Accessibility based business models

An exploration into the characteristics of accessibility based business models and its related difficulties of companies operating in B2C markets.

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Summary

A transition from ownership towards accessibility takes place in an increased number of markets. With accessibility is meant that a consumer has temporary access to a product, but never fully owns it. Next to this transition, the interest of scholars and practitioners in the concept of business models has risen dramatically. Nevertheless, literature on accessibility based business models of companies operating in business-to-consumer markets and the accessibility related difficulties these companies have to deal with is scarce. This leads to the following research question:

"What are typical characteristics of accessibility based business models of companies operating in B2C markets, and what main accessibility related difficulties do these companies have to deal with?"

Because of the explorative nature of the research question, multiple case studies were used as a research strategy. A questionnaire has been prepared based on Osterwalder's (2004) business model ontology and a limited number of articles on accessibility based business models and the related difficulties. The business models of twelve companies were first analyzed individually, followed by a cross-case-analysis for each of the business model's elements.

The research concludes that typical accessibility based characteristics exist for eight out of nine business model elements. The most relevant characteristics are described subsequently. As part of the *value proposition* of accessibility based business models, products are offered at: lower costs, increased trialability, reduced risk, and less responsibilities, compared with ownership. This is possible because these products are only accessible for a certain period, leading to lower costs and trialability. Because companies stay owners they take over the risk and responsibility. As part of the *target customer* element, for more expensive products made accessibility for longer periods, customer groups are targeted for which the likeliness of damages or not paying is low. As part of the *distribution channel*, products are returned to a physical location, and for some companies, mechanics check and repair products at the customers' location. With ownership, customers keep products and so do not need to return them, and as the company does not own the product it also does not check or repair it. All companies focus on customer acquisition and retention, and the *relationship* with customers is long-term based. This is obvious in case of long-term accessibility based contracts, however, also for shorter periods of access the relationship is long-term based. Additionally, because products are e.g. returned etc., many more contact moments exist. Moreover, some important *capabilities and key resources* have been identified which are different for business models based on ownership. First and most obvious is the capability to maintain and repair products, which is not necessary in case of direct sales. Also the customer service is even more important because of the long-term relationships that have to be established. Although planning is also important for many selling companies, for accessibility based companies this is crucial. Products should not only be delivered to customers in-time, it should also be managed where they are, when they will be returned, and when they can be e.g. rented out to the next customers. Especially for the maintenance and repairs, human resources are used which are not part of a business model based on ownership. Also the software is a key resource and different planning software is used in case of ownership. Lastly, more financial resources are needed for e.g. the products. Accessibility based companies have to deal with specific *activities* before products are made accessible (i.e. select and create products suitable for accessibility, (more complex) planning, and check customers' financial

situation), while customers make use of products (i.e. informing customers, make customers pay, maintain and repair products, and providing information about extending the contract), and after products are used (i.e. pick up the product, check the product, return deposits, and clean and repair products, and purchase new parts). Additionally, the product availability is higher because customers often want access for a specific period. Only for the *partnership* element no characteristics could be identified which are typical for accessibility based companies, and differ with ownership. As part of the *revenue model*, some revenue streams create temporary access namely; pay-per-use, rental, subscription, financial lease, and operational lease. For all of these revenue streams it takes longer to earn the total revenues than in case of direct sales. Lastly, some *cost groups* are especially high for accessibility based companies. First, investments in products are higher because also the products already in use by customers are paid for. Second, as mentioned before, more human resources are necessary for e.g. the customer service and maintenance and repairs. Third, a more comprehensive software program is needed. Fourth, the insurance costs are higher (for expensive products) because also products in use by customers are insured. Lastly, the transportation costs are higher because products are returned. The software and transportation costs are relatively small for larger firms. It can also be concluded that relationships between the business model elements exist. As part of the value proposition, products are offered based on accessibility. This means that, for example, only revenue streams are used for which the total revenues are not earned directly as with sales, however, over a longer period. This in turn effects the cost structure, and makes investments in products a large cost group.

Also the main accessibility related difficulties have been identified. First, it was expected that the diffusion would be difficult for accessibility based companies because although the same products are offered, they are offered in a new way for consumers. However, it can be concluded that the diffusion does not seem to be a general difficulty for accessibility based companies. The value proposition and especially the lower cost and higher trialability even increase the diffusion. Accessibility based business model difficulties, however, could be identified. Twelve different difficulties have been described, the ones mentioned by most interviewees are shortly repeated subsequently. For a lot of companies it is difficult to acquire enough financial capital although this is important due to the high investments especially in products. Companies offering expensive products for longer periods, have difficulties with deciding which customers will pay in the future. Furthermore, it is difficult for companies to make customers return the (complete) product and pay for it in time, and to decide what deposits should be returned to customers in case of damages. The difficulties can be linked directly to part of the business model elements, most of them are directly related to the value configuration/activities element. Lastly, it can be concluded that the main difficulty companies have to overcome in case of a transition towards an accessibility based business model is to convince sales representatives and advisors of its advantages, and make them promote the offering.

Preface

This master thesis assignment has been written in order to finalize my studies in Business Administration at the University of Twente, and Innovation Management and Entrepreneurship at the Technical University of Berlin. During my time as a Bachelor student a tool to describe a company and its most important aspects in an easy but complete manner seemed to be handy to me. This "tool" appeared to be the business model, which I learned more about for the first time at the University of Twente. Later on, in Berlin, business model theory was used to describe several companies and design a business plan. Also the theory about accessibility interests me. Most companies offering products based on accessibility have an incentive to offer sustainable products, leading to less waste and a cleaner environment. This assignment made it possible for me to learn more about business models and accessibility, for which I am Capgemini Consulting very thankful.

Additionally, I would also like to thank the people who helped me with the execution of this research. My two supervisors from Capgemini Consulting; Isabel Thijssen, and Bart Zwartjes, for providing me with the freedom needed to execute this assignment, and the valuable feedback and suggestions for improvements they provided me with. Furthermore, I really appreciate the fact that appointments could be planned on the short term. Then I would like to thank the supervisors from the University of Twente; Jeroen Kraaijenbrink and Björn Kijl, for their clear and constructive feedback. Moreover, I would like to show gratitude to the interviewees who made time for me and enthusiastically answered questions, which made this research possible.

Hopefully you will enjoy reading my master thesis assignment!

Koen van den Bos

Utrecht, 19th of September, 2012

Table of contents

List of figures and tables

Tables in the appendix

1. Introduction

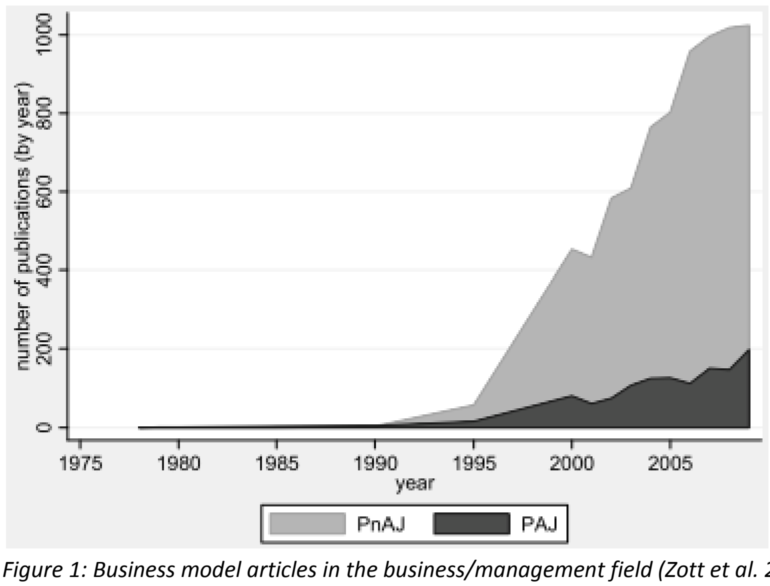
This first chapter serves as an introduction to the concept of accessibility based business models, and results in two research questions. Within paragraph 1.1, the organization where this research has been executed is described shortly. In paragraph 1.2, some background information on the topic is provided. Paragraph 1.3 follows with the research goal, and paragraph 1.4 with the central research question and sub-questions. Lastly, in paragraph 1.5 the structure of the report is presented.

1.1 The organization

This master thesis assignment has been executed at Capgemini, a global leading company in consulting, technology, outsourcing, and local professional services. Capgemini is headquartered in Paris, France, operates in forty countries, and offers work to nearly 120.000 employees. The headquarter in the Netherlands is located in Papendorp, Utrecht. The national Capgemini Consulting organization consists of eight practices of which “Digital Transformation and Innovation” is the one where the master thesis was executed. Each practice consists of about sixty till ninety experts, and is further divided into clusters all focusing on specific content. The master thesis will contribute especially to the content development of the *“Customer Experience”* and also “Strategy and Innovation” clusters. Internal discussions by “Customer Experience” consultants led to the graduation assignment named *“Access as success, the transition from ownership towards accessibility”*. Reviewing literature and further discussions led to a more specific scope as worked out subsequently.

1.2 Background

In the 15-year period between 1995 and 2010 interest in the term “business model” increased dramatically (Zott, Amit, & Massa, 2010). By performing a search on the EBSCO host database, Zott et al. (2010) identified the number of business model articles Published in non-Academic Journals (PnAJ) and Published in Academic Journals (PAJ) (see figure 1). As figure 1 indicates, academic research on business models seems to lag behind practice. Next to the rise in interest of business models, also the importance of the concept for delivering and capturing value is acknowledged by many authors (e.g. Amit & Zott, 2001; Teece, 2010; Chesbrough & Rosenbloom, 2002).



PnAJ = Published in non-Academic Journals.
PAJ = Published in Academic Journals.

Figure 1: Business model articles in the business/management field (Zott et al. 2010)

Next to this increased interest in the concept of business models, a transition from ownership towards accessibility based business models seems to take place in an increased number of markets (Rifkin, 2000; Botsman and Rogers, 2010). Whereas in the former situation consumers buy products and become owners, in an accessibility based economy, consumers pay for access to products. While Rifkin already wrote about the transition in 2000, in the years after, it seems indeed that more and more accessibility based business models occur in an increased number of markets. An example is the in 2008 established music streaming company "Spotify", which offers subscription based access to a music library of over thirteen million music tracks in six European countries.

Several reasons for consumers to make use of accessibility based offerings can be thought of. According to Drury et al. (2012), this type of offering can reduce the upfront cost for consumers, meaning that more luxurious products become available for customers who could not afford this before, leading to market potential in new market segments (Mont, Dalhammar, and Jacobsson, 2006). Additionally, because the product stays under ownership of the company, consumers are released of responsibilities for the product, like its maintenance and repairs (Mont, 2002; Baines et al., 2007; Lawson, 2011; Beltagui, 2011). With this, accessibility based companies can create a competitive advantage in comparison with directly selling companies. Furthermore, making use of accessibility based products means that less products are owned and produced in total, leading to significant resource savings and reductions in manufacturing emissions and waste (Rifkin, 2000). The company "Greenwheels" (provider of accessibility based cars), for example, mentions on its website that one of its cars prevents fifteen other cars from being on the road.

In business-to-business markets a lot of research has already been executed on the accessibility principle. Outsourcing is a well known example of this and is about how *"to substitute internal ownership of physical capital and operations with access to needed resources and processes from outside suppliers"* (Rifkin, 2000). Despite the increased interest by scholars in the concept of business models, and the transition from ownership to accessibility for more and more companies in an increased number of markets, literature on what characterizes these accessibility based business models in business-to-consumer (B2C) markets is very scarce. Teece (2010) mentions that as for many interdisciplinary topics, business models are often mentioned but rarely analyzed. This might also be one of the reasons why research on accessibility based business models in B2C markets is scarce. Next to this, Capgemini Consulting wishes to strengthen its services on "consumer driven strategy" and can use knowledge on accessibility based business models to advise clients on how to transform towards an accessibility based business model, and also how to improve an existing accessibility based business model.

1.3 Research goal

The lack of research on accessibility based business models in B2C markets, the growing number of companies using such business models, and Capgemini's wish to advise their clients on the topic, leads to the following research goal:

"Find out what characterizes accessibility based business models of companies operating in B2C markets, and what main accessibility related difficulties these companies have to overcome, in order for Capgemini Consulting to be able to advise current and potential clients on the topic."

1.4 Central research question and sub-questions

In case the subject of study is relatively new, and precise expectations are lacking, the type of research can be described as explorative (Babbie, 2009). As this is the case for this research, the central research question that fits to the above mentioned research goal has an explorative nature and reads:

"What are typical characteristics of accessibility based business models of companies operating in B2C markets, and what main accessibility related difficulties do these companies have to deal with?"

Definitions

In the central research question some terms are mentioned which can be interpreted in multiple ways, therefore the following definitions are used:

- *"A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams"* (Osterwalder et al., 2005, p.17). The reasons for using this definition are elaborated on in section *"2.2.1 Definitions"*.
- Business model characteristics can be explained as the configuration of the separate business model elements.
- Accessibility can be defined as; the extent to which a consumer or user can obtain a good or service at the time it is needed, while not becoming owner at any given moment (Rifkin, 2000).

Two sub-questions help to structure the study. This first research sub-question is used to gain a better understanding of the accessibility based business model itself. The researcher studied business models of different accessibility based companies, and compared these to find differences and similarities.

1. What are typical business model characteristics of accessibility based companies which operate in B2C markets?

The second question provides a better insight in the difficulties companies have to deal with in order to realize their accessibility based business model.

2. What main accessibility related difficulties do accessibility based companies which operate in B2C markets have to deal with in order to realize such a business model?

1.5 Research structure

After this introduction, the report continues with the theoretical framework in the second chapter. This chapter describes the most important theories, and is also used as a basis for the data gathering. The third chapter then describes the methodology used to execute this research. Thereafter, the research findings are presented in the fourth chapter. The last chapter concludes on the research question and discusses the implications. Furthermore, the contributions of the research, and the limitations and a future research section are included here.

2. Theoretical framework

The theoretical framework is built around the two core concepts of the central research question; accessibility, and the business model. This section describes the most important theories and concepts, and their elements. Herewith it is indicated how the research fits into the broader field of scientific knowledge. Paragraph 2.1 starts by describing where accessibility comes from, what it is, and what it is not. Thereafter, in paragraph 2.2, theory about business models is formulated. First the concept is defined, then taxonomies, classifications, and components are described. This is followed by some examples of important business model representations. Osterwalder's (2004) business model ontology is described more in-depth as this forms the basis for this research. In paragraph 2.3, theory about the combination of the two core concepts; accessibility, and business models, is presented. Lastly, theory about the difficulties with which accessibility based companies have to deal is presented in paragraph 2.4.

2.1 From ownership towards accessibility

First, the concept of property is described as this forms the basis for ownership. It is explained what type of property can be linked to accessibility. Then the rise of services and accessibility is presented, here it is made clear what accessibility is and how it differentiates from ownership. The product-service-system (PSS) concept has a lot of similarities with accessibility and so is described subsequently. Lastly some growth stats on accessibility based companies are illustrated.

2.1.1 Property

In order to explain the modern notion of ownership we go back to the seventeenth century when political philosopher John Locke published his natural rights theory of property. Locke (1690) sees property as a natural right, and argues that every man can create his own property by adding his labor to nature. Property as from that time was the visible sign of a person's status (Rifkin, 2000). In order to further clarify the concept of property rights, Barzel (1989) makes a distinction between two types; economic property rights which can be seen as the end (what people actually want), and legal property rights which can be seen as the means to reach that end. Barzel (1989, p. 3) defines economic property rights an individual has over a commodity or asset, as "*the individual's ability, in expected terms, to consume the good (or the services of the asset) directly or to consume it indirectly through exchange*". Legal rights enhance economic rights and so have a more supporting role (Barzel, 1989). As this research is about the consumption of the good or the service and not the supporting role of legal rights, the focus lies on economic property rights. These property rights can be ordered from no property rights, to all property rights being owned by individuals (persons or privately-held firms). Exclusive rights may be hold by; no one, which is open access property, by a community, which is communal property, by the state, which is state property, or by individuals, which is private property (Barzel, 1989). For this research the focus (see figure 2) lies on private property as the property is always owned by either the company or the consumer.

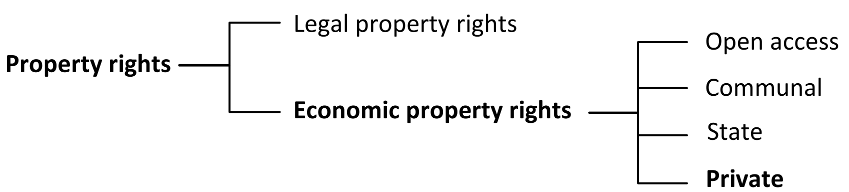


Figure 2: Sub-division of property rights.

2.1.2 The rise of services and accessibility

From the 1880s till the middle decades of the twentieth century, mass production dominated the capitalist economy and led to an abundance of private property. During this time, ownership of private property was still the most important indicator of one's status in society (Rifkin, 2000). Then increased complexity of large-scale manufacturing operations, women joining the work force, and higher family income, led to an increased prominent role of business services (e.g. accounting, transportation, and communications), and later customer services (Rifkin, 2000). Stahel (1989) states that there is a need to distinguish between an industrial and service oriented economy. In the industrial economy the exchange of the products being consumed is central. The service economy recognizes the utilisation of the product, which is a more performance driven orientation. The service economy is also often referred to as the functional economy in which the product and technology are only modes to deliver a function (Stahel, 1989). In such economy, consumers buy mobility instead of cars. Vargo and Lush (2004) acknowledge this transition from a marketing perspective and argue that *"marketing has moved from a goods-dominant view, in which tangible output and discrete transactions were central, to a service-dominant view, in which intangibility, exchange processes, and relationships are central".* The service-dominant logic is applicable to all marketing offerings, this also includes tangible goods which are involved in the process of service provision (Vargo & Lush, 2004).

Kotler (1977, p.8) states that the *"importance of physical products lies not so much in owning them as in obtaining the services they render".* Pine and Gilmore (1999) also acknowledge this and mention that we are shifting to an economy that values experience over possessions. This clearly shows the transition from the ownership period in which owning physical products was of major importance, to the accessibility phase in which consumers want to obtain the services the products render, and not the physical product itself. Figure 3 shows where the difference lies in property ownership between these two concepts. With ownership the consumer becomes owner of the property, while in a situation of accessibility the consumer makes use of the property but the company stays the owner.

Figure 3: Property ownership division.

A good example of the transition from goods into services is the case of Encyclopaedia Britannica. The company sold a hardback set of their thirty-two volumes for a price of $1600, which was a major investment for most American families. Bill Gates approached the company in the early 1990s with the idea to sell the product on CD-ROM at a much cheaper price. As the company was worried that sales of the printed version would decrease dramatically, it refused the offer. Bill Gates found another firm to collaborate with, and within a year and a half their product became the best selling encyclopaedia in the world (Downes & Chunka, 1998). Britannica responded by offering an online version of their encyclopaedia, where subscribers could pay for an entire year of access. This shows how a transition from a good based on ownership towards a service based on accessibility can take place.

To get a better understanding of how ownership can be distinguished from non-ownership (accessibility), the most important characteristics of the two are put next to eachother in the following table (1).

Ownership	Non-ownership (Accessibility)
Commitment and responsibility for burdens of ownership	Freedom to try other products
Transfer of ownership	Temporary access, usage, or rental
Tangible goods	Goods as services
Possession-oriented	Experience-oriented
Producer/marketer-driven	Consumer-driven
Pay for possession	Pay for access
Risks associated with incorrect product choice, obsolescence, social stigma	Reduced social and obsolescence risk
Potential tax benefits associated with depreciation/amortization or deductions	Tax benefits may be limited
Pay full price	Pay per usage price

Table 1: Comparison of ownership and accessibility characteristics (based on Lawson, 2011).

2.1.3 Product service system

The shift in focus from selling products to providing functions through a mix of products and services is also described in the product service system (PSS) concept (Mont, 2003). This concept is defined as *"a system of products, services, supporting networks and infrastructure that is designed to be: competitive, satisfy customer needs and have a lower environmental impact than traditional business models"* (Mont, 2002, p. 239). The customer pays for the usage of a product instead of purchasing it, and thereby benefits from a decrease in risks, responsibilities, and costs (Baines, et al., 2007). Goedkoop et al. (1999, p. 17) further clarify the concept by defining the key elements of the PSS:

- "*A product is a tangible commodity manufactured to be sold. It is capable of falling onto your toes and of fulfilling a user's need*".
- "*A service is an activity (work) done for others with an economic value and often done on a commercial basis*".
- "*A system is a collection of elements including their relations*".

In figure 4 the evolution of the PSS concept is presented. Traditionally, products were considered separately from services as can be seen at the bottom of the pyramid (Baines, et al., 2007). With the servicization of products, first service is added to the product, and with productization the service component includes a product. The top of the pyramid shows the PSS which can be seen as the convergence of the servicization and productization trends into the consideration of a product and service as a single offering (Morelli, 2003).

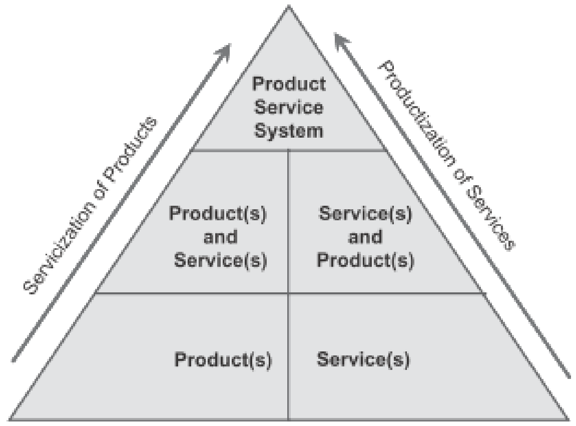


Figure 4: Evolution of the Product Service-System concept (adapted from Baines et al., 2007).

For our understanding of accessibility it is important to note that an accessibility based business model always provides a product-service combination as a PSS. This means that business models offering pure services (e.g. repairing bicycles) are not examples of what is meant by accessibility based business models in this research (see figure 5). Also products with the addition of a service like direct sales of a bicycle and the service to deliver it to the customer is not seen as accessibility. Furthermore, while the PSS only considers tangible products, accessibility can be seen as more broad because also intangible products are considered. Rifkin (2000) presents Encyclopaedia Britannica which offers an intangible encyclopaedia via the web as example of an accessibility based firm. Botsman and Rogers (2010) also see companies offering intangible products (e.g. Spotify) as accessibility based companies.

Accessibility

Offering	Product	Product-Service	Service
Example	Direct sales of a bicycle	Offering a bicycle for rent	Repairing bicycles

Figure 5: Product-service combination

2.1.4 Increased number of accessibility based business models

Rayport and Sviokla (1994) write that a shift from a marketplace transaction to a marketspace service is occurring more frequently because consumers are feeling more comfortable with access over ownership. Furthermore, they argue that "*If access can be acquired without the answering machine itself, the customer gains the benefits of the software-defined services without the nuisance of acquiring and maintaining the hardware-defined product*" (Rayport and Sviokla, 1994, p.144). Botsman & Rogers (2010) suggest that several market scenarios exist in which accessibility based products can be offered, including products with; high purchasing costs, high idling capacity, limited use, or when the value of the product diminishes after use.

In order to illustrate the rise of accessibility based business models, subsequently some growth stats of recent mainstream examples are provided. Bike sharing is such a mainstream example and is seen as the fastest growing form of transportation in the world (Bhattarai, 2009). Since its launch in December 2010, more than 11.000.000 cycle hires were made from London's Barclays Cycle Hire (Transport for London, 2012). Also car-sharing membership takes off, estimating that 5.5 Million people in Europe will make use of these services in 2015 (Zhao, 2010). In recent years a lot of accessibility based companies have been grounded in e.g. toy and baby good, and fashion and accessories markets (Botsman & Rogers, 2010).

