not available.”
(source: <http://www.invers.com/en-eu/carsharing/incar-technology/>)

And further:

“Vehicle access via Bluetooth, possible even in locations without GSM coverage.”
(source: <http://cloudboxx.invers.com/index.en.html>)

The combination of multiple communication standards should allow the customer to access the vehicle practically anywhere. Thereby, the access via Bluetooth connection is suitable for locations without any network coverage. Anyhow, this functionality should be verified with the technology supplier before making an agreement.

Regarding the second concern, the car rental franchisee must be sure that additional services, fees and fines can be charged from the customer. This applies primarily for additional charges that may occur when using the vehicle, such as toll fees and traffic fines, which are typically difficult to charge from private customers who pay by credit card.

Credit card payments are of no concern with corporate car sharing, and due to the suggested monthly flat-rate invoicing model, handling these additional charges should not be a problem. The corporate customer will receive a monthly invoice that contains the basic flat-rate for the provided vehicles, and all additional charges that were reported to the car rental franchisee for these vehicles during the previous month. In addition, the exact place and time of the instance could be reported to the corporate, since each vehicle is constantly transmitting data to the cloud server. The company can then define via internal policy whether or not employees are re-invoiced by their financial department. This kind of detailed monthly reporting will require some development work on the part of franchisee, but could be sold as premium service to the customer organisation.

6.2 Final Corrected Adaptation Plan

Considering received stakeholder feedback, there are only few corrections to be made to the initial adaptation plan. Thus, the roadmap for the final adaptation plan is summarised as follows:

Pre-implementation phase at the car rental franchisee

- Initiate a survey amongst existing corporate customers, in order to estimate the amount and types of vehicles to be allocated for a corporate car sharing service.
- Develop a flat-rate pricing model, based on estimated amount of vehicles to be equipped with on-board technology, and publicly available cost information. It is suggested to perform the calculations with an equipment rental period of 3 years and a fleet of at least 30 vehicles.
- Request a quotation for the “CloudBoxx” solution (vehicle access via smartphone) from Invers. This offer should contain everything needed to operate corporate car sharing as a stand-alone system i.e. vehicle on-board technology, other hardware, software, licenses, and project management.
- If necessary, make corrections to the initial pricing model, based on the actual offer from Invers.
- Verify vehicle access via Bluetooth (without network coverage) with Invers.

Implementation phase at the car rental franchisee

- Agree on a pilot project with 2-3 customer organisations – preferably in the greater Helsinki region – and provide user training.
- Allocate vehicles for corporate car sharing.
- Allocate and equip a mobile service van and corresponding resources.
- Make an agreement with a petrol station chain and equip all corporate car sharing vehicles with a fuel card.
- Inform and instruct employees regarding new service.
- Develop and implement procedures for invoicing and reporting additional charges to the corporate customer.

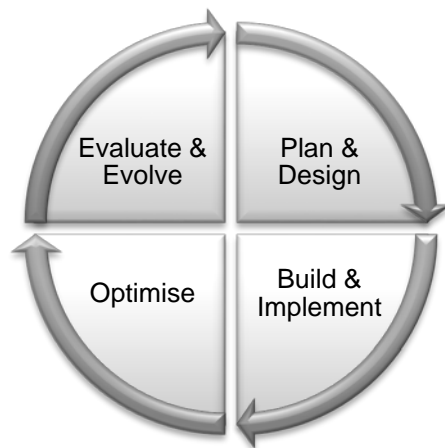
Implementation phase at Invers

- Equip allocated vehicles with on-board technology, set up backend system, and provide operator training.
- Brand and customise smartphone app.

Implementation phase at the customer

- Allocate parking space for corporate car sharing vehicles.
- Inform employees about new service and train them how to use it.
- Give feedback to the car rental franchisee.

It is suggested to conduct the pilot project for a duration of 6 to 8 weeks, while being in permanent contact with the customer organisations, and receive instant feedback regarding the quality of the service. This feedback allows the car rental franchisee to make quick corrections to operational activities, if required. The pilot phase should be concluded by a mutual evaluation of the service, considering feedback on corporate level and as well from the employees.



The concluding evaluation should be used as basis for further corrections to operational and administrative procedures, before implementing corporate car sharing as new business segment in Finland. Finally, it is recommended to agree on regular workshops with corporate customers, in order to ensure customer satisfaction and a continuous service improvement.

Figure 24. Service design lifecycle

7 Discussion and Conclusion

7.1 Summary

With the sharing economy and integration of public transport solutions constantly getting more popular, traditional service sectors like car rental need to adapt to these developments without question. It is important to realise that the fusion of individual and public transport solutions is a chance for the car rental industry to evolve and succeed in a new business segment. In this context, the opportunity to analyse the corporate car sharing service offered by an international subsidiary has been a valuable case study.