2.1.5 Sub-conclusion

Till the middle decades of the twentieth century, private property was the most important indicator of one's status in society (Rifkin, 2000). After that time the number of companies offering services to businesses and consumers has risen dramatically. Therefore it is wise to distinguish between an industrial and service oriented economy. The latter can be referred to as the functional economy in which the product and technology are only modes to deliver a function (Stahel, 1989). The transition from goods to services is also acknowledged from a marketing perspective (Vargo & Lush, 2004). Together with the rise of services, accessibility based companies were established. It is important to note that in case of accessibility the product is always owned by the company, and so, customers only have access to products. Lawson (2011) offers a set of additional characteristics with which accessibility can be distinguished from ownership. Accessibility has a lot of similarities with a PSS, as accessibility can actually be seen as a product which is being offered as a service (e.g. offering a bicycle for rent). This means that a pure product or service, or a product with the addition of a service are no examples of accessibility. A main difference between a PSS and accessibility is that products in case of accessibility can be intangible (e.g. Spotify), whereas products for a PSS are tangible. It can be concluded that several market scenarios exist in which accessibility based products can be offered, some examples of accessibility based companies are presented, showing the rise of this type of company.

2.2 Business models

Theory about business models was part of lectures at both the university of Twente and the TU Berlin. References from the lectures to important authors and articles were used for a start. Also the references used by these authors are input for the literature review. Additionally, the academic database "Web of Knowledge" and the search engine "Google Scholar" have been used to find more relevant literature. As huge amounts of literature were found, articles that have been cited frequently as well as articles that were published recently in top management journals (e.g. Strategic Management Journal) are prioritised. Sometimes also books were cited, and so these are also part of the literature review. In order to find more recent literature the option "cited by" was used frequently. Another method to find relevant literature was to use literature reviews from other authors. For this, literature reviews by Osterwalder et al. (2005) and Zott et al. (2010) have been used for a start. Furthermore, a concept matrix (appendix A) was compiled while reading the articles.

The business model concept became increasingly popular with the rise of the internet in the 1990s. Until recently within the research stream on business models, e-business gained most attention (Zott et al., 2010). The internet can be seen as the main driver of the interest for business models, and the consequent emergence of research on the topic (Magretta, 2002). Definitions and the difference between the business model and company strategy follow in the subsequent paragraph. Thereafter business model taxonomies, classification, and components are presented. This is followed by a short description about the different existing business model representations, and lastly a more in-depth presentation of Osterwalder's (2004) business model ontology for which the nine elements it consists of are being elaborated on.

2.2.1 Definitions

Literature reviews show that different definitions are used to describe business models (Osterwalder, Pigneur and Tucci, 2005; Morris, Schindehutte, & Allen, 2005; Zott, Amit and Massa, 2010). At a more general level, a business model has been described as a conceptual tool or model (Osterwalder, 2004; Osterwalder, Pigneur, & Tucci, 2005; Teece, 2010), a structural template (Amit & Zott, 2001), an architecture (Dubosson-Torbay, Osterwalder, & Pigneur, 2002; Timmers, 1998), a statement (Stewart & Zhao, 2000), and a method (Afuah & Tucci, 2001). A lack of clarity about the business model definition leads to confusion, therefore this research builds on one explicit definition proposed by three well known and often cited scholars in the field of business models. Because the definition is based on a literature synthesis, most important concepts used by other scholars are included, making it a very comprehensive definition:

"A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams" (Osterwalder, Pigneur, & Tucci, 2005, p. 17).

In the definition mentioned above it seems that value creation is of major importance for the business model. Osterwalder et al. (2005) argue that the business model concept in literature is generally understood as the firm's logic to create and commercialize value. Other scholars (Zott, Amit and Massa, 2010; Amit and Zott, 2001; Magretta, 2002; Morris et al.,2005; Johnson et al., 2008; Chesbrough & Rosenbloom, 2002; Teece, 2010) also point out the importance of value creation and capturing for the business model concept.

As the strategy of the firm is frequently linked to the business model concept, it is important to clarify the relationship between these two terms. According to Magretta (2002) a business model is not the same thing as a strategy although many people use these terms interchangeably. Business models describe how, as a system, the pieces of a business fit together without taking competition into account, whereas strategy explains how to deal with this competition (Magretta, 2002). Osterwalder et al. (2005) agree that the business model shows how the pieces of a business fit together as a system, and add that strategy, unlike the business model, also includes execution and implementation. Zott et al. (2010) confirm that the business model and strategy concept are indeed conceptually different. Business models and strategy can be seen as complementary rather than substitutes (Zott & Amit, 2008).

2.2.2 Taxonomies, classification, and components

Next to defining what business models are, a number of authors offer taxonomies and classifications of business models. This means that business models with certain common characteristics are classified into categories (Osterwalder et al., 2005). Well-known examples are Timmer's (1998) eleven generic e-business models which he classifies based on the degree of innovation and the functional integration. Linder and Cantrell (2000) focus on two dimensions to categorize business models, namely; a model's core, profit making activity, and its relative position on the price/value continuum. Then Rappa (2001) proposes nine generic e-business models which are classified based on their value proposition and the ways to generate revenues (e.g. advertising, or subscription). Dubosson-Torbay et al. (2002) offer a multidimensional classification scheme focusing on; the user's role, interaction pattern, nature of the offering, pricing system, level of customization, and economic control.

An additional research stream exists which focuses more on the business model components. This also makes managers able to understand their business models. Mahadevan (2000) for example, proposes that business models consist of; the value stream for the partners and buyers network, the revenue streams, and the logistical steam. Alt and Zimmerman (2001) are somewhat more specific and distinguish six generic elements a business model consists of; mission, structure, process, revenues, legal issues, and technology, which are then further divided into more specific concepts. Linder and Cantrell (2000) included some marketing specific issues in their business model, and propose the following components; the pricing model, the revenue model, the channel model, the commerce process model, the Internet-enabled commerce relationship, the organizational form and the value proposition. Based on business models and components proposed by other scholars, Osterwalder (2004) offers a set of nine building blocks, and based on this a business model representation. More on this follows in paragraph 2.2.4.

2.2.3 Representations

In literature a lot of research is published on different business model representations. Tapscott et el. (2000) for example suggest a value map to show how a business web operates. The value map presents all the relevant participating groups (i.e. partners, customers, suppliers) and the value exchanges between these (i.e. tangible and intangible benefits, knowledge). Quite similar to the value map are the set of schematics proposed by Weill and Vitale (2001) which can be used to analyze and design e-business models. These schematics consist of participants, relationships, and flows. Johnson et al. (2008) propose a business model consisting of four elements which together are used to create and deliver value. The four elements are: customer value proposition, profit formula, key resources, and key processes.

2.2.4 Osterwalder's (2004) business model ontology

Osterwalder (2004) created a business model ontology which is a "*conceptualization and formalization of the essential components of a business model into elements, relationships, vocabulary, and semantics*" (Zott, Amit, & Massa, 2010, p. 13). Osterwalder (2004) identified nine building blocks based on business models proposed by other scholars. The building blocks cover all business model components that were at least proposed by two different scholars. Components as described by other scholars on competition and also implementation were excluded as these do not fit to the definition of a business model. The nine building blocks as distinguished by Osterwalder (2004); value proposition, target customer, distribution channel, customer relationship, value configuration, capability, partnership, cost structure, revenue model. These building blocks can be divided into four pillars which form the basis of a business model; product, customer interface, infrastructure management, and financial aspects. These four pillars are strongly influenced by the four perspectives of Kaplan and Norton's (1992) Balanced Scorecard. The two authors compare their framework with an airplane's cockpit, whereby the scorecard provides management with an overview of complex information at a glance. Furthermore they state that managers do not want e.g. to only measure the financial or the operation performance, they want a balanced view of the total firm. Kaplan and Norton (1992) propose four perspectives managers should keep an eye on; the customer perspective which answers how customers see the firm, the internal perspective which shows where the company excels, the innovation and learning perspective which deals with the question how the company can continue and improve to create value, and lastly the financial perspective which deals with how shareholders see the company. In the following table (2) the balanced scorecard perspectives and business model ontology pillars are put next to each other in order to show the similarities.

Business model ontology pillars	Balanced Scorecard (Kaplan and Norton, 1992)
Product	Innovation and Learning perspective
Customer Interface	Customer perspective
Infrastructure Management	Internal Business perspective
Financial aspects	Financial perspective

Table 2: Comparison Balanced Scorecard and Business model ontology.

Although more business model representations exist, the model as proposed by Osterwalder (2004) has been used in order to answer the research questions. The first reason for this decision is that the building blocks the model consists of are based on research by other scholars, leading to a solid base for analysis. Additionally, based on the building blocks, Osterwalder and Pigneur (2010) created the book "Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers", which is used by many practitioners including firms like 3M, Deloitte, PriceWaterHouseCoopers, and the company where this research is executed; Capgemini.

The four pillars and their nine elements as proposed by Osterwalder (2004) are described in the subsequent sections.

Product

The product pillar not only covers all product and service bundles the company offers its customers, but the whole manner in which it differentiates itself from competitors. The product pillar is composed of the value proposition element, which is then decomposed into its elementary offerings.

Value proposition

The value proposition can be seen as a company's bundle of products and services representing value to a specific customer segment. It is the reason why customers buy at one company instead of another (Osterwalder, 2004). The value proposition is crucial for companies as it helps connecting the internal organizational processes with improved outcomes for customers (Kaplan & Norton, 2000). From the marketing literature, Kotler (1972) states that the creation and offering of value is the essential activity of marketing.

Customer Interface

The second pillar deals with the customer relationship which is essential for companies. It refers to the way a company goes to market and how it reaches and interacts with customers (Osterwalder, 2004). This pillar comprises the company's target customer, the distribution channel through which it operates, and the relationship it wants to have with its customers.

Target Customer

In order to be able to target a certain customer group, the market has to be segmented. For most firms it is profitable to treat certain types of customers in different ways (Bock & Uncles, 2002). By doing this, the company will be able to efficiently allocate resources to customers that are most attracted by the value proposition. Targeting a customer group also forms the basis for deciding which distribution channel(s) and relationship type to use (Osterwalder, 2004). In order to distinguish between customer segments, three main types of criteria can be used; psychographic, demographic, and geographic (Kerin & Peterson, 2007). A more high level distinction between customer groups exists between business-to-business and business-to-consumer customers (Osterwalder, 2004).

Distribution Channel

The distribution channels are the connection between the company's value proposition and target customer. Its purpose is to make the right quantities of the right products and services available at the right place, at the right time, for the right customer (Pitt, Berthon, & Berthon, 1999). It is possible to offer value to customers in a direct (e.g. sales force, website) or indirect (e.g. reseller) way. ICT and especially the internet can be seen as a complementary channel to do business, often these channels do not cannibalize the company's existing channels (Porter, 2001).

Osterwalder (2004) proposes that channels should be analyzed during the customer's entire buying cycle, which consists of the customer awareness (i.e. get customer attention), evalutation (i.e. match customer needs with company's value proposition), purchase (i.e. the actual transaction), and after sales (i.e. offer additional value after the sale) phases. The cyclical form also indicates that ideally customers are retained after the sale and so are re-introduced to the awareness phase.

Relationship

The fourth element concerns the relationship between the company and its customers. All interactions between the two of them impact the strength of this relationship. It is important to define the most desirable kind of relationship a company wants to establish with a certain kind of customer, as the costs for interactions can be high (Osterwalder, 2004).

Companies should use relationship mechanisms to optimize the acquisition, retention of, and selling of additional products to customers (Blattberg, Getz, & Thomas, 2001). Companies need to acquire customers to do business. This process needs to be managed carefully as it comes with high costs and strongly influences the retention and add-on selling. Because customer retention is normally less expensive, companies try to establish long-term relationships with their customers. Blattberg et al. (2001) propose the following customer retention drivers: customer expectation versus delivered quality, the value of the good or service, product uniqueness and suitability, loyalty mechanisms, ease of purchase, customer service and ease of exit. Then add-on selling can be simply described as the selling of additional products or services to existing customers. These products do not necessarily have to match with earlier sold products (Blattberg, Getz, & Thomas, 2001).

The ease of exit is linked to the switching cost concept which can be illustrated with the QWERTY keyboard layout. This layout has never been replaced with an ergonomically superior layout, simply because it was the first arrangement of keys that was sufficient and customers got accustomed to (David, 1985). Shapiro and Varian (1999) argue that the collective switching cost are far higher than the individual switching costs because the coordination of a switch to a new keyboard layout is very difficult. Because of the high switching cost a lock-in situation, and so customer retention, is created.

Infrastructure Management

The third pillar describes how companies create value, it elaborates on what is needed to deliver the value proposition and maintain customer interfaces. Infrastructure management consists of three elements; capability, value configuration, and partnership, which are described next.

Capability

Capabilities *"refer to a firm's capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end"* (Amit & Schoemaker, 1993, p. 35). In order to efficiently deal with the changing environment, dynamic capabilities can be used as a source of competitive advantage (Teece, Pisano, & Shuen, 1997). Dynamic capabilities can be defined as *"the firm's ability to integrate, build, and reconfigure internal and external resources to address rapidly changing environments"* (Teece, Pisano, & Shuen, 1997, p. 516). As can be seen in both definitions, resources play a central role. Resources are very broadly defined by Wernerfelt (1984, p. 172) as *"anything which could be thought of as a strength or weakness of a given firm"*. A lot of scholars have made classifications of types of resources. Grant (1991) distinguishes between financial, physical, human, technological, and reputational resources. Barney (1991) classifies resources into physical capital resources, human capital resources, and organizational capital resources. Resources are also frequently classified as being tangible or intangible. Barney (1991) adds that companies can create a sustainable competitive advantage with resources and capabilities which are valuable, rare, imperfectly imitable, and not substitutable. Osterwalder (2004) uses three categories of resources; tangibles which can be found on a company's balance sheet, intangibles such as patents and the brand of the company, and people-based skills which are especially important in companies that rely on innovation.

Value Configuration

The sixth element shows all necessary activities, and the links between them, which are needed to create value for the customer. Three main value configuration types are used to define the value creation process in a business model; the value chain framework (Porter & Millar, 1985), and the value shop, and value network (Stabell & Fjeldstad, 1998). According to Porter & Millar (1985), companies are able to create a competitive advantage if they can perform activities at lower cost or in a differentiated way and by that increase value for the customer. A total of nine activities can be distinguished; five primary activities which involve the physical creation of value, and four supporting activities which allow the primary activities to take place (Porter & Millar, 1985). The logic of the value chain is the transformation from inputs into products. Stabell & Fjeldstad (1998) mention that the interactivity relationship logic is sequential. Furthermore they argue that a different value creation logic is needed for service provision. The company has to find new solutions to problems and starts with finding out what the customer wants. It tries to deliver value and determines whether the customer needs are fulfilled, and repeats this process if necessary. The interactivity relationship logic for the value shop is cyclical (Stabell & Fjeldstad, 1998). With the value network companies provide a networking service and link clients or customers who want to be interdependent (Stabell & Fjeldstad, 1998). With this value configuration companies are intermediaries such as a broker or market maker (Afuah & Tucci, 2001).

Partnership

The partnership element describes which resources and activities are allocated among a company's partner firms. Relevant literature on this refers to a situation which is well known as the "make or buy" decision. Two main theories on this decision can be distinguished; transaction cost theory, and core competence theory.

Transaction costs are described by Arnold (2000) as "costs of making each contract", and appear because of information asymmetry, bounded rationality, and opportunism. According to Picot (1991), transaction costs refer to information and coordination costs for the establishment of trade deals, agreements, settlements, checking, and adjustment for the labor task fulfilment. These costs appear in markets but also for internal creation. Arnold (2000) calls costs due to internal activities "hierarchy costs", which can be for example running a system to check the worker's productivity. Specificity is seen as the most important characteristic of transaction costs (Picot, 1991; Williamson, 1991). Asset specificity can be defined as the *"degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value"* (Williamson, 1991, p. 281). Products and services with high specificity can only be produced by a partner firm with huge additional costs and should therefore not be outsourced. These additional costs are caused by the intensive information and coordination which is needed before, during, and after the exchange of the products and services. Products and services with low specificity on the other hand, can be outsourced easily because minor investments in terms of the exchange of information and coordination are needed (Williamson, 1991).

The specificity described before is closely related to the core competencies concept. With core competencies companies can provide value to customers and create a competitive advantage (Prahalad & Hamel, 1990). The main idea is that products and services which are core competencies for the company should be produced internally (Arnold, 2000). The transaction cost theory and core competencies approach are complementary to each other. Transaction costs are based on costs and short-term oriented, while core competencies are more based on the strategic importance and long-term oriented (Arnold, 2000).

Financial Aspects

The fourth and last pillar of the business model ontology is influenced by all other pillars. It is composed of the revenue model and the company's cost structure. The two together determine whether the firm makes a profit and so is able to survive.

Revenue Model

The revenue model element shows into how far the value that is created for customers can be transformed into revenue streams and so money for the company. This element consists of the diverse revenue streams with each having its different pricing mechanism(s). According to Osterwalder (2004), a company can generate income by selling, lending, or licensing a product or service, taking a cut of a transaction, or relying on different sources of advertising.

Cost Structure

The final element contains all costs related to finally deliver value to customers, including resources, activities, assets, and partnerships. Accurate cost information is needed to be able to distinguish profitable from unprofitable activities. If the cost structure does not accurately capture the use of resources for producing specific products and services, managers might drop profitable products or continue producing non-profitable ones (Drury, 2007).

Costs can be assigned to cost objects, which are defined as *"any activity for which a separate measurement is desired"* (Drury, 2007, p. 28). These costs can be divided into two main categories: direct costs and indirect costs. Directs costs can be physically identified with a particular object, whereas indirect costs cannot. Because direct costs can be assigned to a cost object, the term cost tracing is used. Because indirect costs cannot be traced, and often are linked to several cost objects, these costs have to be allocated.

2.2.5 Sub-conclusion

The definition of a business model proposed by Osterwalder et al. (2005) is used for this research. These three scholars are well known and often cited, additionally, they base their research on a literature synthesis, meaning that the most important concepts are included. It is important to note that the business model differs from strategy as e.g. strategy also deals with competition (Magretta, 2002).

Some examples of business model taxonomies and classifications are presented. Timmers (1998) classifies eleven generic e-business models based on the degree of innovation and the functional integration. Dubosson-Torbay et al. (2002) offer a multidimensional classification scheme focusing on; the user's role, interaction pattern, nature of the offering, pricing system, level of customization, and economic control. Also some examples of business model components are introduced. Alt and Zimmerman (2001), for example, distinguish six generic elements a business model consists of; mission, structure, process, revenues, legal issues, and technology, which are then further divided into more specific concepts.

Additionally, some business model representations were introduced. Tapscott et el. (2000) suggest a value map to show how a business web operates. The value map presents all the relevant participating groups (i.e. partners, customers, suppliers) and the value exchanges between these (i.e. tangible and intangible benefits, knowledge). Johnson et al. (2008) propose a business model consisting of four elements which together are used to create and deliver value. The four elements are: customer value proposition, profit formula, key resources, and key processes.

Lastly, it has been decided to use Osterwalder's (2004) business model ontology as basis for this research. The building blocks the model consists of are based on research by other scholars, leading to a solid base for analysis. Additionally, based on the building blocks, Osterwalder and Pigneur (2010) created a book "Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers", which is used by many practitioners including firms like 3M, Deloitte, PriceWaterHouseCoopers, and the company where this research is executed; Capgemini. A summary of the most important aspects for the elements proposed by Osterwalder (2004) are presented in the subsequent table (3).

Business model Element	General description	Important aspects
Value proposition	Overall view of a company's bundle of products and services which are of value to the customer.	• Products and services offered. • Needs being fulfilled. • Value offered.
Target customer	Segment of customers a company wants to offer value to.	• Segments market is divided into. • Segments being targeted. • Reasons behind segmentation.
Distribution channel	Means of getting in touch with the customer.	• Distribution channels used. • Channels used for; awareness, evaluation, decision, after sales.
Relationship	Describes the kind of link a company establishes between itself and the customer.	• Focus on acquisition, retention, or selling additional products. • Length of relationship. • Number of contact moments. • Ways to create customer retention.
Capability/key resources	Ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer.	• Company's most important resources and capabilities. • How a competitive advantage is created with these.
Value configuration/activities	Shows all necessary activities, and the links between them, which are needed to create value for the customer	• The company's main activities to deliver value.
Partnership	Voluntary initiated cooperative agreement between two or more companies in order to create value for the customer.	• Resources and/or activities being outsourced. • Reason to outsource.
Revenue model	Describes the way a company makes money through a variety of revenue flows.	• Revenue stream(s) and payment mechanisms used. • Reason to use these and not other ones. • Cash flow.
Cost structure	Representation in money of all the means employed in the business model.	• Main cost groups.

Table 3: Summary of Osterwalder's (2004) business model elements.

2.3 Accessibility based business model

After discussing theories about accessibility and the business model separately in the previous paragraphs, it is now time to focus on a combination of the two. Based on a structured literature review, typical characteristics could be found for the elements of Osterwalder's (2004) ontology. Although most of the articles which were used have not been cited often, this paragraph gives an idea about what may characterize accessibility based business models. At the end of this section, the most important criteria of an evaluation tool for implementing PSSs are described. These criteria can also be typical characteristics of accessibility based business models.

To find articles on the combination of business model and accessibility, a structured literature review has been executed via the Web of Knowledge database. The field tag TS (topic) was used, meaning that all records were found which contain the used search words in the abstract, title, and/or key word fields. As search terms, the words "business model" were combined with;

accessibility, lease, subscription, product-service, non-ownership, renting, and pay-per. Because the lemmatization function was enabled, also the lemma of the different words were searched for (e.g. lease and leasing). This search resulted in 197 identical articles. Additionally, to find more relevant articles, the articles using the words business model and cited Rifkin's book about accessibility, were added to this list. Now a total of 323 articles were the result. The titles, abstracts, and if needed also parts of the articles were read in order to select relevant ones. This resulted in a set of sixteen relevant articles on the combination of business model and accessibility (see figure 6).

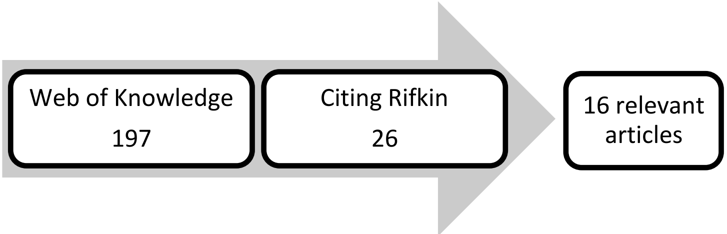


Figure 6: Accessibility based business model literature.

Value proposition

For consumers different motives to make use of accessibility based products can be distinguished. First, consumers get offerings of higher value due to an increase in customization and quality (Mont, 2002; Baines et al., 2007). With the flexible service component, new combinations of products and services can be created in order to respond to changing needs of consumers. This fulfils the consumers' desire for variety, accessibility allows consumers to try new things at a more frequent rate (Lawson, 2011). According to Drury et al. (2012) this type of offering can also reduce the upfront cost for consumers. Instead of paying for the ownership of a product, the consumer only pays part of the price for access to the product-service combination. This makes it also possible for status seeking consumers to get access to luxury items which cannot be afforded otherwise (Lawson, 2011). Because the product stays under ownership of the company, consumers are also released of responsibilities for the product, like its maintenance and repairs (Mont, 2002; Baines et al., 2007; Lawson, 2011; Beltagui, 2011). Additionally the technology risk and complexity of the product are reduced as the company stays the owner, and so is responsible for the product's performance (Drury et al., 2012; Lawson, 2011). Spring and Araujo (2012) add that consumers also make use of accessibility based products because of concerns for the environment. Lastly, Botsman & Rogers (2010) suggest that several market scenarios exist in which accessibility based products can be offered, including products with; high purchasing costs, high idling capacity, limited use, or when the value of the product diminishes after use.

Target customer

Mont et al. (2006) researched the possibilities of an accessibility based business model for leasing baby prams. According to these scholars, the new way of offering products to consumers might lead to market potential from new market segments. This means that accessibility based firms are likely to focus on additional market segments.

Distribution channel

Mont et al. (2006) also propose that the baby prams need to be designed so that it will be easy to upgrade them if needed. Because transporting the prams back to the manufacturer after a customer lease is too expensive, retailers have to be involved and so should be part of the distribution channel.

Relationship

The company's business model is no longer based on planned obsolescence of products, instead companies design for sustainable, efficient servicing, improved functioning, and product take-back. This allows companies to maintain long-term relationships with their customers (Senge & Carstedt, 2001; Mont et al., 2006). Also the nature of this relationship changes as consumers are no longer passive, and become co-creators of value (Senge & Carstedt, 2001). Prahalad and Ramaswamy (2004, p. 8) state that; *"co-creation is about joint creation of value by the company and the customer. It is not the firm trying to please the customer".*

Capability/key resources

To efficiently manage the leasing of baby prams, an information system needs to be installed which shows e.g. where the prams are, in what condition they are and when they will be returned (Mont et al., 2006). Additionally, to deal with a negative cash flow in the beginning as earning revenues takes longer, financial resources are important (Mont et al., 2006).

Value configuration

According to Beltagui, Riedel and Pawar (2008), companies that adopt the product-service logic, design their products differently. As the company stays the owner of the product, it is likely that the incentive is created to design products that last longer so that less maintenance is needed. Additionally a change in priorities is likely to occur, quality might have been more important than on-time delivery, however, due to the product-service offering on-time delivery might have priority (Beltagui et al., 2008). If one for example chooses to make use of accessibility based cars instead of owning a car yourself, it is crucial that the car is available at the time you need it. This change in priorities can have an impact on the whole value configuration.

Partnership

The relationship with the retailers must be intensified so that these are able to upgrade the baby prams (Mont et al., 2006). Also Beltagui (2011) confirms that partnerships with external firms have to be intensified in order to efficiently deliver value.

Revenue model

Based on the revenue model different types of accessibility can be distinguished (see figure 7). Lawson (2011) writes about non-ownership, with which she means the same as accessibility, and differentiates between contractual non-ownership, and flexible non-ownership. With contractual accessibility the consumer gains long-term access with some (surrogate) responsibilities like maintenance, and insurance. A well known example for this type of accessibility is leasing. A lease is *"a contract calling for the lessee (user) to pay the lessor (owner) for the use of an asset"* (Stickney & Weil, 1999, p. 882). Two main types of leasing can be distinguished; financial leasing, and operating leasing. With financial leasing the lessor keeps the legal responsibility, however, the economic ownership including the pleasure, insurance, and maintenance goes to the lessee. The lessee has the option to purchase the product, therefore this option can be compared with rent-to-own which is elaborated on subsequently. With operational leasing the lessee does not have the possibility to purchase the product. Furthermore, the lessor keeps part of the economic ownership namely the responsibility for insurance and maintenance. Operational lease is seen as the traditional form of leasing and can be compared with hiring (Stickney & Weil, 1999). A third option, the lease purchase, binds both the lessor and the lessee to a sale of the product. This means that ownership is always transferred to the lessee, and so this lease variant lies out of scope for this research. Then, with flexible accessibility, the consumer gains temporary access and has no major responsibilities (e.g. the consumer has to bring back the car he rented, however, maintenance and insurance is not his responsibility). A well known example of flexible accessibility is renting. Rental can be seen as the most common form of non-ownership in the consumer market (Lawson, 2011). A specific type of renting whereby the consumer has the possibility at the end of a period to purchase the good he rented is called rent-to-own (McKernan, Lacko, & Hastak, 2003).

For both the renting and leasing variants consumers have to pay a periodic amount of money. Lawson (2011) then distinguishes two additional forms by which products can be rented, namely based on subscription, or pay-per-use. Rappa (2001) states that with subscription, *"users are charged a periodic (i.e. daily, monthly, or annual) fee to subscribe"*… he adds that these *"fees are incurred irrespective of actual usage rates"*. Pay-per-use, or as Rappa (2001) defines "pay as you go", are unlike with subscription, based on the actual usage rates. If one rents a car for a few hours from the company "Greenwheels" one has to pay for the hours one uses the car, and additionally for every driven kilometer.

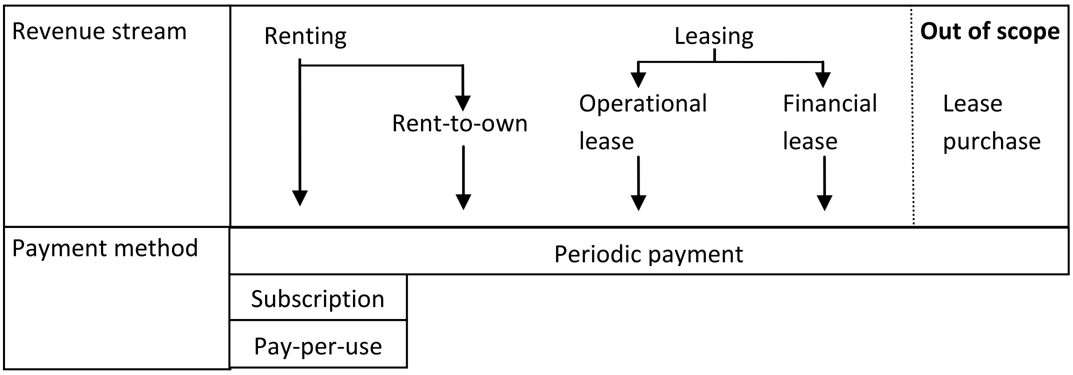


Figure 7: Revenue streams and payment methods accessibility based BM.

The research by Mont et al. (2006) on leasing baby prams also provides insights into the revenue model. Offering the prams based on the leasing scheme will dramatically change the revenue model of the company. Due to this revenue model, brand loyalty can be increased and because of the long-term relationship other products can be offered to the same customers. Furthermore, this new revenue model might attract customers from other segments, and lead to increased revenues per pram.

Cost structure

The previously described revenue model means that the cash flow changes, and the highest profits will be earned toward the end of the baby pram life-cycle. This means a negative cash flow and the need to finance the first years of the leasing period (Mont et al., 2006). As Spring and Araujo (2012) propose, costs are getting more fixed for the provider, and more variable for the consumer. Lines, Kuby, Schultz, Clancy, & Xie, (2008) research the possibilities for a hydrogen rental-car business model and state that the most significant barrier is the purchasing of the car fleet, and so the costs at the beginning of the leasing period. Additionally it is expected that transportation costs will increase as e.g. products will have to go back to the retailer/manufacturer, and spare parts need to be delivered. To get attention for the leasing scheme, marketing costs will increase. The information system which is needed to manage the leasing process has to be purchased (Mont et al., 2006).

Evaluation tool for PSS implementation

Hu, Chen, Hsu, Wang, & Wu (2012) established an evaluation tool for implementing PSSs. According to Tukker (2003) one type of such system is the user oriented PSS, for which the product is owned by the company and e.g. leased to the consumer. This can be seen as an example of accessibility based business. One of the main aspects of the tool for implementing PSS is the management capability. For the management capability aspect three criteria seemed to be of major importance. First of all, the product development and design are important. Secondly, having an optimized transportation network is of high importance, especially in comparison with more regular business models. The third criterion considers the cash flow system. A robust financial structure is needed, as the PSS business model might result in fewer short-term and greater long-term gains (Hu, Chen, Hsu, Wang, & Wu, 2012). Then for another aspect, the product, three aspects are of major importance. First a maintenance system is needed to make sure that products keep their high quality. Secondly, companies have to consider that the usage time or frequency of each product will increase. Lastly, the price of the product is important when implementing a PSS, too high prices may hinder the consumers' willingness to accept the offering (Hu et al., 2012).

2.3.1 Sub-conclusion

Not much literature on the combination of accessibility and the business model could be identified. The relevant articles only deal with one or some elements of the business model, and are not cited that often. However, the characteristics which were found in these articles can give an idea about what to expect from accessibility based business models. Therefore, the accessibility based business model characteristics proposed in literature are presented in the following table (4).

Accessibility based Business model	
Element	**Important aspects**
Value proposition	Value offered to customers: • Higher value (customized and quality). • Increased variety (try new things). • Reduced costs (so increased luxury too). • Release of responsibilities (maintenance and repairs). • Reduced risk. • Reduced complexity. • Environmental concerns. Suitable market scenario's: high purchasing costs, high idling capacity, limited use, diminished product value after use.
Target customer	• New markets targeted due to new value.
Distribution channel	• Use retailers which are close to customers (leads to efficient maintenance and transportation).
Relationship	• Long-term relationship. • Many contact moments with customers.
Capability/key resources	• Information management system to manage e.g. where products are, in what state, etc. • Financial resources (investment needed because earning revenues takes longer, eventually this does not matter).

Value configuration/activities	• Increased transportation (products are returned or send to the next customer). • Maintenance of products. • Increased planning. • Select or design sustainable/recyclable products. • Different priority, e.g. product has to be accessible.
Partnership	• More intense relationship with partner firms. • Use resellers because products are returned.
Revenue model	• Rental, pay-per-use, subscription, financial and operational lease, advertisement. • Different cash flow (less money on the short term, more on the long term).
Cost structure	• Higher costs for the information system, transportation, and marketing.

Table 4: Accessibility based business model characteristics.

2.4. Accessibility based business model difficulties

The previous paragraph describes typical characteristics of accessibility based business models. This paragraph describes the difficulties related to these business models. In section 2.4.1, barriers are presented which accessibility based companies have to deal with in case of a PSS implementation. Also difficulties related to the accessibility based business model itself are introduced here. Section 2.4.2 thereafter describes general business model transition related difficulties which might occur in case a company decides for a transition towards accessibility. As in the first section it is described that consumer acceptance and so the diffusion might be a difficulty, section 2.4.3 elaborates on product diffusion theory.

2.4.1 Barriers for implementing PSS

According to Mont (2002) a particular problem is the change from short-term towards long-term profit. The incentives from the traditional firm are mostly short-term oriented and so might form a barrier in case of a switch towards a new accessibility based business model because employees want to reach their goals. Furthermore, companies might not know how to price the new offering, are resistant towards absorbing risks that were assumed by consumers previously, and the company lacks experience in structuring an organization that is able to efficiently deliver value (Goedkoop, van Halen, te Riele, & Rommens, 1999). Then a shift in company culture and market engagement is needed, for which time and resources are required (Mont, 2002). Furthermore, to not damage the direct sales business (e.g. by not having a clear division for consumers), a separate independent department may need to be set up (Mont et al., 2006). Lastly, consumers might not be very open for ownerless consumption (Baines et al., 2007; Goedkoop et al., 1999). This can make the customer demands and purchasing behavior very unpredictable (Mont, 2002).

Kuo, Ma, Huang, Hu, & Huang (2010) focus their research on maintenance and remanufacturing activities in PSS and the barriers of implementation of these activities. This means that the results of their research are only applicable to high-value products, as maintenance and remanufacturing does not make much economical sense for products with low-value (Kuo et al., 2010). According to these scholars, a migration of PSS and so accessibility into a business model requires changes in maintenance, service, and supply chain management of up- and downstream suppliers. Furthermore, strategic planning forms a major barrier in PSS implementation. During this planning phase, the company should focus on e.g. the maintenance cost, maintenance time, and the product damage status. Additionally it is important to consider the company's information system. Before implementing the PSS the company should find out more about the customers' acceptance and the demand for maintenance service. Internally it is important that employees understand the business model in order to reduce inertia. Developing a good management information system can help to improve internal education, training, and communication, and in that way reduce inertia (Kuo et al., 2010).

2.4.2 General business model transition related difficulties

Both Christensen (1997) and Amit and Zott (2001) identified that the already established business model can be seen as a barrier for creating the innovative business model that is required in the new situation. Conflicts can arise in how to divide assets between the old and new business, managers might resist the new business model because they fear negative consequences, and tensions might exist because the old business model is more profitable than the new one. Johnson et al. (2008) are more specific and write that the rules, norms, and metrics are protecting the status quo of the old business model. These can be seen as the first opposing factors of the new business model. Johnson et al. (2008) provide three fields of examples of such rules, norms, and metrics, namely; financial (e.g. fixed cost investment, time to breakeven, and gross margins), operational (e.g. end-product quality, owned versus outsources manufacturing, and channels), and lastly other (e.g. product-development life cycles, and brand parameters).

Chesbrough (2010) argues from a cognitive perspective that the success of the existing business model influences the information that subsequently goes through the corporate decision process. This idea is based on the dominant logic of how firms create and capture value as described by Bettis and Prahalad (1995). They state that the organization's attention is focused on data that seems relevant to the dominant logic, other data is filtered. This data then forms the basis for the strategy, systems, values, expectations and reinforced behavior of the organization. Because of this, companies are able to operate in chaotic environments, however are also likely to miss valuable opportunities (Bettis & Prahalad, 1995). In such situation managers are stuck to the old business model and do not see the value of the new one (Chesbrough, 2010).

2.4.3 Product diffusion related difficulties

The idea of accessibility based products is relatively new in a huge number of markets, therefore the diffusion of this idea is expected to play a major role and can be seen as a difficulty for accessibility based companies.

Getting a new idea adopted is often a major challenge even when it has obvious advantages. Mostly it takes a long period before the innovation is adopted, so a common problem for many companies is how to speed up the rate of diffusion of an innovation (Rogers, 1995). Before explaining the concept of diffusion in more detail it is important to know what diffusion actually means. Rogers (1995, p. 5) defines diffusion as *"the process by which an innovation is communicated through certain channels over time among the members of a social system"*. This definition contains four main elements; innovation, communication channels, time, and social system.

Innovation is defined by Rogers (1995, p. 11) as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption". The word perceived is used because this determines the reaction towards the new idea. For innovations different adoption rates exist, which can be explained by five characteristics of how individuals perceive innovations (Rogers, 1995):

1. The first characteristic, the *relative advantage*, is the degree to which the new idea is perceived as being better than previous ideas. Important factors by which the degree may be measured are; the economic terms, social prestige, convenience, and satisfaction. The greater the relative advantage, the higher the rate of adoption will be.
2. According to Rogers (1995) ideas that are not *compatible* will not be adopted as fast as an idea that is compatible. Shapiro and Varian (1999) propose that another approach exists which influences the consumer's decision to adopt, namely the performance. Companies have to make a trade-off between offering products with drastically improved performance, or high compatibility (Shapiro & Varian, 1999).
3. *Complex* ideas require the customer to develop new skills and understandings and so are adopted slowly. If the complexity of ideas is low, customers are able to understand it more easily and so adopt these innovations more rapidly.
4. High *trialability* (i.e. the degree to which an innovation can be experimented with) of an idea decreases the uncertainty for the unit of adoption, and by that, increases the rate of adoption.
5. If the *observability* of the innovation is high, and so adopters are able to see the result of an innovation, the likeliness of adoption increases.

The second element of the diffusion definition, communication channel, can be defined as the *"means by which messages get from one individual to another"* (Rogers, 1995, p. 18). The nature of the relationship between these individuals determines whether an individual will transmit the innovation to a receiver, and how this receiver then deals with this innovation. Rogers (1995) describes two types of communication channels which can be used to reach customer; mass media, and interpersonal channels. With mass media channels, a few individuals can reach a massive group of individuals by using mass media like television. Interpersonal channels then, involves face-to-face communication, and are more effective in persuading individuals in accepting a certain innovation, especially when these individuals are homophilous. Homophilous means that the degree to which individuals are similar in attributes like beliefs, education, and social status, is high. However, one of the main problems of the diffusion of innovations is that participants frequently are heterophilous (Rogers, 1995).

The third element in the innovation diffusion process is time. First of all the time dimension is involved in the innovation-decision process. This process consists of five steps: knowledge, persuasion, decision, implementation, and confirmation. In the knowledge phase individuals learn from the innovation's existence for the first time. In the persuasion phase the individual shapes a favorable or unfavorable attitude towards the innovation. The five main characteristics on which the attitude depends are presented earlier in this paragraph. During this phase, the individual tries to find out what the consequences of the innovation are in his or her own situation. Then the decision is made to adopt or reject the innovation. In case of rejection, later on the individual might reverse this decision and choose to adopt the innovation. If the individual chooses for adoption, the innovation will be put into use and so is implemented. Individuals might reverse the decision to make use of an innovation, however, when the individuals decide to continue using the innovation, confirmation takes place. Subjective evaluations of the innovation from similar individuals are likely to influence the choices individuals make in the last two phases. During the innovation-decision process, individuals try to obtain information in order to decrease the uncertainty about the innovation (Rogers, 1995).

Some groups of individuals are earlier in adopting new ideas than other groups. Rogers (1995) identifies five adopter groups with each their own common characteristics: innovators, early adopters, early majority, late majority, and laggards (see figure 8).

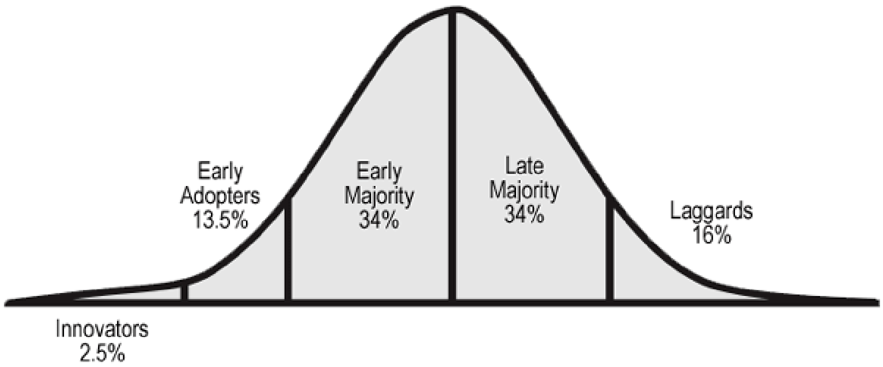


Figure 8: Adopter groups by Rogers (1995).

The relative speed to which innovations are adopted by the social system is named the rate of adoption. Most innovations have an S-shaped adoption rate (Rogers, 1995). First a few individuals adopt the innovation during a certain timeframe, but then the diffusion starts to climb as an increased number of individuals start adopting the innovation. At a certain moment in time the rate of adoption starts to level off as fewer individuals remain who have adopted the innovation. As some innovations are adopted faster than others, the slope of the S-curve varies (Rogers, 1995). The shape of the S-curve depends on characteristics of the innovation as described earlier (e.g. relative advantage, compatibility, and observability).

The fourth and last element, the social system, is defined as *"a set of interrelated units that are engaged in joint problem-solving to accomplish a common goal"* (Rogers, 1995, p. 23). Within the social system diffusion occurs. A certain structure exists within these social systems, which makes it possible to predict behavior and so decrease uncertainty. Social structure can be seen as one type of structure and is based on social relationships between individuals (e.g. hierarchy). Then communication structure is seen as a more informal structure and deals with the question which individuals communicate with eachother under what circumstances. Differences in behavior can also be explained by differences in norms. These norms tell individuals what is expected in the system. Some members of the system strongly influence other individuals' behavior in adopting an innovation. These members function as opinion leaders, who actually are expressions of the social system. Opinion leaders have a unique and influential position in the communication structure (Rogers, 1995).

2.4.4 Sub-conclusion

Not many articles were found on accessibility based business models specifically, and also not on its related difficulties. The difficulties which could be identified in this chapter can be divided into three groups; the ones related to general accessibility based business models, a transition towards such business models, and lastly the diffusion. The most important difficulties extracted from theory related to these three groups are summed up subsequently:

Accessibility based business model related difficulties
- Pricing of a new offering.
- Absorbing the risks a consumer is responsible for normally (e.g. product obsolescence).
- Strategic planning (i.e. where are products, when do they get back, have they been paid, etc.).
- Separating accessibility from the direct sales business.

Business model transition difficulties
- Former business model forms a barrier in creating the new business model.
    - Rules, norms and metrics of the old business model as a barrier for the new one.
    - Tensions because the old business model was more profitable in the beginning.
    - Division of assets between the old and the new business model is a problem.
- Structuring the organization to deliver value.
- Employees resisting the change (change short term to long term profit incentives).

Diffusion
The diffusion can be difficult and depends on four aspects:
- Innovation; try to speed up the rate of adoption with the innovation itself (relative advantage, compatibility, complexity, trialability, observability).
- Communication; using the communication channels to speed up the rate of adoption.
- Time; way to offer information about the innovation in order to decrease uncertainty.
    - Offer information about evaluations of the innovation to other (potential) consumers.
    - Adoption phase the product is in now (innovators, early adopters, early majority, late majority, laggards).
- Social system; way to reach opinion leaders (people who have a strong impact on the behavior of others), and how to make them promote the product.

2.5 Conclusion

All four paragraphs in this chapter are closed with a sub-conclusion. Therefore, this conclusion is used to describe shortly what has been presented in this chapter on a higher level. Firstly, the rise of accessibility has been presented. It seems that it is strongly connected to the service economy and that products are in this case offered as a service. Additional characteristics are presented, and also the similarities and differences with a PSS are described. In the second paragraph the concept of business models is defined and the taxonomies, classifications and components are described. Osterwalder's (2004) business model ontology is based on a literature synthesis and forms the basis for the rest of the research and is therefore described more in-depth. In the third paragraph typical accessibility based characteristics are used to fill the elements of Osterwalder's (2004) business model. It must be mentioned that none of the articles provides a complete characterization of an accessibility based business model. Furthermore, most of these articles are not cited that often. The chapter is finalized with a paragraph about the difficulties. Some more general difficulties have been identified like taking over the risk customers are responsible for normally, some difficulties are related to a transition towards an accessibility based business model, and the diffusion can also be seen as a difficulty. In the subsequent chapters, first the methodology used to answer the research questions is described. This is then followed by a chapter in which all important findings are presented.

3. Methodology

This chapter starts with paragraph 3.1 in which the research method used for this research is presented. Subsequently, the data collection method, including the interview cycle, is described in paragraph 3.2. This is followed by paragraph 3.3 where the case selection method is introduced. Thereafter, in paragraph 3.4, the operationalization on which the interview questions are based is presented. The chapter is finalized with a description of the analysis in paragraph 3.5.

3.1 Research method

The literature review showed that theory on the combination of accessibility and the business model is scarce. Some possible accessibility based business model characteristics and related difficulties have been extracted from literature, however, the articles used for this do not describe a complete business model and are not cited that often. An exploration of the characteristics and difficulties of accessibility based business models is needed, and therefore a qualitative research method is used. This method also gives the researcher a higher flexibility and permits a more in-depth understanding (Babbie, 2009).

As a research strategy to answer the sub-questions, multiple case studies are used. The scarcity of theory on accessibility based business models and its related difficulties makes this approach valuable as Saunders et al. (2009, p.147) write; "*a case study strategy can be a very worthwhile way of exploring existing theory*". A case study can be described as *"a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence"* (Robson, 2002). Also Yin (2003) confirms the importance of the context, and adds that there are no clear boundaries between the phenomenon and context. In this research, the business model itself can be seen as the context, and the accessibility of the offering as the phenomenon. The two of them are strongly connected, making case study research applicable. Furthermore, case study research makes it also possible to use and triangulate multiple data sources, which ensures that data is interpreted in the right way (Saunders et al., 2009). Multiple case studies are used because these are preferred above a single case study due to the fact that findings in one case can be verified by comparing these with findings in another case (Saunders, Lewis, & Thornhill, 2009). This makes it possible to find typical characteristics of accessibility based business models. Moreover, it should be mentioned that one single unit of analysis has been used for every case because the goal is to compare different cases. Brotherton (2008) describes this type of multiple case study as being holistic. If the goal would be to also compare e.g. different opinions within an organization, more units of analysis would be needed, and it would be an embedded multiple case study.

3.2 Data collection

For this multiple case study, both primary and secondary data collection methods are used. Primary data coming from qualitative interviews, and secondary data from documentary data (e.g. company website).