The foundation and conceptual framework for this thesis project was a rigorous analysis of common business model theories for different markets. This analysis did not only cover traditional business models, but also more recent approaches that characterise networked business models in multimodal transportation environments. The similarity of all analysed business models is their sectioning into four different business dimensions, being value proposition, customer, financial viability and infrastructure. The only deviations occur with business models for very specific industries.

The conceptual frameworks in terms of the four business dimensions was then used to perform a current state analysis of corporate car sharing at the car sharing subsidiary and corporate car rental at the franchisee in Finland. Both environments were compared in a gap analysis, with the goal to highlight which elements in the business model of a car rental company need adaptation when implementing corporate car sharing. Not surprisingly, there were not too many elements that need adaptation, due to the general similarity of business operations in both industries.

Finally, the business model elements that require adaptation were further investigated and used to develop an initial adaptation plan. This plan has been introduced to stakeholders at the car rental franchisee for evaluation. Based on the received feedback, corrections to the initial adaptation plan have been made. The final adaptation plan is supported by practical steps and managerial recommendations for the implementation phase of a corporate car sharing service within the existing operational infrastructure of the car rental franchisee in Finland.

7.2 Managerial Recommendations

The most important recommendations for the implementation of a corporate car sharing service in Finland are summarised as follows.

It is recommended to utilise the Invers “CloudBoxx” platform as technology basis, because it can be operated as a stand-alone system and it offers additional fleet management capabilities, which can be sold as additional (premium) service to customers. Due to uncertain future development on the part of the franchisor in terms of car sharing solutions, the system should be rented, taking a three-year investment as basis for financial measures. Further, it is recommended to equip at least 30 vehicles with the “CloudBoxx” on-board technology in order to benefit from the cost structure.

During the introduction phase of the service, it will be enough to allocate a single mobile service van for daily on-site inspections. All administrative issues can presumably be handled with the existing infrastructure and resources. Anyhow, once the volume of corporate car sharing activities increases, it is recommended to allocate dedicated resources to this market segment.

7.3 Validity and Reliability

Shenton (2004) argues that the validity of a research can be consolidated by four main criteria, being credibility, transferability, dependability and confirmability.

The credibility of this study is first of all ensured by selecting an appropriate research method. This method follows a qualitative approach, involving multiple sources, such as personal interviews with stakeholders at both case companies, relevant business publications, publicly available information and internal documentation regarding business operations. As well the researcher's long-term experience in the Finnish car rental industry was integrated objectively into the study. Secondly, the theory foundation of this study is a literature review of different acknowledged business modelling practices. Moreover, the research process was supported by regular meetings with the thesis instructor.

The transferability is ensured by revealing the research design, the data collection process and the analysis approach in the project plan in chapter 2. Thereby, the data collection from insiders at both case companies and the franchisor was conducted in the period between March and October 2016.

The dependability is ensured since the research design follows a widely recognised structure and data collection approach. The detailed implementation plan including managerial recommendations underlines the dependability further.

In order to ensure the confirmability of the study, all findings originate from data collected from informants. All sources and publications are referred to when used within the text, and listed in detail in the reference section. This ensures that only reliable data has been used, which reflects on the quality of research.

Finally, the validity of the qualitative research is proven when the outcome of the study answers the addressed business challenge. The implementation plan for a corporate car sharing service in Finland, being the outcome of the study, fully addresses the initial business challenge. Thus, the validity of the research can be assumed.