Qualitative interviewing was used in order to collect original data and provide complete answers to the sub-questions. Rubin & Rubin (1995, p.43) write that *"qualitative interviewing design is flexible, iterative, and continuous, rather than prepared in advance and locked in stone"*. According to Babbie

(2009, p. 320) *"a qualitative interview is essentially a conversation in which the interviewer establishes a general direction for the conversation and pursues specific topics raised by the respondent"*. Babbie (2009) mentions that the most important strength of qualitative interviewing is the depth of understanding it permits. Additionally, he mentions that field research in general, and so qualitative interviewing specifically, is a more flexible method than e.g. a survey as the preparation time can be way shorter and it allows more freedom during interviews. Semi-structured interviews have been used because some freedom was needed while asking questions. Additional questions were asked based on the respondent's answers. It also allows to answer interviewees' questions in case they do not understand something. Still, some structure is needed in order to make sure that all important topics are dealt with. The structure of the interview (see appendix B) is based on Osterwalder's (2004) business model elements and also potential difficulties accessibility based companies have to deal with. Documentary data was found in several sources. In first instance, the focus was on written materials like; annual reports, company websites, as well as non-written material; video's about the companies. The gathered data was used to get a first idea about what the companies' business model might look like.

Interview cycle

The interviews started with an *introduction* (see appendix B) from the researcher's side including; the background of the interviewer, the objective of the research, the using of a recorder, the anonymity of findings, and finally the interviewee had the option to ask any question before starting the interview. The second step was *asking questions*, which are short, brief, and clearly stated. A lot of questions are open ended, and for other questions, the interviewer asked follow-up questions if necessary. Questions are structured, and so one topic is treated at a time. Then the *responses were evaluated* by checking the completeness, clarity, relevance, and consistency of the answers. *Probing techniques* were used to receive full answers. These techniques include; active silence, encouragement, clarification, repeating of the question, and repeating of the answer. To *finish* the interview, the interviewees were thanked for their time and answering the questions. Furthermore, the interviewee mentioned when to expect the type out of the interview to verify its content, and also when to expect the final report.

3.3 Case selection

Selection took place on two levels; selecting the cases to investigate, and the data sources within the cases. Both selection levels are described subsequently.

For a case to be selected, firstly it has to offer its products accessibility based, meaning that the ownership stays at the company, and consumers only have access to products. Additionally, only companies were selected which offer products to consumers, as the focus of the research lies on B2C markets. Based on theory about accessibility based companies, an overview (table 5) has been created with revenue streams and payment methods applied by accessibility based companies (fictive names are used based on the products these companies offer). Still it might be that e.g. a company offers its products subscription based, and after the subscription period always transfers ownership to consumers. These cases are also not relevant and so were not used for this research. The goal was to select cases with maximum variance in order to be able to find typical characteristics of accessibility based business models in general. This means cases ideally use different revenue streams and payment methods, to also find out if differences and similarities in business model characteristics exist based on the revenue stream and payment method. As the table shows, for all six different revenue streams, cases were selected. Because not that many companies offer products based on pay-per-use or operational lease, it was hard to find many of such companies willing to cooperate. Next to the variety in revenue streams, cases were also selected based on the type of product they offer. From the final selection of cases, ten offer different products. This makes sure that the business model does not possess certain characteristics due to the market the company is active in.

Revenue stream	Renting			Rent-to-own	Financial lease	Operational lease
Payment method	Pay-per-use	Subscription	Periodic payment			
Arty					x	
Laptop4you			x	x	x	
Instrumental			x	x		
Boats4rent			x			
Gamez			x			
Heat Boilers			x			
ToysOnline			x			
CarsPerKm	x	x				
Playful			x			
MagazineMap		x				
Brown&White			x			
Car L&R			x		x	x

Table 5: Case selection based on revenue stream and payment method.

Furthermore, accessibility based companies can both offer tangible and/or intangible products. It has been decided to leave companies offering intangible products out of scope. Most companies offering intangible products via the web (e.g. Spotify, Google Docs, news websites, etc.) would otherwise be part of this research. It can be expected that differences in business models exist between companies offering tangible or intangible products, as intangible products are easily replicable without major additional costs. Furthermore, tangible products are temporarily in hands of the customer, whereas intangibles never really leave the company. This aspect makes tangible products more challenging for companies, and a more interesting case for this research. Focusing on both tangible and intangible products would make the research too broad. Lastly, in order to find out more about difficulties related to a transition towards an accessibility based business model, two cases were selected which made this transition. A larger number of these companies would be valuable, however, no more companies could be found which were willing to cooperate in the timeframe of this master's thesis.

For data sources within the cases, it is important to have knowledge about the whole business model and also on the market acceptance to be able to answer all questions. Therefore, ten interviewees are company directors, for one case the interviewee is general manager of the leasing department, and the interviewees of another company are the financial controller and communication specialist.

3.4 Operationalization

The final operationalization for this qualitative multiple case study research can be found in the form of interview questions (appendix B). In order to create these interview questions, first the theory on business models in general, accessibility based business models specifically, and the related difficulties, has been analyzed and used as input for a topic list which follows next. This topic list is divided into the two sub-questions, meaning that the first part deals with the business model of accessibility based companies, and the second part with the difficulties these companies have to deal with. The business model has been divided into the nine elements as proposed by Osterwalder (2004). Every element of the business model might be relevant, and so all elements are defined and then further divided into relevant sub-aspects which can potentially characterize accessibility based companies. These sub-aspects are based on general theory about the business model elements and also on more specific theory on accessibility based business models as described in the previous chapter. The theory on the difficulties can be, as seen in the literature review, divided into three parts. First the company has to deal with accessibility based business model difficulties. Secondly, difficulties related to a transition towards such business model. Thirdly, with the diffusion of the offering, which is divided into four main aspects; innovation, communication, time, and social system.

In italics and also between brackets, potential answers are provided. In case the interviewee does not mention these potential answers, the interviewer asked follow-up questions in order to find out whether other answers the interviewee did not directly think of are also applicable. It might occur that companies also directly sell products, however, the interview is focused on the accessibility based business. Generally the interview started with open questions, all related to accessibility. After a few questions had been answered, for companies who also directly sell products, it was asked what the main differences in the business model elements, and difficulties, between accessibility and direct sales are. The topic list follows subsequently.

Business model

1. Value proposition

A value proposition is an overall view of a company's bundle of products and services which are of value to the customer.

- The products and services being offered to customers.
- The needs being fulfilled with these products.
- The value these products and services offer to customers.
  Higher value (customized and quality), increased variety (try new things), reduced costs (so increased luxury too), release of responsibilities (maintenance and repairs), reduced risk, reduced complexity, environmental concerns.
- The difference in value offered to consumers between accessibility based products, and products being sold directly.

2. Target customer

The target customer is a segment of customers a company wants to offer value to.

- Segments the market is divided into (psychographic, demographic, and geographic).

- Segments which are being targeted.
- Reason why these segments are being targeted.
- Difference in targeting between accessibility based products and regular sales of products (new markets targeted due to new value created with the offering).

3. Distribution channel

A distribution channel is a means of getting in touch with the customer.

- Distribution channels used to reach customers.
- Ways to get the customers' attention.
- Distribution channels to reach the same customers.
- Conflicts occurring because the same customers are reached with different distribution channels.
- Analysis of the channels during the buying cycle.
  Awareness, evaluation, purchasing, after sales.
- Channels used to offer accessibility based products (e.g. using retailers) compared to direct sales.

4. Relationship

The relationship describes the kind of link a company establishes between itself and the customer.

- Focus on optimizing the acquisition, retention of, or selling of additional products to customers.
- Length of relationships with customers (short or long-term).
- Number of contact moments with customers.
- Way(s) to create customer retention.
    - *Customer expectation versus delivered quality*
    - *Value of the good or service*
    - *Product uniqueness and suitability*
    - *Loyalty mechanisms*
    - *Ease of purchase*
    - *Customer service*
    - *Ease of exit*
- Co-creation of value with customer.

5. Capability/key resources

A capability is the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer.

- The company's most important resources and capabilities.
  Information management system to manage where products are, in what state, inform, educate, and train employees. Financial resources.
- How these resources and capabilities create a competitive advantage for the company.
  Valuable, rare, imperfectly imitable, and not substitutable.

6. Value configuration/key activities

The value configuration shows all necessary activities, and the links between them, which are needed to create value for the customer.

- The company's main activities in order to deliver value to the customer.

    - *Whole logistics (product comes back so transportation, sometimes maintenance added, manage where products are and in what state).*
    - *Design sustainable/recyclable product.*
- Difference in priorities between accessibility based products and direct sales (e.g. products have to be accessible).
- Difference in main activities needed in order to deliver value between accessibility based products and direct sales.
- Set up separate independent department to not damage image of direct sales business.

7. Partnership

A partnership is a voluntary initiated cooperative agreement between two or more companies in order to create value for the customer.

- Resources and/or activities being outsourced to partner firms.
- Reason to outsource resources and capabilities.
  Specificity, strategically important, core competence.
- Difference in partnerships between offering products accessibility based or via direct sales (e.g. more intense relationship, and resellers needed because products are returned).

8. Revenue model

The revenue model describes the way a company makes money through a variety of revenue flows.

- Revenue stream(s) and payment mechanisms used to offer products to customers.
  Selling, lending, or licensing a product or service, taking a cut of a transaction, or relying on different sources of advertising.
- Reason for using these and not other revenue streams.
- Way to set prices for offerings.
- Difference in cash flow between offering products accessibility based and direct sales.
  Less money on the short term, more long term.
- Difference in successfulness between times of recession and economic upturn.

9. Cost structure

The cost structure is the representation in money of all the means employed in the business model.

- Main cost groups.
- Difference in cost groups between products offered based on accessibility, and direct sales.
  Transportation costs, marketing costs to get attention, information system needed.

Difficulties

1. Former business model forms a barrier in creating the new business model.

- Rules, norms and metrics of the old business model as a barrier for the new one.
  Financial (e.g. fixed cost investment, time to breakeven, and gross margins), operational (e.g. end-product quality, owned versus outsources manufacturing, and channels), and lastly other (e.g. product-development life cycles, and brand parameters.
- Tensions because the old business model was more profitable in the beginning.
- Division of assets between the old and the new business model is a problem.

2. Structuring the organization to deliver value is a difficulty.

3. Employees resisting the change.
   Change short term to long term profit incentives.
4. Employees see the value of the accessibility based offering of products.
5. Convincing employees to implement accessibility.
   Educate, train and communicate with them.
6. Pricing of the new offering is a difficulty.
7. Absorbing the risks a consumer is responsible for normally, is a difficulty (e.g. maintenance).
8. Strategic planning is difficult (i.e. where are products, when do they get back, has been paid, etc.)

- Using a management information system for this.

Focus on maintenance time, where the products are etc.

Diffusion

Innovation

1. Try to speed up the rate of adoption with the innovation itself.
   Relative advantage, compatibility, complexity, trialability, observability.

Communication

2. Using the communication channels to speed up the rate of adoption.

Time

3. Way to offer information about the innovation in order to decrease uncertainty.

- Offer information about evaluations of the innovation to other (potential) consumers.
- Adoption phase the product is in now.
  Innovators, early adopters, early majority, late majority, laggards.

Social system

4. Way to reach opinion leaders (people who have a strong impact on the behavior of others), and how to make them promote the product.
5. Additional ways to increase the rate of adoption.

Based on the operationalization, interview questions have been prepared which can be found in appendix B. For the interview itself, sometimes difficulty aspects are implemented in the section about the business model, as many difficulties are strongly related to the business model elements. Furthermore the interview starts with the diffusion part because for the whole business model it is important to know whether or not the offering is already being accepted. Two pilot interviews have been used to improve the interview questions.

3.5 Analysis

Within-case-analyses as well as a cross-case-analysis are used to analyze the collected data and answer the research questions.

First all individual cases have been analyzed separately by making use of Osterwalder's (2004) nine business model elements and the sub-aspects which are presented in the operationalization. For every element it is described what characteristics might be typical for accessibility based business models (see appendix C for the individual cases). Part of the companies offer products for sale, which makes it possible to ask interviewees whether certain characteristics are typical for accessibility based business. Other interviewees were asked if this is the case by letting them compare their business with that of another company which offers the same products for sale. Of course this does not lead to very reliable answers, however, during the interviews it provides a first idea about what characteristics might be typical for these companies.

Secondly, a cross-case analysis was used in order to find typical accessibility based business model characteristics. Again Osterwalder's (2004) nine business model elements are used as structure. For every element the interviewees' answers were copied and put together to find differences and similarities. For part of the elements, typical characteristics could be found quite easily, these are presented in figures. However, for a part of the elements it was quite hard to directly identify typical accessibility based characteristics, for these elements tables are used to create an overview. Also the difficulties these companies have to deal with were compared and presented.

3.6 Conclusion

In this chapter it has been concluded that a multiple case study research strategy is suitable to answer the research question. Data has been collected by means of qualitative interviews and documentary data, also the interview cycle was described here. Twelve companies which offer ten different types of products via six different revenue streams have been selected for this multiple case study. Moreover, an operationalization of the most important literature on accessibility based business models and the related difficulties has been presented and was used as basis for the questionnaire. The chapter is finalized with a description of the analysis used to answer the research questions. In the subsequent chapter the findings are presented by means of individual case descriptions and a cross-case analysis.

4. Findings

This chapter starts with an individual description of all twelve cases in the first paragraph. Thereafter, in paragraph 4.2, a cross-case analysis follows in which all cases are compared based on the nine business model elements. In paragraph 4.3, the difficulties related to accessibility based business models are presented.

4.1 Individual case description

Subsequently, the case companies are introduced shortly. It is described what the companies offer, what function the interviewee has inside the company, whether accessibility is successful, and lastly a few important accessibility based business model characteristics and difficulties are presented.

Arty offers consumers the possibility to acquire art based on financial lease. With this option, customers are not obliged to purchase the art, and have the ability to swap this during the leasing period. The interviewee is the owner and director of the company for thirty years now. He sees art as a suitable product because it is not depreciated. The company started with offering art for sale, however, quickly found out that leasing is more successful. Especially the lower investment and the increased trialability are valued by customers. Both individuals and companies are targeted, and so the scope is broad. The interviewee mentions that human resources, financial resources, and information management software are the most important resources the company has. The financial resources are important because large investments are needed, the information management software is essential for planning, and the human resources are essential to e.g. decide what art to acquire. A competitive advantage is created with the experience the company has with selecting art, and dealing with difficulties for already thirty years. Additionally, the company now has enough financial capital, during the first five or six years it was difficult to acquire this. For start-ups this may be a barrier. Still some difficulties exist, the company e.g. takes over the customers' risk of acquiring something he or she does not really like after a few months. The company has to take back this piece of art and might get left with it.

Laptop4you offers laptops, personal computers, televisions, and beamers, and others like iPads, for sale, lease and rent. The interviewee owns the company for nine years now and is responsible for mainly the financial administrative work, dealer acquisition and retention, increase of dealers' revenues, and general activities like talking to customers. Only the rental business is based on accessibility because with the lease option, customers become owners. Renting out products is interesting, however, demands continuing investments in new products. Furthermore, because laptop prices have decreased dramatically, many consumers own a laptop. The planning and also checking products after they have been returned is essential for the company. Compared with sales, the product availability, and on-time delivery are more critical as consumers mostly especially need the product for a specific period (e.g. a beamer for a soccer match). For specific solutions, the company has a partnership with other rental firms. Additionally, a dealer network is used as a regional contact point for customers. The company has to deal with a few difficulties, sometimes customers do not return products in time, which leads to planning difficulties. Additionally, setting prices is somewhat more difficult for the rental market compared with direct sales.

Instrumental offers music instruments for sale, for rent, and rent-to-own. The interviewee is the owner and director of the company since three years and aims to make music accessible. The company has its own instruments line. Because directs sales is simpler than renting out products, direct sales is preferred, however, more individuals than expected are renting instruments. Financial resources are important for the company, however, already after the first shipment of instruments, the company is able to finance new shipments with its earnings. For the planning a software program is essential. Additionally, human resources are important. The owner himself has international experience which makes it possible to have an own instruments line. External human resources are used for product ideas and repairs. The returns for rental are long-term based compared with direct sales of products, however, the returns for rentals are mostly larger because products are sold afterwards. The diffusion of the offering is not seen as a difficulty. Orchestras rent out instrument to their members for a very long time already. A difficulty for the company is to decide what amount of money should be returned to customers in case of damages.

The interviewee of *Boats4rent* purchased a boat rental company just a few months ago. The company itself, however, exists over thirty years now. The focus lies on offering high-quality boats for rent. Both Dutch and international customers are targeted, these groups can be further divided into families and groups of friends. Additionally, the aim is to select customers for which the risk of damages is low. Very wealthy individuals do not rent boats but instead purchase one. One of the main activities for the company is to execute technical maintenance. Additionally, boats are designed and prepared in such way that damages are unlikely. Furthermore, the company's employees have a lot of contact moments with customers. Two large cost groups the company has to deal with can be distinguished. Firstly, a lot of capital is needed for the boats and material, secondly, personnel costs (mainly technical employees) are a large cost group. The main difficulty for the company is to deal with unsatisfied customers, one does not want to give them too much money back. The diffusion is not seen as a difficulty, customers already rent the company's boats over thirty years.

The interviewee of *Gamez* is the owner and director of a game materials rental company for twenty-seven years now. Hard work is necessary for the creation and maintenance of games. Compared with sales, several different types of value are offered; a lower price, higher trialability and variety, lower complexity, risk, and responsibility, and no need for storage. The company focuses itself on the acquisition and retention of customers, and has long-term relationships. Also after the customer decides to rent, a lot of contact moments take place, more than in case of sales because e.g. the products always has to be returned or picked-up. These additional contact moments are seen as a challenge and opportunity to find out what customers want, and show what the company can do. An important activity for the company is to design games that are transportable, sustainable, and easy to install. The products have to be delivered or picked-up, checked and sometimes repaired. The product maintenance is crucial because this makes products to last longer, and leads to higher customer satisfaction. Furthermore, also the planning and logistics are crucial activities. The largest cost groups the company has to deal with are the human resources followed by the website and software program. The products and materials were a relatively large cost group in the beginning, however, currently only minor adaptations are needed.

The interviewee of *Heat Boilers* is responsible for marketing and communication, and had several other functions within an installation company which delivers, and is responsible for service and maintenance of heath and water heaters (250,000 devices installed at about 45,000 customers). The company started renting out these products twenty-five years ago. An increased number of customers sees the advantages of renting. Less wealthy customers rent because they e.g. prefer a lower monthly fee above a larger one time investment, and more wealthy customers prefer renting especially due to the lower responsibilities and risk. The company takes over the risk, however, does not see this as a difficulty because it has over forty-three years of experience with maintenance work and repairs. Because customers rent for twelve years, the company has a lot of certainties which e.g. makes it possible to plan very efficiently. A difficulty for the company is to deal with customers who want to eliminate the contract, to prevent this problem from occurring, it is very clearly described what the rental contract means for a customer. Because the company started to proactively promote renting instead of selling about five years ago, it had to deal with a transition. The main difficulty accompanied with this transition was to make advisors promote renting products. This difficulty, however, is not different from e.g. a transition towards new products.

The interviewee of *ToysOnline* is the owner of an in 2011 established company that sells and rents out toys. Despite the success other companies have in renting out products, for this company selling products seems to be more attractive. The initial reasoning was that customers would rent toys because; it is less expensive, higher trialability, no storage needed, less responsibilities and lower risk. The risk is not lower because customers pay a deposit. A child damaging a purchased toy is preferred above a rented toy that is damaged. A few main cost groups can be distinguished, firstly, products have to be acquired. The transportation costs makes short term rentals uninteresting. Furthermore, the owner of the company spends a lot of time for all the activities. The diffusion is seen as a difficulty because customers mainly want toys for e.g. birthdays, Santa-Claus. Toys are then bought instead of rented as customers want to have toys for longer periods. More difficulties can be distinguished; high transportation costs, planning and logistics takes a lot of time, difficult to decide what deposit to return to customers, and lastly to make customers pay.

The interviewee of *CarsPerKm* is one of the three owners of a car sharing company which has been established in 2009. The whole concept is based on self-service, and the company was the first in Europe to focus on students. Because of this focus, the company established partnerships with universities and student housing companies. Additionally, to be able to invest in e.g. the necessary technology, partnerships with angel investors are used. Furthermore, the company works together with a car leasing firm so that the investments are not too large. Still the cars are a large cost group. Also the employee, insurance, license for the car system, and booking and planning software costs are quite large. Because the company focuses itself mainly on word-of-mouth and social media now, the marketing costs have been decreased. The diffusion of the concept is quite difficult because the concept is new, a lot of advertisers target students, and students lack disposable income, and may use the public transport for free. It is difficult for the company to acquire enough financial capital. Additionally, in case of damages it is difficult to decide who is responsible. Furthermore, sometimes customers leave on the lighting, which means that the car system does not function anymore and cannot be opened from a distance. This leads to logistical problems because someone has to open the car with a key, meaning that the car may not be accessible in time.

The interviewee of non-profit organization *Playful* is agogic, and property manager of a Speel-o-theek for one and a half year now. The speel-o-theek can be compared with a library, instead of books, customers lend toys. One has to pay €0,50 for one toy which then can be rented for three weeks. Customers become members, however, no subscription fee has to be paid. An increased number of individuals is making use of the *Playful*'s offerings. Compared to purchasing toys, the price is lower, customers have an increased trialability, lower risk (child might not like toy after a short amount of time), no need to stock toys, higher variety, and lastly it is better for the environment. Customers keep the responsibility for the toys, in case of damages or loss of parts, customers have to pay an additional amount of money. The relationship with customers is long-term based, and the focus lies on both customer acquisition and retention. Compared with sales, more contact moments exist. These are seen as an opportunity. The diffusion of the offering is not seen as a difficulty, renting toys is accepted very long now. The customers' uncertainty about the offering is very low because it has a very low threshold (no subscription fee, low rental amount). The most difficult thing to deal with for the company is customers returning toys too late. Employees have to call customers to ask when they will return the toys.

MagazineMap offers subscriptions for magazine portfolios since the fifties. The interviewee is the commercial manager and works here since 2007. The business is successful, however, it had its ups and downs. During crisis a strong increase in demand takes place, during economic growth the demand decreases. After customers decide to make use of the magazine portfolio, they receive one on a weekly basis, delivered by one of the company's employees. The same deliverer visits the customer for years to bring a new portfolio and pick up the old one. These contact moments are seen as an opportunity, and are being monitored in order to deal with complaints and improve the service. The financial and human resources, and the software program used for the planning are essential for the company. The human resources, and the products are the largest cost groups. The costs for the software program, as well as the marketing costs, are relatively low. The company has its own transportation network, however, the costs for this are also fractional. The diffusion of the offering is not seen as a difficulty. Only new leisure activities (e.g. personal computer, social media), make the portfolio less interesting. Still, the early majority and perhaps also part of the late majority already accepted the magazine portfolio.

Brown&White mainly rents out brown and white goods to individuals for about forty-five years now. Two interviewees were interviewed, the controller who works at the company for two-and-a-half years now, and a communication specialist who works here four months. Renting out is successful for the company, it survived several crises and exists already forty-five years, and results are good. Products are rented out for periods of five years which creates stability and makes it possible to plan very efficiently. The company targets customers who cannot afford purchasing, competitors who were only selling, now also target these groups with their financial lease contracts. A lot of activities are required to finally rent out products. Information has to be offered to consumers, and the company has to communicate with them. If a consumer decides to rent, the company checks the likelihood the consumer will pay (eighty percent gets refused). Then the contract is made, and the product is delivered and installed. After instalment, surveys are sent and sometimes improvements follow, also repairs may be necessary once in a while. High-end products are selected to keep failure rates and so the need for repairs low. Additionally, the planning and logistics are crucial for the company. Furthermore, it is important to make customers pay, this is difficult for the company as about twenty percent does not pay in time. Additionally, keeping up with technological developments, and train employees are a challenge to the company. Lastly, it is hard to lend money from banks, contracts do not say much to them. This might be a barrier for start-ups.

Car L&R leases, rents out, and sells cars both to companies and individuals, additionally it has its own bodyshop and car conversion company. The interviewee is operations manager at the lease department of the company where he works for five years now. Both the lease and renting out business have been successful. Since a few months, the company offers individuals the possibility to acquire a car based on operational lease, already twenty contracts are signed, and fifty requests per month are received. Operational lease is more interesting for the company than sales because in case of sales a customer is lost after the transaction, with leasing the customer is bound to the company. The renting of cars was probably already accepted twenty years ago, however, during the last few years the acceptance really increased. Operational lease for individuals is new and therefore customers are a bit anxious sometimes. By e.g. communicating that monthly fees are fixed, and comparing lease with owning a car, the company convinces customers to lease. For the rental business it is difficult to plan, even with a software program. Additionally, it is hard to estimate whether a customer will steal a car. For the operational lease business it is hard to estimate whether a customer will pay, furthermore it is difficult to make these customers pay after they signed the contract. Lastly, the operational lease for individuals is new for the company. A difficulty here is to convince sales representatives of the advantages of operational lease, and make them promote the offering.

4.2 Cross case analysis

In this paragraph the nine business model elements are compared and analyzed based on the business models of the twelve case companies. Tables and figures are used to create an overview and further clarify the findings. Each element is closed with a short conclusion.

4.2.1 Value proposition

The value proposition is an overall view of a company's bundle of products and services which are of value to the customer. Subsequently, first the product and services being offered, and the needs these fulfil are presented. This is followed by the market scenarios which make the offerings suitable for the market. Lastly, the value these offerings add are described.

In the following table (6), the products offered by the companies being interviewed are presented. As can be seen, the companies offer ten different types of products (two companies offer toys, and two offer cars) which are all offered based on temporary access. Some products are relatively cheap (e.g. magazines and toys), and others are relatively expensive to purchase (e.g. boats and cars). Part of the products can be seen as luxury goods like art and boats, and some are very common in a Dutch household (e.g. heating boilers, and household appliances). All products are offered based on accessibility, however, these are also directly sold by some of these companies, or by other companies.

Companies	Product	Companies	Product
Arty	Art	ToysOnline	Toys
Laptop4you	Laptops, beamers, etc.	CarsPerKm	Cars
Instrumental	Musical instruments	Playful	Toys
Boats4rent	Boats	MagazineMap	Magazine portfolios
Gamez	Physical games	Brown&White	Household and electrical appliances
Heat Boilers	Heating boilers	Car L&R	Cars

Table 6: Companies and their products

With these diverse products, different needs are fulfilled. With cars, mobility is offered, with the heating boilers, the need for heat or hot water is fulfilled, and other products fulfil the need for entertainment (e.g. electrical appliances, and magazines). Some products fulfil temporary needs, like beamers for a specific sports event, boats for a holiday weekend, or physical games for an event. Other products like heating boilers and household appliances are needed for longer periods.

It is likely that not every market scenario is suitable for accessibility based products. The market scenarios in which accessibility based products can be offered. are matched with the products the case companies offer, and presented in the following table (7).

		Market scenario			
Companies	Products	High purchasing costs	High idling capacity	Limited use	Diminished value after use
Arty	Art	x			
Laptop4you	Laptops, beamers, etc.	x		x	x
Instrumental	Musical instruments	x			
Boats4rent	Boats	x	x		
Gamez	Physical games		x		
Heat Boilers	Heating boilers	x			
ToysOnline	Toys		x	x	
CarsPerKm	Cars	x	x		
Playful	Toys		x	x	
MagazineMap	Magazine portfolios		x	x	x
Brown&White	Household and electrical appliances	x			
Car L&R	Cars	x	x		

Table 7: Accessibility based product market scenarios, based on Botsman and Rogers (2010).

As can be seen in table 7, all products the case companies offer fit to a market scenario of accessibility as proposed by Botsman and Rogers (2010). Especially the high purchasing cost and high idling capacity products are offered. Products with high purchasing costs are for example art, boats, and cars. These boats and cars also have a high idling capacity. The use of laptops is limited, as due to the technological developments a new one is needed soon. The value of a magazine portfolio diminishes after usage because one is not likely to read a magazine fully more than once.

Different value is offered with the companies' offerings. In table 8 an overview of the value being offered is presented. For all companies, interviewees mention that customers probably value the fact that products now can be acquired at lower cost. Additionally, nine out of twelve interviewees mention the increased trialability, and the decrease in risks and responsibilities as value offered to customers. The companies; *Heat Boilers*, *Brown&White*, and *Car L&R*, offer a long-term contract, which means that there is no increase in trialability because customers are bound to the contract. Customers have to deal with a lower risk because the company takes over the risk of damages, an interviewee of *Brown&White* mentions; *"if you would purchase an eight hundred euro washing machine….you are not certain whether it works after two years, you will always see that it breaks after the warranty period"*. However, for customers of *ToysOnline* this risk is not lower because they have to pay a deposit. Still, in case customers have the possibility to try products, the risk they end up with a product they do not like decreases. Part of the companies do not see taking over the risk as a difficulty, companies are insured for damages themselves. Value is also offered with a decrease in responsibilities (e.g. customers do not have to store products, and do not have to deal with maintenance and insurance). Seven interviewees mention the reduced complexity to be of value to customers (e.g. it is clear upfront what will be the periodical costs). An increase in variety is also of value according to six interviewees. Because products become affordable, customers have the possibility to choose a product from a greater variety, additionally some companies (e.g. *Car L&R*) provide the option for customers to swap a product which also leads to increased variety. Although in the introduction it is mentioned that accessibility could lead to a better environment, only four interviewees mention this as a reason for customers to value their offering. Most interviewees mention that the lower costs are more important for the majority of customers. Lastly, none of the interviewees sees the higher value of the product as being something that is valued by customers. Of course the other points already indicate that the offering as a whole can be of higher value to customers, however, the product itself (quality or customization) is not of higher value according to the interviewees. They state that products which are sold can also have a high quality, and can be customized. All the other values offered are higher compared with direct sales.

	Companies												
Value	Arty	Laptop4you	Instrumental	Boats4yrent	Gamez	Heat Boilers	ToysOnline	CarsPerKm	Playful	MagazineMap	Brown&White	Car L&R	Total
Lower costs	x	x	x	x	x	x	x	x	x	x	x	x	12
Increased trialability	x		x	x	x		x	x	x	x		R	9
Reduced risk	x	x		x	x	x		x	x		x	x	9
Less responsibilities		x	x	x	x	x	x	x			x	x	9
Reduced complexity	x			x	x			x		x	x	x	7
Increased variety				x	x				x	x	x	x	6
Lower environmental impact								x	x	x		x	4
Higher value of the product													0

Table 8: Value offered

Next to the value criteria taken from literature and presented in the table above, two interviewees (from the companies; *Instrumental* and *Brown&White*) mention that a direct delivery from stock is valued by customers. If customers e.g. want to rent a laptop for a specific period, it is of major importance that this laptop is available and can be delivered directly.

It can be concluded that different products are suitable for accessibility. Products can be cheap or expensive, as well as luxurious or very common. Furthermore, the needs being fulfilled can be short term and long term based. It seems that all products at least fit to one of the market scenarios for accessibility; high purchasing cost, high idling capacity, limited use, and diminished value after use. Furthermore it has been identified that with accessibility based offerings especially the lower costs, increased trialability, reduced risk, and lower responsibilities are of value to customers.

4.2.2 Target customer

The target customer is a segment of customers a company wants to offer value to. Very different customer groups are targeted by the case companies (see table 9). *Arty* has a very broad scope and targets both individuals and companies, on the other hand, *CarsPerKm* has a smaller scope by mainly targeting students. *Boats4rent* targets Dutch and international consumers, and *Gamez* targets schools, companies, camping sites, associations, and individuals. The same groups are also targeted by competing sales companies. *Brown&White* started a few decades ago to target customers who are not able to purchase the products being offered. Competitors which sell these products also target this customer group now with the financial lease option. Interviewees of the companies *Boats4rent* and *Car L&R* mention that very wealthy customers probably only want to purchase products. The interviewee of *Heat Boilers*, however, mentions that more wealthy customers are renting their products not due to the lower investment but mainly the decreased risks and responsibilities.

As *Boats4rent* offers expensive boats for rent, it prefers customers for which the risk of damages is small. For boat sales companies it does not matter whether or not a customer damages a boat after it has been sold. The companies *Brown&White* and *Car L&R* both offer expensive products for longer periods of time. Both interviewees mention that they only let customers rent or lease their product if the risk they will not pay is low.

Companies	Target groups	Companies	Target groups
Arty	Individuals and companies.	ToysOnline	Consumers are children aged 0-6, parents and grandparents acquire toys.
Laptop4you	Customers with little money, a lot of money, students, and with specific demands.	CarsPerKm	Focus on students, divided into Dutch and foreign students. Additionally starters on the job market.
Instrumental	Music projects (e.g. music schools), individuals (mostly aspiring musicians), orchestras.	Playful	Children aged 0-4 divided into babies and somewhat older children.
Boats4rent	Dutch and international consumers.	MagazineMap	Consumers (especially women because they decide), companies with a waiting area.
Gamez	Schools, companies, camping sites, associations, and individuals.	Brown&White	Not very wealthy consumers who cannot afford purchasing.

Heat Boilers	No segmentation yet, based on the parent firm in the future.	Car L&R	Companies and individuals. Segmentation based on cars (small and affordable, more expensive, very expensive.

Table 9: Target customer groups.

It can be concluded that overall no typical customer target groups can be identified. Accessibility based companies target diverse customer groups, some have a small and others a broader scope. One could argue that accessibility based companies are not likely to target very wealthy customers, however, it seems that these customers also acquire accessibility based products (e.g. due to less responsibilities). Furthermore, one company offering expensive products targets customers with low risk of damages. Two companies offering expensive products for longer periods target customers for which the likeliness they will pay is large.

4.2.3 Distribution channel

A distribution channel is a means of getting in touch with the customer. Several channels are used by the case companies to get in contact with customers. Four stages can be distinguished for which different channels are being used, namely; awareness, evaluation, purchasing, and "after sales". As in this case there is no purchase and after sales, with this the final reservation or ordering of the product is meant. The following table (10) shows the number of companies using certain channels for the four stages. More to the bottom of the table, channels can be found which are used for the later stages. Several channels are used to create awareness and also to make customers evaluate the offerings. Especially the company website, word-of-mouth, and social media, are used to create awareness. For the evaluation also the company website and word-of-mouth communication is used. Additionally via e-mail, phone, social media, and the physical location (e.g. store) customers have the possibility to learn more about the offerings and really evaluate it. Via the company website products are clearly described and sometimes presented with videos. Furthermore, it is clearly described what e.g. the rental amounts and periods are. To really make customers decide to acquire a product, and make them order the product, the company website and the physical location (e.g. store) are used. The personal contact via the physical location is used to persuade customers to acquire the product. After signing the contract, the companies use several channels to stay in contact with customers. Customers are contacted by phone, are member of a Facebook group or follow the company via Twitter, and receive newsletters or surveys. Next to this, for the companies *Heat Boilers* and *MagazineMap*, periodically a mechanic or deliverer visits the customer's home address. For *Brown&White*, a mechanic also visits the customer in case of product failure. Next to this, for seven companies, customers have contact with the company at the physical location to return the product or perhaps acquire a new one.

Channels	Awareness	Evaluation	Purchase	After sales
Google Adwords	5			
Word-of-mouth	10	6		
Leaflets	4	4		
Newspaper	5	3		
Affiliate marketing	3	3		
Magazine	2	1		
Company website	12	12	9	
External sales representative	2	3	3	
E-mail	2	7	2	
Online marketplace / other website	3	2	1	
Physical location (e.g. store or gallery)	4	5	7	7
Social media (Facebook, Twitter)	7	5		5
Newsletter	3	3		5
Phone		6	4	3
Mechanics/deliverer		1		3
Surveys				3
Exhibition	2	2		1

Table 10: Distribution channel stages

The channels used in case of accessibility are also used by companies which sell products. However, the physical location of sales companies is often used for the awareness, evaluation, and purchasing phases, and not for the after sales phase. A customer pays for the product and after that perhaps is contacted via e.g. e-mail, or a newsletter. Customers do not have to return a product to a physical location, in case of accessibility they do. Furthermore, some accessibility based companies send mechanics to check and repair products and employees to deliver and pick up products frequently.

4.2.4 Relationship

All twelve interviewees mention that their company focuses itself on customer acquisition and retention. The interviewees of *Laptop4you* and *Instrumental* mention that for acquisition more effort is required, and that retention follows automatically. *Heat Boilers* and *Car L&R* focus themselves also on selling additional products. Although *Car L&R* focuses itself concerning the leasing on customer acquisition, retention, and additional products, concerning renting the focus does not lie on customer retention.

All interviewees mention that they have a long-term relationship with their customers. For some companies this is obvious because they offer e.g. rental contracts for periods of five or twelve years. However, companies renting out products for only one day or even per hour also established long-term relationships. Only *Car L&R* has a short-term relationship with its renting customers, which is in line with their lack of focus on customer retention as mentioned before.

As just mentioned, almost all companies focus themselves on customer retention. Therefore it is interesting to show how this is done. Blattberg et al. (2001) propose seven customer retention drivers, which are presented in the following table (11). Eleven interviewees mention they make it very easy for customers to extend the period they can use the product, or acquire the product again after a certain period. Additionally, the customer service seems to be an important customer retention driver, companies make sure that customer service employees are very customer focused and friendly. A high value of the good or service (e.g. high quality product, or excellent maintenance) is also an important driver of customer retention, four interviewees even try to offer higher quality than the customer expects in order to create customer retention (e.g. by renting out products which are as good as new). Furthermore, most products are suitable for customers, toys are for example carefully selected so that they suit the target group (e.g. no small parts kids aged 0-4 can swallow). Seven companies use loyalty mechanisms (e.g. discount program) to create customer retention. Lastly, five interviewees make it hard for customers to exit the company. *Arty* for example, offers the total leasing amount as a discount to later on purchase a piece of art. Other interviewees mention that an exit during a contract is not possible. As some contracts are based on five (*Brown&White*) or twelve years (*Heat Boilers*), this leads to customer retention automatically. However, after the contractual period no huge exit barriers are created because this would lead to a bad company image. Two interviewees (of the companies *Brown&White* and *Car L&R*) mention that retention is also created because after the contractual period, the customer still needs the product.

	Companies												
Retention method	Arty	Laptop4you	Instrumental	Boats4yrent	Gamez	Heat Boilers	ToysOnline	CarsPerKm	Playful	MagazineMap	Brown&White	Car L&R	Total
Ease of purchase (rent)	x	x	x	x		x	x	x	x	x	x	x	11
Customer service		x		x	x	x	x	x	x	x	x	x	10
High value of the good or service	x	x		x	x	x	x	x	x			x	9
Product uniqueness and suitability		x	x	x	x		x		x	x		L	8
Loyalty mechanisms	x			x	x	x		x		x		L	7
Ease of exit	x	x				x					x	L	5
Higher quality than customers expect		x		x			x					R	4

Table 11: Customer retention drivers (Blattberg et al., 2001)

A lot of contact moments can be distinguished which can be divided into four different stages as presented in figure 9. Via e.g. social media, or the company website, customers get to know the company in the first contact stage. If customers then are interested the ordering stage follows where customers want to be informed via e.g. the website, a “sales” representative, or an e-mail. The customer places the order, and the order is confirmed by the company. Subsequently, the contractual stage follows in which first the product is sent and maybe installed, or handed over to the customer at a company’s physical location. During the contractual period, companies stay in contact with their customers by sending newsletter and surveys, social media, and informing customers via the website, phone, and e-mail. Some companies (*Heat Boilers, Brown&White*, and *Car L&R*) take care of the product maintenance and reparations. Furthermore, contact with customers takes place in case a customer wants to swap a product, and also by reminding customers they can extend their contract. Lastly the “after contract” stage takes place where the company continues to contact customers via the survey, newsletters, and social media. The customer also has to return the product, or the company is responsible for picking up the product. Additionally, customers might decide to continue the contract and e.g. rent a new product.

First contact
- Website.
- Phone.
- E-mail.
- Social media.
- Etc.

Ordering
- Inform about offering.
- Placing order.
- Confirm order.

Contractual stage
- Send/install/hand over product.
- Phone, e-mail.
- Newsletter.
- Survey.
- Social media.
- Maintenance/ repairing.
- Swap product.
- Reminder to extend contract.

After contract
- Return product.
- Rent new product.
- Survey.
- Newsletter.
- Social media.

Figure 9: Contact moments

All interviewees mention that with accessibility, more contact moments exist than with direct sales of products. The "first contact" and "ordering" stages are the same, however, within the two subsequent stages more contact moments exist. These additional contact moments are seen as a challenge and opportunity by all interviewees. The contact moments can be used to strengthen the relationship and create customer retention. The interviewee of *Gamez* mentions; "*I do not see this as a threat but I see this more as a challenge to see how we can come closer to eachother and find out what is the best product for them*".

Of all twelve companies, only *Instrumental* proactively creates value together with users. These use the music instruments and advise the company on improvements. The company then changes the product in case they agree. Other companies listen to customers, and might include e.g. a new product in their assortment in case customers ask for this, however, do not really co-create value.

In this section firstly it seems that accessibility based companies focus on both customer acquisition and retention, and that they establish long-term relationships with their customers. Several retention methods are used to establish such relationships. It is made easy to acquire a new products or e.g. extend the rental period, the customer service level is very high, and also the value of the total offering is high. Furthermore, with accessibility more contact moments with customers exist during the contract and afterwards. These additional contact moments are seen as an opportunity to strengthen the customer relationship. Co-creation of value with customers does not seem to be a typical characteristic for accessibility based companies as only one of the companies does this.

4.2.5 Capability/key resources

A capability is the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer. A few capabilities are mentioned by the interviewees which are essential in the creation of value (see table 12). Firstly, all interviewees mention that planning (and more broadly the administration) is crucial. The company needs to know where products are, when they are returned, etc. Additionally, a good customer focus, and friendliness are important for a good customer service. Thirdly, the capability to repair and maintain products is essential for nine companies.

For the above mentioned capabilities, a few main resources are necessary (see figure 10). For the planning of the whole logistics, eleven companies use a software tool. The interviewee of *CarsPerKm* mentions that; "*without this software and hardware a car sharing company cannot exist*". *Playful* does not use a software tool but a card system. Secondly, human resources are needed especially for the customer service (customer focused and friendly employees), the logistics and planning, and for some companies also the maintenance or repairing. Lastly the financial resources are very important for accessibility based companies. These are needed of course to pay employees, purchase the software program, the physical location, but mainly for the products. The company has to purchase a lot of products, for which the revenues are earned much later compared with direct sales.

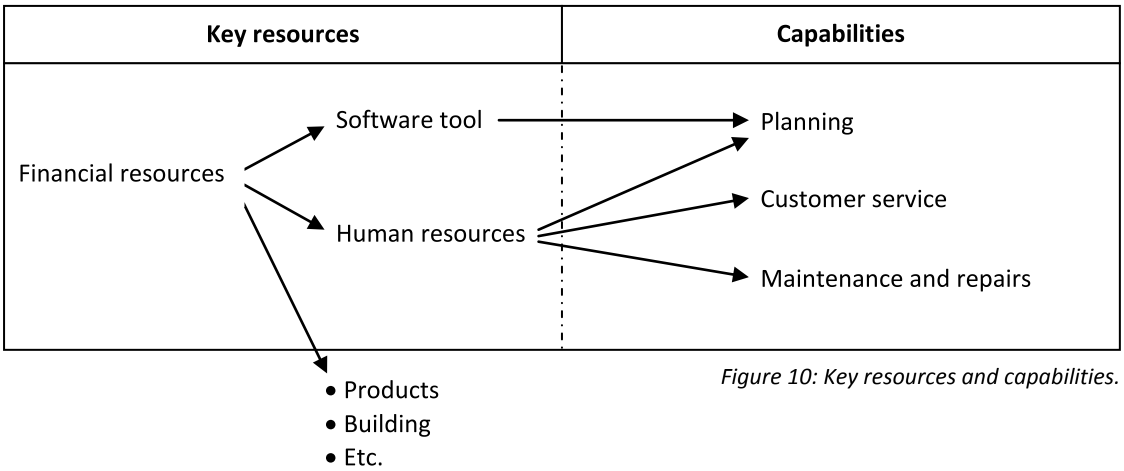


Figure 10: Key resources and capabilities.

Capabilities	Arty	Laptop4you	Instrumental	Boats4yrent	Gamez	Heat Boilers	ToysOnline	CarsPerKm	Playful	MagazineMap	Brown&White	Car L&R	Total
Planning (administration)	x	x	x	x	x	x	x	x	x	x	x	x	12
Customer service		x		x	x	x	x	x	x	x	x	x	10
Repairing and maintenance		x	x	x	x	x	x		x		x	x	9
Resources													
Human resources	x	x	x	x	x	x	x	x	x	x	x	x	12
Financial resources	x	x	x	x	x	x	x	x	x	x	x	x	12
Software tool	x	x	x	x	x	x	x	x		x	x	x	11

Table 12: Capabilities and resources.

A competitive advantage is created with the offering itself. The value offered with these offerings as presented in the value proposition section leads to a competitive advantage. Additionally, with the employees' friendliness, customer focus, and the customer service itself, a competitive advantage is created. Furthermore, the financial resources companies own can be seen as competitive advantage. It makes it possible to demand lower prices than start-ups can demand. It can also prevent start-ups from entering the market. Also with a good location, *Boats4rent* and *Playful* create a competitive advantage. Lastly, the companies create a competitive advantage in some more specific ways; *Heat Boilers* uses the parent company image, *CarsPerKm* has exclusive partnerships with universities to locate their cars, and *Car L&R* has an optimized car fleet management with which it informs customers e.g. on fuel usage, and maintenance.

It can be concluded that the planning, customer service, and the capability to maintain and repair products are important capabilities for accessibility based companies. The key resources used for these capabilities are first a software program and human resources for the planning, also human resources for the customer service (customer focused and friendly employees) and maintenance and repairs, and lastly financial resources to pay especially for the software, employees, and products. A competitive advantage is especially created with the offering itself, the customers service, and the financial resources.

4.2.6 Value configuration/key activities

The value configuration shows all necessary activities, and the links between them, which are needed to create value for the customer. The key activities with which accessibility based companies have to deal can be divided into three phases; before a product is accessible for customers, when customers use products, and the phase after product usage (see figure 11). The activities belonging to these phases are described subsequently, and presented in table 13.

Before products are made accessible, companies select and create products which are suitable for accessibility. The interviewee of *Arty*, for example, mentions that only art is leased which is not damaged too quickly, for *Gamez*, the products should be transportable, sustainable, and easy to install, and *Heat Boilers* and *Brown&White* select products with low failure rates. Then, planning is an essential activity for the companies, it is important to know where products are, when they are returned, etc. For some companies which offer expensive products for longer periods, the customers' financial situation is checked to increase the likeliness customers will pay. The interviewee from *Brown&White* states that *"from all orders we in the end receive, I believe eighty percent gets refused"*. After that, the product is handed over, sent, or delivered to the customer.

While customers are using the products, they might want information which the company then has to provide. The company has to make sure that customers are paying, and so send reminders or take other measures. It might be that products need maintenance or repairs during the period of access, which the companies' mechanics have to take care of. Customers are informed that they can extend their e.g. rental period before the contract's ending. A few companies provide the opportunity to purchase the product with a discount.

Then, after products have been used, customers send or bring back the products themselves, or the company picks them up. After the products are returned, they are checked by the company's employees. Based on the product status, it is decided whether customers receive their deposits back in case they paid for this. Products are cleaned, and in case of damages or missing parts, products get repaired, and missing parts are purchased. Then customers have the opportunity to acquire a new product. Compared with sales, more activities are needed for accessibility.

Before product usage

- Select suitable product.
- Planning.
- Check financial situation.

Product at the customer

- Inform customers.
- Make customers pay.
- Maintenance and repairs.
- Provide information about extending contract.

After product usage

- Pick up the product.
- Check the product.
- Return deposits.
- Clean, and repair products, and purchase new parts.

Figure 11: Typical accessibility related activities.