References

- 1 ALD Automotive Finland (2016) *ALD Sharing*. Available at: <https://www.aldsharing.fi/> (Accessed: 31 October 2016).
- 2 Beutel, M., Samsel, C., Mensing, M., Krempels, K.H. (2014) *Business Model Framework to Provide Heterogeneous Mobility Services on Virtual Markets*. International Conference on e-Business (ICE-B) 2014, ISBN: 978-989-758-043-7, pp. 145-151.
- 3 Briggs, M. and Frost & Sullivan (2014) *Future of Mobility: Corporate Carsharing*. Available at: <http://www.slideshare.net/FrostandSullivan/corporate-carsharing-3-1814> (Accessed: 25 October 2016).
- 4 *Business model* (2016) in *Wikipedia*. Available at: https://en.wikipedia.org/wiki/Business_model (Accessed: 08 June 2016).
- 5 ESSEC Alumni (2015) [redacted]. Available at: [https://www.youtube.com/watch?\[redacted\]](https://www.youtube.com/watch?[redacted]) (Accessed: 01 November 2016).
- 6 Euromonitor International (2016) *Car rental in Finland*. Available at: <http://www.euromonitor.com/car-rental-in-finland/report> (Accessed: 08 June 2016).
- 7 European Commission (2015) *SuperHub - tailor made mobility*. Available at: <http://www.superhub-project.eu/> (Accessed: 26 September 2016).
- 8 Fielt, E. (2014) *Conceptualising Business Models: Definitions, Frameworks and Classifications*. *Journal of Business Models*, Vol. 1, No. 1, pp. 85-105.
- 9 Gey, O. (2016) *Invers* [redacted]. [email] 14 March.
- 10 Hock, M. (2016) *Corporate Carsharing*. [email] 03 November.
- 11 Ikkunapaikka (2016) *Hertz toi markkinoille kimppa-autovuokrauksen*. Available at: https://issuu.com/ikkunapaikka/docs/2_5766f9b829634e/c/smlhpxs (Accessed: 26 September 2016).
- 12 Invers (2016) *CloudBoxx – The AlwaysOn Telematics Platform for car sharing applications*. Available at: <http://cloudboxx.invers.com/index.en.html> (Accessed: 26 October 2016).
- 13 Johnson, M.W., Christensen C., Kagermann H. (2006) *Reinventing Your Business Model*. *Harvard Business Review*, Dec 2015, pp. 58-68.
- 14 Osterwalder, A., Pigneur, Y. (2010) *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. ISBN: 978-1-118-65640-2.
- 15 Osterwalder, A., Pigneur, Y., Tucci, C.L. (2005) *Clarifying Business Models: Origins, Present, and Future of the Concept*. *Communications of the Association for Information Systems*: Vol. 16, Article 1.

- 16 PricewaterhouseCoopers (2014) *The sharing economy – sizing the revenue opportunity*. Available at: <http://www.pwc.co.uk/issues/megatrends/collisions/sharing-economy/the-sharing-economy-sizing-the-revenue-opportunity.html> (Accessed: 30 October 2016).
- 17 Shenton, A.K. (2004) *Strategies for ensuring trustworthiness in qualitative research projects*. Education for Information: Vol. 22, pp. 63-75.
- 18 Stakeholder at the car rental franchisee (2016) Personal communication to Martin Matthes, 05 October.
- 19 Stakeholder at the car sharing subsidiary (2016) Personal communication to Martin Matthes, 11 April.
- 20 Subsidiary (2015) [REDACTED]. Available at: [https://www.youtube.com/watch?\[REDACTED\]](https://www.youtube.com/watch?[REDACTED]) (Accessed: 25 October 2016).
- 21 Subsidiary (2016) *Tailor-made corporate car sharing*. Available at: <http://www.subsidiary.fr/en/corporate/our-solutions/corporate-car-sharing> (Accessed: 20 August 2016).
- 22 Teece, D.J. (2010) *Business Models, Business Strategy and Innovation*. Long Range Planning, International Journal of Strategic Management, Vol. 43, pp. 172-194.
- 23 Wilson, F. (2006) My Favorite business model. Available at: http://avc.com/2006/03/my_favorite_bus/ (Accessed: 08 June 2016).

Notes of personal interview with stakeholder at the car rental franchisee

Q: What is your opinion about corporate car sharing?

- corporate car sharing will become more popular, especially amongst larger companies
- will potentially be used like taxi services nowadays
- beneficial for companies due to better cost control

Q: What benefits do you think would corporate car sharing bring for the car rental franchisee?

- will be one additional service within business portfolio
- it is a kind of “must have” in the future
- leasing companies will increasingly offer such services, therefore we can compete with them

Q: What value are we offering to our customers by this service?

- #1 reason: flexibility due to large variety of vehicles in fleet (e.g. small cars for urban transportation, four-wheel drive cars for winter season etc.)
- #2 reason: cost savings for companies (reduce own fleet, lower taxi expense, mileage compensation etc.)
- #3 reason: ability to offer this service on international basis for business travellers
- we should offer the service as well in remote rural areas

Q: Regarding corporate car sharing, what would be our key partners?

- in remote areas: towing companies, local gas stations etc.

Q: What do you think should the service offer in order to be successful?

- ease of use
- flexibility
- positive user experience (important already during pilot phase i.e. we need instant customer feedback)
- attractive pricing

Q: What challenges do you expect when introducing the service?

- integrations with existing IT systems, therefore a “stand alone” system is preferred
- How do we handle traffic fines?
- How do we handle charges regarding vehicle damages?
- Are there possibly any legal issues to consider?

- vehicle maintenance and servicing should not be a major issue
 - customer should announce to us when vehicle needs service or cleaning
 - could use a mobile service van for sharing fleet
 - corporate customers would probably accept deviation from standards in return for higher flexibility

Q: Are you willing to accept a temporary negative return on investment when introducing the service?