	Companies												
Activities	Arty	Laptop4yo	Instrument	Boats4yre	Gamez	Heat	ToysOnline	CarsPerKm	Playful	MagazineMap	Brown&White	Car L&R	Total
Planning.	x	x	x	x	x	x	x	x	x	x	x	x	12
Check the product.		x	x	x	x		x	x	x		x	x	9
Clean/repair products, purchase new parts.		x	x	x	x		x	x	x		x	x	9
Select suitable products.	x			x	x	x	x	x	x		x		8
Maintenance and repairs.				x	x	x	x	x			x	x	7
Provide information extending contract.	x					x	x	x		x			5
Pick up the product.	x				x	x				x	x		5
Inform customers.				x			x	x			x		4
Return deposits.			x	x	x		x						4
Make customers pay.	x										x	x	3
Check financial status.											x	x	2

Table 13: Typical accessibility related activities.

The priorities accessibility based companies have compared with companies that sell products do not differ according to nine of the interviewees. The three interviewees mentioning that there is a difference, see product availability as a priority. Interviewees of the companies *Laptop4you, MagazineMap*, and *Car L&R*, state that in case of accessibility, customers want a product during a certain period. This means that products have to be available at the right moment.

In this section it seems that typical accessibility based activities are executed. First some activities before products are made accessible (i.e. select and create suitable products, planning, and check the financial situation). The financial status is only checked by companies which offer expensive products for longer periods. Then typical accessibility based activities are executed while customers make use of products (i.e. informing customers, make customers pay, maintain and repair products, and providing information about extending the contract). Lastly a set of activities is executed after products are used (i.e. pick up the product, check the product, return deposits, and clean and repair products, and purchase new parts). Moreover, it seems that product availability has priority for a set of companies because customers really acquire products for a specific period.

4.2.7 Partnership

A partnership is a voluntary initiated cooperative agreement between two or more companies in order to create value for the customer. The partnerships the twelve companies have, are presented in table 14. The interviewees of the companies *Boats4rent, Gamez, ToysOnline*, and *Playful*, mention that they do not have a partnership. Six interviewees mention that they have a partnership with suppliers. *Instrumental* for example, has partnerships with Asian music instrument producers, and is even responsible for its quality control. The companies *Boats4rent* and *Playful* mention that they aim to establish a partnership with one or more suppliers.

Additionally, four interviewees mention that their company has partnerships in order to reach more customers. *Arty* for example, works together with an interior landscaper and interior decorator, *Laptop4you* uses a dealer network, and *CarsPerKm* has partnerships with some student housing companies. Moreover, two interviewees mention that they aim to establish partnerships to reach more target groups. Some of the companies also have more specific partnerships; e.g. *Arty* works together with an art academy from which students are selected for internships, and *Instrumental* has a partnership with a freelancer who maintains and repairs the music instruments. None of the interviewees mentions that a difference in partnerships between companies based on accessibility and sales companies exists. Typical accessibility based characteristics for the partnerships could not be identified.

Companies	Partnerships with		
Arty	Interior landscaper, interior decorator, a bank, the art academy, artists, and a frame maker.	ToysOnline	No partnerships.
Laptop4you	Other rental firms, and retailers which form a dealer network.	CarsPerKm	Angel investors, car leasing firm, student housing companies, and universities.
Instrumental	Asian instrument producers, and a freelancer for maintaining and repairing instruments.	Playful	No partnerships.
Boats4rent	No partnerships.	MagazineMap	Magazine company, and publishers.
Gamez	No partnerships.	Brown&White	With one supplier where products are purchased.
Heat Boilers	Suppliers, fuel cards are used.	Car L&R	Some business customers, and a famous soccer club.

Table 14: Partnerships.

4.2.8 Revenue model

The revenue model describes the way a company makes money through a variety of revenue flows. Table 15 shows the revenue streams and payment methods the companies use. Starting at the top of the table, *CarsPerKm* offers its products based on pay-per-use combined with a subscription fee and advertisement income. Customers can use a car and pay-per-hour and per kilometer. *MagazineMap* offers subscription based magazine portfolios and additionally earns revenues on advertisements. Nine companies earn revenues with renting products out for a certain period and receive a periodic payment for this. The companies *Laptop4you* and *Instrumental* offer their renting customers the possibility to later on purchase the rented product with a discount. Three companies then offer their products based on financial lease. Only *Arty's* financial lease customers do not necessarily become the owner of the product, which means this is a form of accessibility. Furthermore, *Car L&R* offers cars to consumers based on operational lease. Lastly, next to revenue streams based on accessibility, seven firms offer products for sale. Overall it can be said that different revenue streams and payment methods suit to the accessibility concept. Renting out is used by most companies, a large group also offers products for sale.

Revenue stream	Payment method	Arty	Laptop4you	Instrumental	Boats4yrent	Gamez	Heat Boilers	ToysOnline	CarsPerKm	Playful	MagazineMap	Brown&White	Car L&R
		Companies											
Renting	Pay-per-use								x				
	Subscription								x		x		
	Periodic payment		x	x	x	x	x	x		x		x	x
Rent-to-own			x	x									
Financial lease		x	x										x
Operational lease													x
Direct sales			x	x		x	x	x				x	x
Advertisement									x		x		

Table 15: Revenue streams and payment methods

In figure 12 it is presented for what periods the companies offer access to their products and so customers pay for this. The period varies from one hour and kilometer to twelve years. A lot of companies make their products accessibly from one day till one month, however, at some companies it is possible to acquire products for several years.

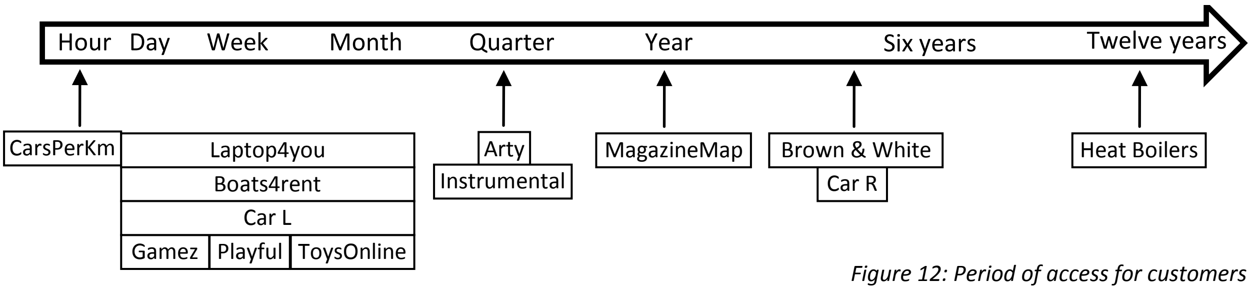


Figure 12: Period of access for customers

All interviewees mention that it takes longer to earn the total revenues for a product based on accessibility compared with direct sales. For *Laptop4you* it takes about three years to earn the products back, the interviewee of *Gamez* mentions that a product should be rented out about twenty-five times before the costs are covered, and for *ToysOnline* a product has to be rented out at least ten times. However, also a lot of interviewees mention that the returns in case of accessibility are higher. The interviewee of *Heat Boilers* mentions that customers are bounded to the company for at least twelve years, leading to a constant revenue steam, and more efficient planning.

In this section it seemed that several revenue streams suit to the accessibility concept (i.e. pay-per-use, rental, subscription, financial lease, operational lease, and advertisement). Furthermore, the period customers have access to products varies very much between the companies, namely from one hour till twelve years. Lastly, it has been identified that for accessibility based companies it takes longer before the total revenues are earned.

4.2.9 Cost structure

The cost structure is the representation in money of all the means employed in the business model. The most important cost groups for accessibility based companies are described subsequently, and presented in table 16. Firstly, all interviewees mention that a lot of money needs to be invested in the products themselves. This amount of money is higher than in case of direct sales, because companies also invest in products that are already in use by customers. Next to this, the interviewee of *Heat Boilers* mentions that also replacement parts for products till twelve years old should be held in stock. The interviewee of *Gamez* mentions that after twenty-seven years of business, the products are not a large cost group anymore, only minor adaptations and repairs are needed. The companies *Arty, CarsPerKm,* and *Car L&R*, lease products themselves to keep the investments manageable.

Secondly, employee costs are a large cost group. These costs are higher compared with direct sales. Employees are investing more time on planning and administration. Additionally, technical employees are busy with maintenance and repairs. For *Playful* the employee costs are very low because they work with volunteers and interns.

Ten interviewees mention that a more comprehensive software program is needed for accessibility based business. This program is mainly used for bookings and the whole planning (e.g. where are products, when are they returned). For most companies the costs of such a program are quite large, however, for the companies *Instrumental, MagazineMap, Brown&White*, and *Car L&R* these costs are relatively small. *Playful* uses a card system to deal with the planning and logistics. For this company the costs are also low.

For the companies *Arty, CarsPerKm,* and *Car L&R*, the insurance is a large cost group. All of these companies offer expensive products. One has not only got to insure products in stock or in e.g. a showroom within the own company, but also the products customers are using.

A part of the companies is responsible for the transportation costs, which are higher compared with sales because products also have to be returned to the company. *Arty* and *MagazineMap*, for example, use their own transportation service, and *Laptop4you* and *ToysOnline* pay the transportation costs for returning the product. For *ToysOnline* it is not interesting to rent out products for short periods due to the transportation costs they have to pay. The transportation costs are not high for *Instrumental* because customers pick-up and return products to the physical store. The interviewees of the relatively large companies *MagazineMap* and *Brown&White* mention that the total transportation costs are just a fraction of the total costs.

The marketing costs are for some companies responsible for a larger part of the total costs, and for other companies these costs are fractional. These costs do also not really differ between accessibility based companies and companies which directly sell products. Also the building is a large cost group for a few companies. Lastly, some companies have to deal with some relatively large more company specific costs. *CarsPerKm*, for example, has to pay license fees for their car system.

Cost groups	Companies: Arty	Laptop4yo	Instrument	Boats4rent	Gamez	Heat	ToysOnline	CarsPerKm	Playful	MagazineMap	Brown&White	Car L&R	Total
Products	x	x	x	x		x	x	x	x	x	x	x	11
Employees	x	x	x	x	x	x		x		x	x	x	10
Software	x	x	x	x	x	x		x		x	x	x	10
Transportation	x	x					x			x	x		5
Insurance	x							x				x	3

Table 16:Accessibility based company cost structure.

It can be concluded that five cost groups are typical for accessibility based companies. First of all, a lot has to be invested in products because the company also pays for the products already in use by customers. Employee costs are especially high due to the effort invested in planning and administration, and also in maintenance and repairs. Then a comprehensive software program is needed. The costs for this program are relatively small for larger companies. Additionally, the insurance costs are high for companies offering expensive products, because also products used by customers are insured by the company. Lastly, the transportation costs are higher compared with sales because products have to be returned. For larger companies these costs are fractional, however, for one small company this makes the margin on rentals too small.

4.2.10 Sub-conclusion

Typical business model characteristics of accessibility based companies which operate in B2C markets have been identified and are presented in table 17. Also a few important findings which are, however, not typical for accessibility based companies, are presented (marked in grey). The most important characteristics which are also different from business models based on ownership are elaborated on subsequently. Thereafter, the coherence between the business model elements is described shortly.

Accessibility based business model	
Element	**Typical accessibility based characteristics**
Value proposition	• Different products are suitable for accessibility (e.g. cheap or expensive, and luxurious or common). • Different needs are fulfilled, both for the short and the long term. • Products at least fit to one of the market scenarios for accessibility; high purchasing cost, high idling capacity, limited use, and diminished value after use. • Especially the lower costs, increased trialability (not for companies offering long-term contracts), reduced risk, and less responsibilities are of value to customers.
Target customer	• Diverse customer groups are targeted, some companies have a broad and others a small scope. • Not so wealthy and also wealthy customers are targeted. • Company with expensive products targets customers for which the risk of damages is low. • Companies offering expensive products for longer periods target customers for which the likeliness of paying is large.

Distribution channel	• The physical location is not only used to make customers aware, evaluate, and acquire an offering, customers also return to this location to return products. • Some companies send mechanics to check and repair products and employees to deliver bring and pick up products frequently.
Relationship	• The focus lies on both customer acquisition and retention. • Long-term relationships are established with customers. • Several retention methods are used to establish such relationships. It is made easy to acquire a new products or e.g. extend the rental period, the customer service level is very high, and also the value of the total offering is high. • More contact moments with customers exist during the contract and afterwards. These additional contact moments are seen as an opportunity to strengthen the customer relationship.
Capability/key resources	• Planning, customer service, and the capability to maintain and repair products are important capabilities for accessibility based companies. • The key resources used for these capabilities are first a software program and human resources for the planning, human resources for the customer service (customer focused and friendly employees) and maintenance and repairs, and lastly financial resources to pay especially for the products.
Value configuration/activities	• A few activities are executed before products are made accessible (i.e. select and create suitable products, planning, and check the financial situation). • The financial status is only checked by companies which offer expensive products for longer periods. • Then typical accessibility based activities are executed while customers make use of products (i.e. informing customers, make customers pay, maintain and repair products, and providing information about extending the contract). • Lastly a set of activities is executed after products are used (i.e. pick up the product, check the product, return deposits, and clean and repair products, and purchase new parts). • Moreover, it seems that product availability has priority for a set of companies because customers really acquire products for a specific period.
Partnership	• Typical accessibility based characteristics for the partnerships could not be identified.
Revenue model	• Several revenue streams suit to the accessibility concept (i.e. pay-per-use, rental, subscription, financial lease, operational lease, and advertisement). • The period customers have access to products and so pay for these varies very much between the companies, namely from one hour till twelve years. • For accessibility based companies it takes longer before the total revenues are earned.
Cost structure	• A lot has to be invested in products because the companies also pay for the products already in use by customers. • Employee costs are especially high due to the effort invested in planning and administration, customer service, and also in maintenance and repairs. • A comprehensive software program is needed. The costs for this program are relatively small for larger companies. • Insurance costs are high for companies offering expensive products because also products used by customers are insured by the company. • Transportation costs are higher compared with sales because products have to be returned. For larger companies these costs are fractional, for one small company these costs make the margin on rentals too small.

Table 17: Accessibility based business model.

Most relevant characteristics, and differences with ownership

In the table (17) quite a lot of accessibility based business model characteristics are presented. Part of these are not different from business models based on ownership, however, are important for the business model (e.g. it is valuable to know that different products (e.g. cheap or expensive, and luxurious or common) are suitable for accessibility). It can be concluded that other characteristics are different from business models based on ownership, the most relevant ones are described subsequently. As part of the *value proposition* of accessibility based business models, products are offered at: lower costs, increased trialability, reduced risk, and lower responsibilities, than in case of ownership. This is possible because these products are only accessible periodically, leading to lower costs, and trialability. Because companies stay owners they take over the risk and responsibility. As part of the *target customer* element, for more expensive products made accessible for longer periods, customer groups are targeted for which the likeliness of damages or not paying is low. In case of ownership this is not necessary because companies directly receive the revenues, and do not mind if products get damaged because it is not their property. The *distribution channel* is also different as in case of accessibility, products are returned to a physical location, and mechanics check and repair products for some companies. With ownerships, customers keep products and so do not need to return them. Additionally, the company is not responsible for the state of the product and so does not check or repair it. All companies focus on customer acquisition and retention, and the *relationship* with customers is long-term based. This is obvious in case of long-term accessibility based contracts. However, also for shorter periods of access the relationship is long-term based. Additionally, because products are e.g. returned etc., many more contact moments exist. Moreover, some important *capabilities and key resources* have been identified which are different for business models based on ownership. First and most obvious is the capability to maintain and repair products, which is not necessary in case of direct sales. Also the customer service is even more important because of the long-term relationships that have to be established. Although planning is also important for many selling companies, for accessibility based companies this is crucial. Products should not only be delivered to customers in-time, it should also be managed where they are, when they will be returned, and when they can be e.g. rented out to the next customers. Especially for the maintenance and repairs, human resources are used which are not part of a business model based on ownership. Also the software is a key resource and different planning software is used in case of ownership. Lastly, more financial resources are needed for e.g. the products. Accessibility based companies have to deal with specific *activities* before products are made accessible (i.e. select and create products suitable for accessibility, (more complex) planning, and check customers' financial situation), while customers make use of products (i.e. informing customers, make customers pay, maintain and repair products, and providing information about extending the contract), and after products are used (i.e. pick up the product, check the product, return deposits, and clean and repair products, and purchase new parts). Additionally, the product availability priority is higher because customers often want access for a specific period. Only for the *partnership* element no characteristics could be identified which are typical for accessibility based companies, and differ with ownership. As part of the *revenue model*, some revenue streams can create temporary access, namely; pay-per-use, rental, subscription, financial lease, and operational lease. For all of these revenue streams it takes longer to earn the total revenues than in case of direct sales. Lastly, some *cost groups* are especially high for accessibility based companies. First, investments in products are higher because also the products already in use by customers are paid for. Second, as mentioned before, more human resources are necessary for e.g. the customers service and maintenance and repairs. Third, a more comprehensive software program is needed. Fourth, the insurance costs are higher (for expensive products) because also products in use by customers are insured. Lastly, the transportation costs are higher because products are returned.

Coherence between accessibility based business model elements

In the *value proposition* element it has been described that different products are offered based on accessibility, and that especially the lower costs, increased trialability, reduced risk, and less responsibilities are of value to customers. Because of this diversity of products and values being offered with accessibility, it is possible to *target* diverse customer groups (e.g. target not so wealthy customers with the reduced costs, and wealthy customers with the lower responsibility). The reduced risk for customers means an increased risk for companies, which makes these target customers for which the risk of damages is low. Because of the accessibility aspect of the offering, products have to be returned to a physical location, which means that this *distribution channel* is also actively used after product usage. Furthermore, to offer the value of less responsibilities for the customer, the company takes over the responsibilities and so makes mechanics execute maintenance and repairs. The customers returning products to a physical location, and mechanics repairing products at customers' homes are examples of an higher number of contact moments and so different *relationship* with customers. Because customers can try products and return these after a certain period to a physical location, one of the company's most important *activities* and *capabilities* is to plan e.g. where products are and when they are returned. For this, specific software is used as a *key resource*. This software counts for a quite large part of the *cost structure* for the smaller firms. Another *activity* for the company is the maintenance and repairs, which is an important *capability* and for which *human resources* are necessary. As presented in table 17, the *relationship* with customers is long term based. This is strongly related to the fact that for some companies the *revenue stream* is divided over a longer period (i.e. several years). It also seems that for accessibility based companies it takes longer before the total revenues are earned, which creates an incentive for the company to establish long-term *relationships* with customers. One important way to do this is to offer a high customer service level. This is one of the main *activities* and also *capabilities* for accessibility based companies, for which again human *resources* are important. Because it takes longer for accessibility based companies to earn products back, an substantive part of the *cost structure* is the investment in these products. This leads to a situation in which companies offering expensive products for longer periods *target customers* for which the likeliness of paying is large. Checking this likeliness before offering products to customers is an important *activity* for these companies. Another important activity for these and other companies is to check whether customers pay. As described before, human resources are needed for some main activities (e.g. planning and maintenance), making this another large *cost group*. Furthermore, also only for expensive products, the insurance costs count for a substantial part of the total *cost structure*. It seems that the different revenue streams do not lead to very diverse accessibility based business models.

4.3. Difficulties

Because in theory it has been indicated that the diffusion of a new idea can be seen as a difficulty, section 4.3.1 starts with explaining whether this is a difficulty indeed and what companies do to increase the diffusion. Thereafter, in section 4.3.2, accessibility based business model related difficulties are presented. The paragraph is finalized with section 4.3.3, in which is described what difficulties companies have to deal with in case of a transition towards an accessibility based business model.

4.3.1 Diffusion

Only three interviewees (from the companies; *Laptop4you*, *ToysOnline*, and *CarsPerKm*) see the diffusion of their offerings as a difficulty. Customers were renting *Laptop4you*'s laptops for e.g. their time in the hospital, however, due to decreases in laptop prices everyone owns one now and it is not needed to rent anymore. In 2009, when *CarsPerKm* introduced its car sharing concept, it was quite new. Customers first have to be convinced of the value of the offering, which is quite difficult with a lack of financial capital. Additionally the company focuses itself on students, which makes the adoption more difficult as students have a lack of disposable income and make use of the public transport for free. Foreign student who cannot make use of free public transportation, or a family car, make use of the offerings more. For the number of cars, the company has attracted enough customers, so the concept works. For the interviewee of *ToysOnline* the concept of renting out toys does not work well enough, which even makes the interviewee think about focusing only on the direct sales of toys. A few main reasons for the lack of diffusion of the concept have been indicated by the interviewee. First, customers mainly spend money on toys for birthdays, Santa-Claus, and Christmas. Toys are then bought and no rental contract is offered as a present. Some customers also just want to own toys. Furthermore, customers might be afraid they have to pay in case they break something, they rather break something they own themselves. Lastly, in the Netherlands it is also possible to lend toys from a “Speel-o-theek”. The prices they demand are way lower because mostly these organizations have to deal with less costs (e.g. building, employees, and no transportation costs). *Playful* is an example of such an organization, and the interviewee mentions that their concept is accepted for a very long period already. She expects that people will always rent their toys, and that there will be an increase in customers renting their toys. Both wealthy and not so wealthy customers are renting their products.

All other interviewees mention that the acceptance of their concept is not a difficulty. The interviewee from *Arty*, for example, mentions that the acceptance was very high right from the beginning because a threshold was diminished. Customers now are able to try art for a lower monthly leasing amount without having to purchase it for a large amount of money at once. The interviewee of *Heat Boilers* mentions that the internet helps to make the market more transparent and aware of the possibility to rent. The interviewee of *Car L&R* mentions that the company's car rental was already accepted twenty years ago, and that this increased the last years because car ownership is not such an issue anymore. The operational lease option the company offers is not well known, and some customers are a bit anxious, however, within two months already twenty contracts were signed and about fifty requests are received from individuals every month.

A difference between the companies in the acceptance of their offerings between times of crisis and economic upturn can be identified. Three interviewees mention that less products are rented during times of recession. However, more than half of the interviewees mention that accessibility is both successful during times of recession and economic upturn. Part of these interviewees mention that accessibility based business is more stable than direct sales.

Earlier on it has been described that the diffusion depends on four factors; the innovation, communication, time, and social system. These are described subsequently.

Innovation

In the paragraph "value proposition" it has already been presented what makes customers decide to make use of accessibility based offerings. Lower investments compared with direct sales, and also increased trialability are important factors. Additionally, e.g. *Laptop4you* offers customers the possibility to purchase a laptop after the rental period, and receive the rental amount as a discount. The interviewee of *Boats4rent* mentions that also a good location, and offering various boat sizes leads to an increased acceptance of the offering.

Communication

All the channels which were introduced in the "distribution channel" paragraph are used to speed up the adoption rate. Some of these channels are used to create awareness, and others to make customers evaluate the offerings, decide to make use of the offering, and finally increase customer retention. In short, first the offering is presented (e.g. with videos on the website, or in a physical store) so that customers know what they will get. The advantages of e.g. renting are presented clearly. Advisors of *Heat Boilers*, for example, calculate the costs of purchasing and renting boilers together with customers in order to show the advantage of renting. Companies also communicate very openly about the rental agreement. Additionally, the ordering processes are clearly explained on the website. In order to finally make customers sign a contract, sometimes discounts are offered. Furthermore, the companies focus themselves on customer retention and use different methods for this (see the "relationship" paragraph). With satisfied customers, the likeliness of customers promoting the company by means of word-of-mouth is larger.

Time

A few different ways are used to decrease the uncertainty about the offerings. Companies communicate very clearly with their customers via all channels, and offer the information that is needed. *ToysOnline* for example offers a frequently asked questions section on the website where all important aspects are described comprehensively. The interviewee of *Instrumental* lets customers know that they have a seven-day trial period. Additionally, the interviewees of *Arty* and *Gamez* mention that potential customers have the ability to visit art expositions or events where the companies' products can be observed so that customers know what they will get. For the rental business of the companies *Playful* and *Car L&R* the uncertainty is low. However, the interviewee of *Car L&R* mentions that the uncertainty about their new operational lease option is somewhat larger. This uncertainty is decreased by comparing the costs customers have to pay for the leasing option and the purchase of a car (as does *Heat Boilers* with their rental contract). Additionally, it is communicated that the monthly amount is fixed and so does not increase over time.

Seven interviewees mention that information about evaluations of the offering is provided to potential customers. *Arty*, for example, offers customers the possibility to upload pictures of the art they acquired in its new environment. The companies *Instrumental* and *ToysOnline* present customer responses on the website. Two of the interviewees that do not provide this possibility mention that this would be an option for the future.

In figure 13 it is presented what customer groups have adopted the companies' offerings. *Gamez*'s offerings are for example adopted by the innovators and early adopters, and it is expected that this adoption will grow in the coming years due to the internet. A large part of the late majority rents products from *Heat Boilers*, however, it is expected that a total diffusion will never take place because customers even do not want to hear anything about the advantages of renting. The interviewee of *CarsPerKm* expects that also the early majority and part of the late majority will adopt their offering, however, that it will never totally replace direct sales of cars. The interviewee of *Playful* also mentions that probably also part of the late majority will adopt their offering, however, that total diffusion will never take place. The car rental of *Car L&R* is the only offering which is adopted by the laggards. Their leasing option, however, is just being adopted by the innovators.

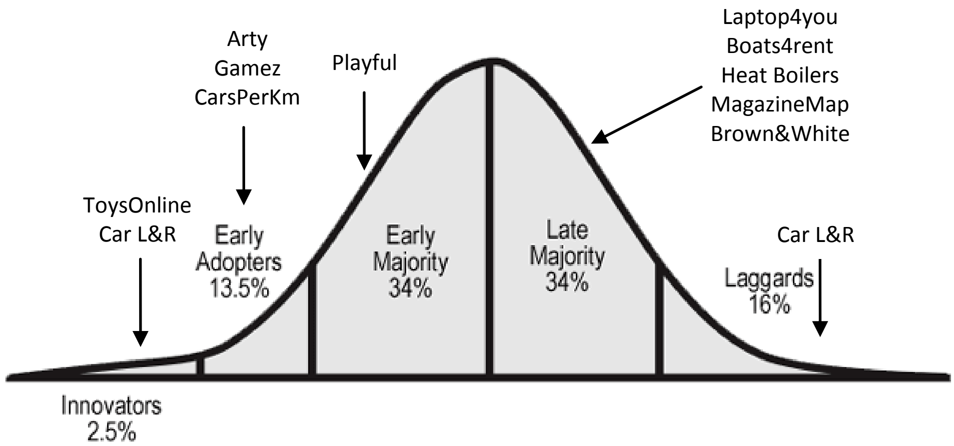


Figure 13: Adopter groups by Rogers (1995) per company.

Social system

The interviewees of the companies *Laptop4you*, *Playful*, and *Brown&White*, identified opinion leaders which they convinced of promoting the company's offerings. The interviewees of *Arty* and *MagazineMap* mention that it might be an attractive option to actively identify opinion leaders and make them promote the offerings.

4.3.2 Accessibility based business model difficulties

Based on the interviews, a set of difficulties for accessibility based companies could be identified. In figure 14 the most important difficulties are summed-up. Part of these are relevant before products are being offered to customers, and others are more relevant during and after product usage. The difficulties are described subsequently, starting with the ones presented on the left side of the figure.

Before offering products to customers
- Estimate risks for the company.
- Gaining financial capital.
- Distinguish between accessibility and sales.
- Setting prices.
- Estimating which customers will pay.
- Keeping up with technological developments

During and after products being used by customers
- Make customers return products.
- Planning.
- Customers not paying.
- Deciding on the amount of deposits to return.
- Explaining customers they cannot eliminate a contract.
- Getting left with unwanted products.

Figure 14: Accessibility based business model difficulties.

First, for *Car L&R* it was difficult to decide whether operational lease would be a good option for the firm due to the risk that had to be taken. The company already leases products to business customers, however, estimates the risks for leasing to individuals to be higher because the likeliness these are not able to pay in the future is higher. Second, gaining enough financial capital is important because significant investments are necessary as it takes long before products are earned back. It is a difficult task to gain enough financial capital for a lot of companies. The first six years of *Arty*'s existence, for example, it had major liquidity difficulties and the bank only finances leasing contracts with companies and not with individuals. Also the interviewee of *Brown&White* mentions that banks are not eager to lend money because rental contracts do not say much to them. Third, only for *ToysOnline* the fact they also sell toys was difficult because this was not distinguished from the rental business clear enough. Customers thought that products which are offered for sale were rented out before. The other companies clearly separate accessibility from sales, e.g. *Laptop4you* uses different websites to distinguish its rental from its leasing and sales business. Also the interviewee of *Car L&R* mentions that the offerings are presented via different websites, and that even separate companies have been set up. Fourth, setting prices is easy for most companies, however, for *Laptop4you* it is somewhat more difficult compared with direct sales. For *CarsPerKm* it is difficult because e.g. a limited number of kilometers may be driven with the leased cars. With the pricing one can prevent customers from driving too long distances, however, the offering has to stay attractive. Customers of *ToysOnline* have to rent three articles at once to keep the prices low. Still the margins on the products are very small mainly due to the high transportation costs. Fifth, for *Brown&White* it is difficult to keep up with technological developments, and train employees so they know e.g. how to repair a certain washing machine. Sixth, the companies *Brown&White* and *Car L&R* have difficulties with deciding which customers will pay in the future, or e.g. if someone will steal a car. A credit rating agency helps to estimate risks, however, this stays a difficult task.

After the customer signed a contract and makes use of the product, most difficulties occur. Firstly, the companies have to make customers return the (complete) product in time, if they do not, it makes planning more difficult. The interviewee of *Arty* started planning manually, however, this seemed to be a too difficult task. For *Car L&R*, even with software, planning is difficult for the rental business. Moreover it is a difficulty if customers do not pay, about twenty percent of *Brown&White*'s customers does not pay in time. Furthermore, it is difficult to decide what deposits should be returned to customers in case of damages. If one for example uses *CarPerKm*'s car, afterwards it is located in the city. It might be that during this period the car gets damaged, and so it is difficult to decide who is responsible. The interviewee of *Boats4rent* mentions that it is difficult to deal with unsatisfied customers without giving too much money back. For *Heat Boilers* one of the most difficult situations occurs when customers want to eliminate the contract because they e.g. want to move. To deal with this problem, the company offers information materials, and the advisors explain customers what the rental contract actually means. Lastly, for *Arty* taking over the risk a customer might not like a piece of art is difficult because the company might get left art customers are not interested in.

The previously described difficulties can be linked to the accessibility based business model elements. Because in the previous paragraph the relationship between these elements was described already, subsequently only the direct connection between a difficulty and a business model element is presented. First, gaining enough financial capital relates to the cost structure element, distinguishing accessibility from the sales business is connected to the distribution channel element, and setting the right prices is related to the revenue stream. Also keeping up with the technological developments is a difficult task. This can be linked to the key resources and capabilities element because keeping up with these developments is necessary to maintain and repair products for which human resources are needed. Then quite a lot of difficulties are directly related to the value configuration/activities element, namely; estimate which customers will pay, make customers return products, planning, deal with not paying customers, decide what amount of deposit to return, and explaining customers that eliminating a contract is not possible. The planning difficulty is also linked directly with capabilities and key resources element because planning is an important capability, and software is used as a resource for this. Getting left with unwanted products can be linked to the value proposition because if the right products are offered this problem can be diminished. This is also related to the human resources because experienced employees may be more likely to select the right products. Lastly, it may be difficult for a company to estimate the risks of starting to offer accessibility based products. This is related to the business model as a whole.

4.3.3 Business model transition difficulties

Heat Boilers offers their products for sale and for rent for a long time now, however, about five years ago they started to promote the rental possibility proactively. *Car L&R* already offers cars for sale and for rent, and started to offer the operational lease option to individuals two months ago. Both companies named only one difficulty, namely to convince and make their advisors and sales representatives promote the accessibility based offering. To convince sales representative, *Car L&R*'s CEO presented the importance of operational lease twice. Additionally, a lot of information has been provided via e-mail and the intranet. Also *Heat Boilers* communicated the idea of renting their products very comprehensively to their employees. Furthermore, their advisors were trained a lot and received help if needed. Moreover, the targets were changed from a focus on revenues which is sales oriented towards the number of products which is also suited for the new offering. The advisors' results are measured and the well performing ones received positive feedback, which then motivates other advisors. Also the results of the sales representative of *Car L&R* are mentioned in e-mails, and the most successful ones receive a coupon. The interviewee of *Heat Boilers* mentions that there is no difference in difficulties between a transition towards renting or towards the sales of a different product.

4.3.4 Sub-conclusion

The main difficulties accessibility based companies which operate in B2C markets have to deal with are identified and presented in the previous sections. The difficulties can be divided into three groups; diffusion, business model related, and business model transition related difficulties.

First, it was expected that the diffusion would be difficult for accessibility based companies because although the same products are offered, they are offered in a new way for consumers. However, it can be concluded that the diffusion does not seem to be a general difficulty for accessibility based companies. The value proposition and especially the lower cost and higher trialability even increase the diffusion. Furthermore, more than half of the interviewees mention that accessibility is both successful during times of recession and economic upturn, and so more stable than direct sales of products.

Accessibility based business model difficulties, however, could be identified. Twelve different difficulties were described previously, the ones mentioned by most interviewees are shortly repeated. For a lot of companies it is difficult to acquire enough financial capital although this is important due to the high investments especially in products. The companies *Brown&White* and *Car L&R* which offer expensive products for longer periods, have difficulties with deciding which customers will pay in the future. Furthermore, it is difficult for companies to make customers return the (complete) product and pay for it in time. Moreover it is difficult to decide what deposits should be returned to customers in case of damages. The difficulties can be linked directly to part of the business model elements; value proposition, distribution channel, capabilities/key resources, value configuration/activities, the revenue stream, and finally the cost structure. Most of these difficulties are directly related to the value configuration/activities element.

For companies that had to deal with a transition towards an accessibility based business model, the only main difficulty identified is to convince and make their advisors and sales representatives promote the accessibility based offering. To convince these employees, a lot of information has been provided via e-mail and the intranet, trainings and help are provided, and targets are changed from a focus on revenues towards a number of products. Additionally, results are measured and high performers receive positive feedback and a small reward. The interviewee of *Heat Boilers* mentions that there is no difference in difficulties between a transition towards rental or towards the sales of a different product.

5. Conclusion and discussion

After having presented the findings in the previous chapter, it is now time to elaborate on these. The first paragraph of this chapter concludes on the research findings. In the subsequent paragraph these findings are discussed by comparing them with literature, while also addressing implications for theory. In the third paragraph the implications for practice are presented, followed by paragraph four in which specific recommendations for Capgemini Consulting are provided. Thereafter, in paragraph five, the limitations of this research are described. The chapter is finalized with a paragraph about possible future research on the topic.

5.1 Conclusion

In this explorative research, twelve case studies were analyzed in order to answer the research question that has been formulated as follows;

"What are typical characteristics of accessibility based business models of companies operating in B2C markets, and what main accessibility related difficulties do these companies have to deal with?"

To answer the first part of the research question, Osterwalder's (2004) business model ontology was used as a basis. This ontology seems to be applicable for accessibility based companies operating in B2C markets because questions about all elements could be answered. Based on the findings it can be concluded that typical accessibility based characteristics exist for eight out of nine business model elements. The most relevant characteristics are described subsequently. As part of the *value proposition* of accessibility based business models, products are offered at: lower costs, increased trialability, reduced risk, and less responsibilities, than in case of ownership. This is possible because these products are only accessible periodically, leading to lower costs and trialability. Because companies stay owners they take over the risk and responsibility. As part of the *target customer* element, for more expensive products made accessibility for longer periods, customer groups are targeted for which the likeliness of damages or not paying is low. As part of the *distribution channel*, products are returned to a physical location, and mechanics check and repair products for some companies. With ownerships, customers keep products and so do not need to return them. Additionally, the company is not responsible for the state of the product and so does not check or repair it. All companies focus on customer acquisition and retention, and the *relationship* with customers is long-term based. This is obvious in case of long-term accessibility based contracts, however, also for shorter periods of access the relationship is long-term based. Additionally, because products are e.g. returned etc., many more contact moments exist. Moreover, some important *capabilities and key resources* have been identified which are different for business models based on ownership. First and most obvious is the capability to maintain and repair products, which is not necessary in case of direct sales. Also the customer service is even more important because of the long-term relationships that have to be established. Although planning is also important for many selling companies, for accessibility based companies this is crucial. Products should not only be delivered to customers in-time, it also has be managed where they are, when they will be returned, and when they can be e.g. rented out to the next customers. Especially for the maintenance and repairs, human resources are used which are not part of a business model based on ownership. Also the software is a key resource and different planning software is used in case of ownership. Lastly, more financial resources are needed for e.g. the products. Accessibility based companies have to deal with specific *activities* before products are made accessible (i.e. select and create products suitable for accessibility, (more complex) planning, and check customers' financial situation), while customers make use of products (i.e. informing customers, make customers pay, maintain and repair products, and providing information about extending the contract), and after products are used (i.e. pick up the product, check the product, return deposits, and clean and repair products, and purchase new parts). Additionally, the product availability is higher because customers often want access for a specific period. Only for the *partnership* element no characteristics could be identified which are typical for accessibility based companies. As part of the *revenue model*, some revenue streams create temporary access namely; pay-per-use, rental, subscription, financial lease, and operational lease. For all of these revenue streams it takes longer to earn the total revenues than in case of direct sales. Lastly, some *cost groups* are especially high for accessibility based companies. First, investments in products are higher because also the products already in use by customers are paid for. Second, as mentioned before, more human resources are necessary for e.g. the customer service and maintenance and repairs. Third, a more comprehensive software program is needed. Fourth, the insurance costs are higher (for expensive products) because also products in use by customers are insured. Lastly, the transportation costs are higher because products are returned. The software and transportation costs are relatively small for larger firms. It can also be concluded that clear relationships between the business model elements exist. As part of the value proposition, products are offered based on accessibility. This means that, for example, only revenue streams are used for which the total revenues are not earned directly as with sales, however, over a longer period. This in turn effects the cost structure, and makes investments in products a large cost group.

Based on the findings, the main accessibility related difficulties have been identified. First, it was expected that the diffusion would be difficult for accessibility based companies because although the same products are offered, they are offered in a new way for consumers. However, it can be concluded that the diffusion does not seem to be a general difficulty for accessibility based companies. The value proposition and especially the lower cost and higher trialability even increase the diffusion. Accessibility based business model difficulties, however, could be identified. Twelve different difficulties were described of which the ones mentioned by most interviewees are shortly repeated. For a lot of companies it is difficult to acquire enough financial capital although this is important due to the high investments especially in products. The companies offering expensive products for longer periods have difficulties with deciding which customers will pay in the future. Furthermore, it is difficult for companies to make customers return the (complete) product and pay for it in time. Lastly, it is difficult to decide what deposits should be returned to customers in case of damages. The difficulties can be linked directly to part of the business model elements; value proposition, distribution channel, capabilities/key resources, value configuration/activities, the revenue stream, and finally the cost structure. Most of these difficulties are directly related to the value configuration/activities element. Lastly, it can be concluded that the main difficulty companies have to overcome in case of a transition towards an accessibility based business model is to convince sales representatives and advisors of its advantages, and make them promote the offering.

5.2 Discussion and theoretical implications

In this research, two different theoretical streams are brought together. Theory on the service economy, service-dominant view, and product-service system which are all related to accessibility, is brought together with the business model research stream, resulting in an accessibility based business model, and its related difficulties. Additionally, the existing literature on the accessibility based business model elements and the related difficulties are discussed by reflecting on the findings of this research in the subsequent sections. The findings that reinforce and contradict or add to existing literature are described, and an overview table of this can be found in appendix D. First the accessibility based business model characteristics for all nine elements found in this research are discussed and compared with the available literature subsequently. The same structure as in the previous chapters is used for this. Thereafter, a discussion of the difficulties follows. Lastly it is shortly discussed in the third section whether these difficulties can also be seen as disadvantages or perhaps causes for accessibility based companies to have a lack of success.

5.2.1 Typical accessibility based business model characteristics

A first finding concerning the *value proposition* is that different products are suitable for accessibility, this includes cheap and expensive, as well as luxurious and more common products. In existing literature this has not been indicated before. Scholars were mainly focused on a specific type of product like a baby pram (Mont, 2006) or photovoltaics (Drury et al., 2012), or more generally on the concept of accessibility itself (e.g. Baines et al., 2007). Thus, this research complements existing literature by indicating that different products are suitable for accessibility. For future research this means that researchers do not have to focus on one specific product or the concept itself, but can research companies from a larger group of different products. In this research ten different types were identified, and it could be that many more products exist, or that this is not the case. It can also be that a specific type of products is way more common for accessibility than other types. Future research is needed to be able to say more about this. Furthermore, Botsman & Rogers (2010) suggest that market scenarios exist in which accessibility based products can be offered, including products with; high purchasing costs, high idling capacity, limited use, or when the value of the product diminishes after use. This is confirmed with the research findings as all products offered by the case companies fit to at least one of these market scenarios. Additionally, it can be added that it does not depend on the revenue stream that is used by these companies. Moreover, quite a lot of aspects that can be of value to customers are proposed in literature. First it is described which aspects are confirmed in this research, which are not, and which can potentially be added to theory. Afterwards the theoretical implications for all of these aspects are discussed. Drury et al. (2012) mention that upfront costs are lower for customers. This can be confirmed because all interviewees mention this to be of value to customers. Lawson (2011) writes that the customers' desire for variety and increased trialability is fulfilled with the accessibility based offering, which was also confirmed by the multiple case study results. Furthermore, in theory it is proposed that customers are released of responsibilities for the product (Mont, 2002; Baines et al., 2007; Lawson, 2011; Beltagui, 2011) and that the technology risk and complexity of the product are reduced (Drury et al., 2012; Lawson, 2011). Also this can be confirmed based on this multiple case study. Spring and Araujo (2012) add that consumers also make use of accessibility based products because of concerns for the environment. Only four interviewees mention that this might be of value to customers, making it not a very strong factor. Mont (2002) and Baines et al. (2007) mention that customers get offerings of higher value due to an increase in customization and quality, however, none of the interviewees see this as an added value for customers. They state that products being sold are also customized and of high quality. Lastly, two interviewees mention that customers find it important that products are available at the moment they need them, this has not been found in literature. If we now take a look at all these value adding aspects, it should first be mentioned that these are based on interviews with company employees and so from a company perspective. To really confirm that these aspects are indeed of value to customers, these customers should be interviewed themselves. It might be that e.g. more customers value the environmental impact, or that they find the value of the product higher due to customization or a higher quality. Although the availability of the product was proposed by company employees as value adding, it would be worth it to find out more about this in future research with customers. If this seems to be true, companies should namely give priority to the product availability.

Literature is quite scarce on the subsequent accessibility based business model elements. Concerning the *target customer*, Mont et al. (2006) propose that offering products based on accessibility might lead to market potential from new market segments. This can be confirmed based on the research's findings as e.g. for *Boats4rent* and *Car L&R*, products are indeed made affordable to customers who otherwise would not be able to acquire such a product. As *Boats4rent* offers its products for rent, and *Car L&R* for lease, it can also be concluded that the market potential from new market segments counts for different revenue streams. However, based on the findings it is not possible to conclude that this counts too for subscription based products. Future research is needed to find out more about what indicates that market potential from new market segments is realizable. A finding that was not found in literature is that diverse customer groups are targeted including not so wealthy as well as wealthy customers. This is important to know for future research because different value propositions suit to these different groups. Not so wealthy customers might for example especially value the lower investments, while more wealthy customers might value the lower responsibility. It was also found that companies which offer expensive products target customers with a low risk of damages, and that companies offering these products for longer periods target customers for which the likeliness of paying is large. Future research with a larger sample is needed to find out whether this is typical for accessibility based companies that offer expensive products for longer periods.

Mont et al. (2006) argue that retailers should be part of the *distribution channel* because transporting the products back to the manufacturer after a customer lease is too expensive. Most of the case companies are not the manufacturing companies and the ones that do produce the products themselves do not use retailers. Customers bring the products back to these companies themselves, or pay for returning them. Further research is needed to find out if other manufacturing companies do not use retailers either, or that perhaps companies that do are more successful. What has been found in this research and not in theory is that the physical location plays a more significant role because customers return here after product usage. Furthermore, it has been found that the mechanics are sent to customers to maintain and repair products, and deliverers to bring and pick up products. This indicates that the distribution channels are used in a different way compared with direct sales. Future research should explore how these channels can be used most efficiently to build strong relationships with customers.

According to Senge & Carstedt (2001) and Mont et al. (2006), accessibility allows companies to maintain long-term *relationships* with their customers. This is confirmed in this research as all companies have established long-term relationships. This also means that this holds for diverse products and also not depends on the type of revenue stream. Possible reasons might be that accessibility based companies have a higher incentive to establish long-term relationships because they do not earn the total revenues for one product after one period of access. Additionally, after a period of access, customers still need a product. Because for some revenue streams only a few cases were used, future research is needed to test whether long- term relationships with customers hold for a larger sample too. While not proposed in literature, in this research it seems that a few main retention methods are applied. It is made very easy to acquire a new product or extend the period of access, and the customer service level should be very high. Future research can be used to indicate what the best ways are to make it possible for customers to acquire a new product in an easy manner and to create a high service level. Instead of taking a company perspective it would be valuable to find out what customers find important in order to create retention. Senge & Carstedt (2001) add that consumers also become co-creators of value, in this research it seems, however, that for only one company customers become co-creators. This means that one cannot say that co-creation is a typical characteristic for the relationship element. Still, a larger sample might indicate that co-creation would lead to higher success, making it important for the relationship element, so future research is needed for this. What was not found in theory, but was very clear in the cases, is that many more contact moments exist compared with sales. These additional contact moments are seen as an opportunity to strengthen the relationship with customers, which makes it important to take into account in future research.

Concerning the *capabilities and key resources*, Mont et al. (2006) propose that an information system needs to be installed to efficiently manage the planning, and that because companies have to deal with a negative cash flow in the beginning, financial resources are important. In this research it can be confirmed that the planning is a crucial capability for accessibility based companies, and that information systems are used for this. In the findings it is also confirmed that the financial resources are important due to the time it takes before products are earned back. According to Hu et al. (2012), a maintenance system is needed to make sure that products keep their high quality. In this research it has indeed been found that the ability to repair and maintain products is an important capability. Furthermore it seems that the customer service is a crucial capability. For both the maintenance and repairs and customer service, human resources are crucial (e.g. employees should be customers focused and friendly). Because diverse cases were used in this research, it can be said that the just described capabilities and resources are important for diverse types of products offered via different revenue streams. The importance of the customer service capability can be added to literature. Future research with a larger sample is needed to test whether these resources and capabilities, especially the customer service, are indeed important generally, and whether perhaps other resources and capabilities are important too.

Then, concerning the *value configuration and activities*, Beltagui, Riedel and Pawar (2008) and Hu et al. (2012) write that products should be designed that last longer so that less maintenance is needed. In this research it has indeed been found that diverse sustainable products (e.g. with lower failure rates) are created or selected. Meaning that this is not only relevant for very expensive products, but also for somewhat cheaper ones. A possible reason that companies also want less expensive products to be sustainable is that this decreases the likelihood of product failure, and so increases customer satisfaction. Furthermore, a set of activities have been identified in this research which are not mentioned in literature. First, it has been found that before products are used by customers, the planning is a crucial activity. For companies offering expensive products for longer periods an important activity is also to check the customers' financial situation. Moreover, while and after customers have access to products, activities being executed are; informing customers, make customers pay, maintain and repair products, pick up products, check the product, return deposits, clean and repair products, and lastly purchase new parts if needed. As literature on the activities element is very scarce, these identified activities can be valuable to use as a basis for future research on this element. Future research is needed to find out whether important activities are missing, or what activities are most important and can be used to e.g. increase the organization's success. Lastly, Beltagui et al. (2008) propose that on-time delivery might have high priority. For three cases this can be confirmed, so based on the findings it cannot be said that this is a typical characteristic for accessibility based business models. Further research is necessary to test this.