- expectable and acceptable in the beginning
- should minimise risks and therefore choose versatile on-board technology

Q: What kind of vehicles would you consider being suitable for this service?

- entirely depending on customer demand (flexibility!)
- any new vehicles should be compatible with existing fleet

Q: How many vehicles would you branch off for this service in the starting phase, keeping in mind that each vehicle needs to be equipped with on-board technology?

- could consider 10 vehicles for pilot phase, using different types of vehicles

Q: In which geographical regions would you aim to introduce the service in the first place? Which are most promising?

- Helsinki region for the pilot phase
- basically any region in Finland is an option
- consider to offer service with higher price in remote regions

Q: When introducing the service in cooperation with the car sharing subsidiary, what would be your preferred business model (level of cooperation, license etc.)?

- use their app for corporate car sharing services
- rent of required on-board equipment
- other details to be determined

Q: What do you think about agreeing on partnerships or cooperation with other transport providers (e.g. VR) in order to gain competitive advantage?

- network cooperation will be increasingly important in the future
- other transport service providers will not be the main competition in the future, but car ownership

Q: What are your visions for the future? Are there existing strategies regarding car sharing on domestic level? Where do you see the car rental franchisee in 5 years from now?

- key issues are the development of technology and future business strategies of car manufacturers
- who is in charge of the technology will dominate the market
- decreasing importance of car ownership
- worst-case scenario: car sharing in general will eliminate short-term car rental market
- best-case scenario: ability to offer better and more flexible transport solutions to customers

Invers pricelist for “CloudBoxx” platform (30.07.2015)



Prices

for Car Sharing Operation (EU28+*)

CloudBoxx InCar Technology	Per Vehicle:		
	Rate 1 (Rent)	Rate 2 (Rent)	Rate 3 (Purchase)
	0 € one-time	249 € one-time	499 € one-time
+	25,90 € per month	15,90 € per month	9,90 € per month
CloudBoxx Fleet Control	Per Operator:		
	299 € per month		

1. CloudBoxx Development Starter Package

CloudBoxx Development Kit for the desktop,
incl. 3 months Fleet Control and 4h development
support

Cost: 1.990 €



CloudBoxx Development Kit

2. Pilot phase

Pilot project with real vehicles –
no long-term commitment

3. Growth phase

Transition to full operations
and growth support from INVERS

* EU28+ includes the following countries: Germany, Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom, Norway, Monaco, Croatia

Investment break-even analysis (3 years rental)

REQUIRED ANNUAL NET CASH INFLOW FOR INVESTMENT BREAK-EVEN

with "CloudBoxx" rental model A, for a period of 3 years

VEHICLES	INVESTMENT				ANNUAL NET CASH FLOW				
	YEAR 1	YEAR 2	YEAR 3	TOTAL	/ VEHICLE	/ DAY	TOTAL	/ VEHICLE	/ DAY
10	25.041,00 €	5.496,00 €	5.496,00 €	36.033,00 €	3.603,30 €	3,29 €	12.011,00 €	1.201,10 €	1,10 €
20	29.439,00 €	7.404,00 €	7.404,00 €	44.247,00 €	2.212,35 €	2,02 €	14.749,00 €	737,45 €	0,67 €
30	33.837,00 €	9.312,00 €	9.312,00 €	52.461,00 €	1.748,70 €	1,60 €	17.487,00 €	582,90 €	0,53 €
40	38.235,00 €	11.220,00 €	11.220,00 €	60.675,00 €	1.516,88 €	1,39 €	20.225,00 €	505,63 €	0,46 €
50	42.633,00 €	13.128,00 €	13.128,00 €	68.889,00 €	1.377,78 €	1,26 €	22.963,00 €	459,26 €	0,42 €
60	47.031,00 €	15.036,00 €	15.036,00 €	77.103,00 €	1.285,05 €	1,17 €	25.701,00 €	428,35 €	0,39 €
70	51.429,00 €	16.944,00 €	16.944,00 €	85.317,00 €	1.218,81 €	1,11 €	28.439,00 €	406,27 €	0,37 €
80	55.827,00 €	18.852,00 €	18.852,00 €	93.531,00 €	1.169,14 €	1,07 €	31.177,00 €	389,71 €	0,36 €
90	60.225,00 €	20.760,00 €	20.760,00 €	101.745,00 €	1.130,50 €	1,03 €	33.915,00 €	376,83 €	0,34 €
100	64.623,00 €	22.668,00 €	22.668,00 €	109.959,00 €	1.099,59 €	1,00 €	36.653,00 €	366,53 €	0,33 €