Concerning the *partnerships*, Mont et al. propose that the relationship with the retailers must be intensified so that these are able to upgrade the products, and Beltagui (2011) confirms that partnerships with external firms have to be intensified in order to efficiently deliver value. Based on the research this cannot be verified. Interviewees mention that the relationship with partners is exactly the same for direct sales of products. Some companies do not even have a partnership. No typical accessibility based characteristics were identified concerning their partnerships. It could be, however, that if one would test this with a greater sample that e.g. for some types of products or revenue streams typical partnerships exist. So further research is needed to be able to say more about partnerships of accessibility based companies.

According to Lawson (2011) different *revenue streams* can be used by accessibility based companies, namely; leasing, renting out, subscription, and pay-per-use. In this research these revenue streams were indeed used by accessibility based companies. Two types of leasing were used, namely operational and financial lease, and also rent-to-own can be a revenue steam for accessibility based companies. It should be mentioned, however, that in case of financial lease and rent-to-own, customers should not really purchase the product for it to be accessibility based. Additionally, another revenue stream was found for accessibility based companies, namely, advertisement. Based on the research some revenue streams for accessibility based companies were confirmed, and other identified. If one talks about accessibility in theory it is proposed to include these revenue streams. According to Mont et al. (2006) the revenue stream can lead to a long-term relationship with customers. As described previously in the relationship section, this can be confirmed based on the research findings. Lastly, Mont et al. (2006) state that the highest profits are earned toward the end of the product life-cycle. This can be confirmed based on the research findings. As this especially has an impact on the cost structure, more on this follows in the next section.

Mont et al. (2006), Lines et al. (2008), and Hu et al. (2012), mention that because earning revenues takes longer, the *cost structure* is affected. This can be confirmed based on the research findings. Companies need a lot of financial capital to invest in the products. This holds for very diverse products, and also for all different revenue streams. Furthermore, Mont et al. (2006) write that money has to be spend on an information system for the planning. Interviewees mention that they invest in such software, however, for larger firms these investments are just fractional. Moreover, Mont et al. (2006) expect that the transportation costs are increased because products have to be returned. The cases confirm this, however, for larger companies these costs are also just fractional. Furthermore, Mont et al. (2006) write that marketing costs will be higher. This was not confirmed by any of the interviewees. A reason to expect the marketing costs to be higher is the difficulties with the diffusion of the offering. However, the diffusion, as described in the next chapter, does not seem to be a difficulty. This might be the reason why the marketing costs are not higher compared with direct sales. The findings of the research add that employee costs are higher because of the higher efforts required for the planning, service, and maintenance and repairs. Furthermore, companies offering expensive products have to deal with higher insurance costs. Future research based on a larger sample is needed to test this.

5.2.2 Accessibility based business model related difficulties

Baines et al. (2007) and Goedkoop et al. (1999) write that consumers might not be very open for ownerless consumption. Rogers (1995) mentions that a common problem for many companies is to speed up the rate of diffusion of an innovation. In this research, however, it does not seem that the diffusion is a typical problem for accessibility based companies. Three companies have difficulties with increasing the number of customers, however, it is likely that this is not mainly due to the newness of the idea. One company for example offers toys for rent and has difficulties to increase the number of customers, however, the renting of toys from Speel-o-theken which ask way lower prices has been accepted a long time ago. The interviewee from a car leasing and rental company even mentions that ownership is not such an issue anymore, although the car can be seen as a status symbol. A possible reason for the fact that the diffusion of accessibility is not seen as a difficulty is that the offering has a low threshold (e.g. due to the lower costs, and increased trialability).

Also accessibility based business model related difficulties described in literature and found in this research are discussed. First, Goedkoop et al. (1999) write that accessibility based companies are likely to have difficulties with pricing their offerings. One of the companies was indeed confronted with this difficulty. The company offers cars based on pay-per-use, and uses leased cars for this. Because it is only allowed to drive a limited number of kilometers with these cars, the company has to take this into account with its pricing so that customers do not drive too long distances, but are still interested in accessibility instead of ownership. For the other companies, however, this does not seem to be a difficulty. A possible reason might be that they just base their pricing on a few factors like their costs or competition, which are both transparent for the company. Furthermore, Goedkoop et al. (1999) mention that absorbing risks customers are responsible for normally, is a difficulty. In this research it seems that companies see dealing with e.g. damaged or not well functioning products as being part of the job and that they are experienced with this, which might be a possible reason why this is generally not seen as a difficulty. Still, one interviewee mentions that it is a risk that the company gets left with products customers do not want to have after they tried it. A larger sample of cases is needed in order to find out more about whether the increased risk is seen as a difficulty for accessibility based companies. Moreover, Mont et al. (2006) propose that to not damage the direct sales business, a separate independent department may need to be set up. For one company indeed the sales business was damaged with the new accessibility based offering because these were not distinguished well enough on the website. The other companies clearly distinguish the accessibility from the sales business by e.g. using different websites. One company presents its sales and rental business via the same website, and distinguishes both clearly from eachother without having difficulties. Further research is needed in order to find out whether it is important for a significant number of companies to set up a separate department in order to prevent difficulties from occurring. Lastly, Kuo et al. (2010) write that the strategic planning (including the product damage status and history of demand) is difficult for accessibility based companies. Although most interviewees mention that with a planning software program this is not difficult, a few companies state this is still hard, with which literature can be confirmed. In this research a selection of difficulties have been identified which are not described in literature. First, it is difficult for many companies to acquire enough financial capital, especially because it takes longer before the invested money is earned back. Further research is needed to find out whether this is difficult for accessibility based companies in general, and also what solutions companies have for this. Then, some activities are difficult while and after customers have access to the products, namely; decide which customers are likely to pay, make customers return products, decide what amount of deposits should be returned, and explaining customers they cannot eliminate the contract. Lastly, it is difficult to keep up with technological developments needed to repair and maintain products. For all these difficulties it would be valuable to find out whether these are still important in a larger sample of companies, and whether specific difficulties are typical for e.g. certain products. Future research can also help to find out how to best deal with these difficulties.

Different scholars describe difficulties companies have to deal with in case of a business model innovation, from a more general perspective. Christensen (1997) and Amit and Zott (2001) write that the already established business model forms a barrier, conflicts can arise while dividing assets, managers might resist the new business model because the fear of negative consequences, and tensions might occur because the old business model is more profitable. Johnson et al. (2008) are more specific and write that the rules, norms, and metrics are protecting the status quo of the old business model. Considering a transition towards an accessibility based business model specifically, Mont (2002) writes that a problem is the change from short-term towards long-term profit. Kuo et al. (2010) mention that employees have to understand the business model in order to reduce inertia. In this research only two companies had to deal with a transformation towards an accessibility based business model. Both interviewees do not see dividing assets, convincing managers, etc. as a difficulty. The main difficulty for them is to convince sales representatives and advisors to promote the new offering. Because only two cases dealt with such a transition, it is likely that other companies which deal with the transition have to overcome other difficulties. Further research is needed to be able to say more about these difficulties.

It can be concluded that theory on both typical accessibility based business model characteristics and the related difficulties can or sometimes cannot be confirmed based on this research, and that also new findings can be added to theory. An overview table of this is presented in appendix D.

5.2.3 Do the identified difficulties lead to a lack of success?

Although in this research quite a lot of difficulties have been identified, it is important to note that this does not necessarily mean that these are also disadvantages and lead to a lack of success for accessibility based companies. Only one out of twelve companies has a lack of success. The other interviewees mention that first of all, value is offered to customers like; the lower investment, increased trialability, and lower responsibility. This can be used to make customers to switch from ownership towards accessibility. Additionally, long-term based relationships can be established with customers which can e.g. also lead to more efficient planning. According to the interviewees, higher revenues are earned for their products on the long run. Furthermore, some difficulties are even beneficial for the companies. With the difficulty of acquiring the necessary financial capital, for example, an entry barrier is created for market entrants. Based on the findings one cannot conclude that overall the difficulties lead to a lack of success, however, future research is needed to find out what the impact of these difficulties is on a company's success.

5.3 Contributions to practice

This research contributes especially to entrepreneurs and companies wanting to start with accessibility, and also to companies which already offer their products accessibility based. These entrepreneurs and company employees can now see what characterizes accessibility based business models, and so what their business model should look like and perhaps what has to be adapted. It also helps entrepreneurs to create a business plan. Furthermore, the insights gained about the difficulties accessibility based companies have to deal with, makes it possible to be prepared and deal with these efficiently. In the following section it is described what entrepreneurs and company employees should think of while designing their business model elements in order to make these suitable for accessibility. It is also explained how one can deal with the difficulties which have been identified.

A first step, as part of the *value proposition*, is to decide whether or not a product is suitable for accessibility. It is important that products at least fit to one of the market scenarios for accessibility; high purchasing cost, high idling capacity, limited use, and diminished value after use. Then it is important to find out whether customers would value a lower cost price, increased trialability, the reduced risk and/or lower responsibility. If this is the case, the products can be offered accessibility based. If not, ownership probably is a better alternative for customers.

Then the goal is to find attractive *target groups*. These might be e.g. wealthy customers who value the lower risk or responsibility, or not so wealthy customers who especially value the lower cost. For some products which have a substantive lower negative impact on the environment, LOHAS (people with lifestyles of health and sustainability) might be an attractive target group. If an entrepreneur or company decides to offer expensive products for longer periods, they have to deal with the difficulty to estimate which customers are likely to pay in the future. A credit rating agency can be used to better estimate the risks, however, even then this might be difficult and not well paying customers might be the result. Another option here is to not offer additional products to the more high risk customers. If such customer only has to pay for one product, the likeliness that he or she can pay is probably larger, and the risk for the company is lower.

For companies which want to offer their products also accessibility based, it might be a difficulty that customers see the company only as a seller of products. To deal with this, and as part of the *distribution channel*, companies should clearly distinguish the accessibility from the ownership based business. This can be done by e.g. using separate websites, or even establishing a new company for this. Furthermore these entrepreneurs and company employees should keep in mind that products are returned to a physical location for most products, and that sometimes mechanics have to visit customers for maintenance and repairs. These additional contact moments can be used to strengthen the relationship with customers, more on this follows next.

The goal for the entrepreneurs and company employees should be to establish long-term *relationships* with their customers. One way to create retention is to make it very easy for customers to extend their contract or acquire a new product. If customers e.g. return the product to a physical location, it should be very easy for them to pick up a new one. The possibility for customers to create an account which means they do not have to enter all personal contact information for every order can also be beneficial. Another way to establish a long-term relationship is with a very high customer service level. If e.g. a product in use by customers does not function anymore, or even before this problem occurs, products should be repaired instantly, or maintained preventively. The many contact moments the company has with its customers should be used to strengthen the relationship with its customers. During these contact moments, company employees can try to find out what customers value and what can be improved by e.g. asking them.

The most important *capabilities* are the customer service, planning, and maintenance and repairing of products. For entrepreneurs and companies that want to offer accessibility based products it is crucial that they have friendly and customer focused personnel so that the customer service level is high. The planning can be difficult for the company, so the right software, and also employees who know how to deal with this are really beneficial. For companies that already offer their products based on ownership this means that they might need new personnel, or perhaps retrain employees. Additionally it might be necessary to acquire a new software program or update the older one. Also for the maintenance and repairing, qualified employees are crucial. If this work is executed well, it might lead to a longer product lifecycle and also more satisfied customers. Keeping up with technological developments can be hard, therefore, of course depending on the type of product, it can be beneficial to regularly train employees on their product knowledge. Lastly, financial resources are important for accessibility based companies. More on this follows when the cost structure element is elaborated on.

A lot of typical accessibility based *activities* can be distinguished. First, entrepreneurs and company employees should select sustainable products that do not break quickly. This means that maintenance work and repairs are needed less often. The company also has to deal with customers that do not pay or return the product too late. It is time intensive to deal with this problem and therefore the importance of screening customers beforehand may not be underestimated in case of offering expensive products for longer periods. Customers that do not pay or return products too late can get a warning or be blocked for future access. Additionally, customers find it important that products really are accessible when needed, and therefore it is wise to give product availability priority.

Although no real typical accessibility based characteristics could be identified for the *partnership* element, some partnerships can be beneficial. A partnership with suppliers for instance could e.g. increase the product availability. One case company which offers its products based on pay-per-use, has a partnership with one of its suppliers from which it leases cars. This leads to lower investments and perhaps even discounts. The transportation costs can be decreased by e.g. establishing a partnership with retailers where products could be picked up and returned by customers.

Different revenue streams can be used; pay-per-use, rental, subscription, financial lease, operational lease, and advertisement. It is important to really think about the advantages and disadvantages of these options. *ToysOnline*, for example, only uses rental as a revenue stream and is not successful. Baby Plays (www.babyplays.com) offers the same products, however, uses a subscription based revenue stream in order to cover the costs, and is successful in this. Of course this does not directly mean that this would make *ToysOnline* successful, however, it can really affect the successfulness of a company. For all revenue streams it takes longer before the total revenues are earned compared with direct sales. Entrepreneurs and companies have to keep this in mind while establishing an accessibility based company.

Lastly, a few main *cost groups* can be distinguished. First, a lot of money has to be invested in products because it takes longer before these are earned back, and on employees for the higher level of customer service and also maintenance and repairs. It can be relatively hard for companies to acquire enough capital because e.g. a contract stating that customers have to pay during a certain period does not say much to banks. An option if one wants to rent out or offer products based on a pay-per-use revenue stream is to lease the products from suppliers. This is only possible for more expensive products. Furthermore, especially for smaller firms, the transportation and software costs can be relatively large. One should also not underestimate the costs for insurance in case relatively expensive products are offered.

For companies that deal with a transition towards an accessibility based business model it is likely that convincing sales representatives to promote the new offering is difficult. To convince these employees, companies can provide information about the new offering via e.g. e-mail and intranet. Also trainings can be helpful. Furthermore, the targets should not be based on one time revenues but for example on the number of contracts. It can also help to measure results and provide high performance with positive feedback and a reward.

Companies that already offer their products accessibility based can use the insights of this research to compare and perhaps adapt their business model. An example would be to change or add a revenue stream. *ToysOnline* could e.g. offer their products subscription based instead of or next to renting out.

5.4 Recommendations for Capgemini

The recommendations for Capgemini can be divided into four parts, namely; knowledge building within the company, using this to attract new customers, the clusters of consultants that can best use the knowledge to advise customers, and lastly the high potential market sectors to target. These four parts are described subsequently.

A first advice to Capgemini is to spread the knowledge gained from this research throughout the company. The first step for this is to present the research to the Strategy and Innovation, Customer Experience, Digital Analytics, and Digital Operations consultancy clusters. Also uploading information about the research to the Knowledge Management 2.0 platform will help to create organizational knowledge.

Secondly, it is advised to use this research to attract new customers in two main ways. Writing a two pager including a short introduction, the methodology, and main findings of the research. Capgemini already has contact with an online business blog website with many visitors where this two pager possibly gets published. This helps to make potential customers aware that Capgemini is active in the field of accessibility based business models, and should make them interested. My advice is to also create a second document that can be used during conversations with potential customers. The document that suits for this would be a PowerPoint presentation including the whole accessibility based business model as a first slide with the most important characteristics highlighted. The following slides should then more comprehensively describe each separate business model element and the corresponding difficulties. This shows that Capgemini has knowledge about the business model and the related difficulties and hopefully makes customers desire for Capgemini's consultancy work.

Thirdly, my advice is to especially use the “Strategy and Innovation”, and “Customer Experience” consultancy clusters to advice customers on their accessibility based business models. One of the four core capabilities of the “Strategy and Innovation” cluster is business model innovation. In short, consultants of this cluster analyze a customer's business model and compare it with that of competitors in order to advice the company on how to improve its business model. If a customer wants to transform towards an accessibility based business model, or wants to improve this, my advice is to also compare it with the typical accessibility based business model characteristics as identified in this research. This comparison, and also taking the related difficulties into account, would help these consultants to better advise their customers. Additionally, it would be valuable to help these companies implement the new business model in order to learn about this process. Knowledge on what steps these companies take, what difficulties they have to overcome, and how they do this, can then be used to advice future customers not only on what their new business model should look like, but also how to implement it. Furthermore, consultants from the “Customer Experience” cluster are experienced in securing and enhancing customer relationships. Their focus lies on customer retention, customer service, and customer experience, and an important topic for them is e.g. the customer journey. The customer journey represents all customer life cycle stages, the contact moments, and channels used for this. These capabilities suit well to some important characteristics of accessibility based business models. In this research it has been identified that relationships are long-term based, many contact moments exist, distribution channels are used differently (e.g. products are also returned to a physical location), and that especially making it easy for customers to acquire new products, and a high customer service level, lead to customer retention. Consultants from the “Customer Experience” cluster can use the findings from this research combined with an analysis of a customer's company and their experience with this, to advice companies that want to transform to an accessibility based business mode, or want to improve this. These analyses then again help to increase the knowledge on customer experience for accessibility based companies, and can be used to improve their advice on how to best shape this.

Lastly, although not directly based on the research, three growing market sectors have been identified with great potential for Capgemini's consulting offerings. Information sources used to identify these market sectors include accessibility community websites like “www.meshing.it”, and “www.collaborativeconsumption.com”, books about accessibility (e.g. by Botsman and Rogers, 2010), conversations with interviewees and consultants, and global trends. The identified market sectors are; car mobility, telecom, and solar power.

- To start with car mobility, companies like “Greenwheels” are already active with accessibility based mobility for several years. However, large car manufacturers (i.e. BMW DriveNow, Volkswagen Quicar, Peugeot Mu, and Daimler with Car2go) are just entering the market. In a Dutch television show it seemed that Daimler's Car2go has to deal with a lot of difficulties and that their service really needs to be improved (source: http://kassa.vara.nl/tv/afspeelpagina/fragment/autodelen-werkt-het/speel/1/, March 2012). The fact that large car manufacturers, which have a lot of money to spend, are just entering the market and have a lot of difficulties with this, makes these companies interesting potential customers for Capgemini Consulting. Also the electrical car market might be interesting for accessibility. The batteries of these cars are still a problem due to the high price and time it takes to charge these. Some companies (e.g. www.betterplace.com) propose to offer these batteries accessibility based to increase the adoption of electrical mobility. The first switching stations, where empty batteries are switched for full ones, have already been established (in September 2012 the first one was opened at Schiphol, the Netherlands).

- The second interesting market sector concerns telecom, and more specifically the possibility for consumers to lease their mobile phone without becoming owners. The company KPN just (30th of July 2012) started with this "ToestelLease" offering. The newness of accessibility for this huge market makes it interesting for Capgemini to target.
- The third market sector that can be interesting concerns solar power. Solar panels are still quite expensive and it takes several years before these are earned back. Accessibility makes these solar panels affordable and so an interesting way of offering these products. SolarCity is an example of a company that leases solar panels to customers in the U.S.A. without making customers owners. It is expected that companies will also offer this possibility on the Dutch market. The potential here is very high, and for companies it is a new way to offer their products, making it attractive for Capgemini to offer their services.

5.5 Limitations

This study has several limitations of which the most important ones are discussed subsequently.

First, the decision has been made to use Osterwalder's (2004) business model ontology as a basis for this research. Although this business model is the result of a literature synthesis, it might still limit the scope and leave out essential components. During interviews, for example, some interviewees state that competitors might be a reason for some of the difficulties they have to cope with, however, competitors are not included in the business model at all. Additionally, the organization's goals are not included in the business model, yet these influences the different components. *Playful*'s goal for example is not to earn revenues, but to increase the number of people making use of their toys. This leads to a situation of not demanding a subscription fee, which most on earning profits focused speel-o-theken do. Also the company culture is not part of the business model, however, might be important and typical for accessibility based business models.

Additionally, a set of twelve cases has been used for this research. Only one of the companies, for example, earns its revenues on a pay-per-use basis. This makes it hard to say whether perhaps differences exist between business models of companies using pay-per-use, or leasing as a revenue stream. Furthermore, only two companies which had to deal with a transition from ownership to accessibility have been used as case. This makes it likely that other business model transition related difficulties would be found if more of these cases would be included.

Furthermore, company employees were selected as interviewees, these however also answered the question about what is valued by customers. This is just their expectation, it might well be that customers value other aspects more. Moreover, a few interviewees do not work for the company that long, or the company just started with accessibility, making it hard to describe the business model and the accessibility related difficulties. Also using one interviewee per company forms a limitation because this person might be e.g. too positive about the company and not mention important difficulties.

Lastly, not much literature has been published on the combination of accessibility and the business model. On the one hand this makes the research more valuable, on the other hand it makes it more difficult. The scarcity of theory on the topic made it hard to formulate specific accessibility related questions.

5.6 Future research

In the discussion and theoretical implications paragraph some possible directions for future research on the specific accessibility based characteristics and related difficulties have been provided already. In this paragraph some more high-level possibilities for future research are described.

Further qualitative research in which possible important aspects of accessibility based business models like competitors and the company culture are included would be valuable. Using more than one researcher, and interviewing more than one interviewee for every company then makes the research findings stronger. Additionally it would be interesting to analyze more companies which use e.g. pay-per-use as a revenue stream because it might be that a difference exists between the business model of such company and one that for example leases products. Also analyzing more companies that made a transition towards an accessibility based business model can be valuable to find out more about the difficulties these companies have to deal with.

Furthermore, it would be interesting to find out what difficulties are most critical for companies, and how these can best be dealt with. This knowledge would make it possible for companies to directly focus on these difficulties and deal with these efficiently. One can deal with the less important and less critical difficulties later.

It would also be valuable to execute quantitative research based on a larger sample of companies in order to find out whether the proposed business model characteristics are typical for accessibility based companies indeed. It can also be measured then, what characteristics have the highest impact on the business model's success. Additionally it would make it possible to test what difficulties are most common for accessibility based companies.

Moreover, it would be interesting to find out what products are suitable for accessibility and on what more specific criteria this depends. The result of such research could result in e.g. a decision tree which companies and entrepreneurs could use to decide whether their product is suitable or will be suitable based on new developments.

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Appendix A: Business model concept matrix

Authors	Definition	Strategy	Taxonomy	Components	Representation
Afuah and Tucci (2001)	x			x	
Alt and Zimmerman (2001)			x	x	
Amit and Zott (2001)	x				
Chesbrough (2010)	x				
Chesbrough and Rosenbloom (2000)		x		x	
Dubosson-Torbay, Osterwalder, Pigneur (2001)	x			x	
Johnson, Christensen, Kagermann (2008)				x	x
Linder and Cantrell (2000)	x		x	x	
Magretta (2002)	x	x		x	
Mahadevan (2000)				x	
Morris, Schindehutte, Allen (2005)	x	x		x	
Osterwalder (2004)	x	x	x	x	x
Osterwalder, pigneur, tucci (2005)	x	x		x	x
Rappa (2001)	x		x		
Seddon and Lewis (2002)	x	x			
Tapscott, Ticoll, Lowy (2000)	x		x	x	x
Teece (2010)	x	x			
Timmers (1998)	x		x		
Weill and Vitale (2001)	x		x	x	x
Zott and Amit (2008)	x	x			
Zott, Amit, Massa (2010)	x			x	

Table 18: Business model concept matrix.

Appendix B: Questionnaire

Interview guide

This interview guide will help the interviewer to focus, and ask all relevant questions during interviews. Questions will be tailored to the case at hand because some questions are more relevant for one company than another. In order to save time during interviews, the researcher will fill out the business model canvas as far as possible before the interview. During the interviews this canvas will be verified and/or adapted. Beneath some question, possible answers are provided in italic. The purpose of this is to check whether the interviewee did not forget anything, and also to ask why another answer would not be applicable.

Introduction

Please let me introduce myself shortly. Currently I carry out a research project at the company "Capgemini Consulting" in order to finish my master in Business Administration at the University of Twente, and a master in Innovation Management and Entrepreneurship at the TU Berlin.
The goal of this research is to find out what typical business model characteristics are of accessibility based companies operating in business-to-consumer markets. A business model describes the company's most relevant business aspects. Accessibility means that the company stays the owner of the product, and consumers gain temporary access by e.g. leasing or renting a product. Additionally, the goal is to find out what main difficulties this type of company has to deal with in order to realize such a business model.

If it is fine with you, the interview will be recorded so that the recording can be used to write everything out. The data which is being gathered will be presented anonymously. First the write outs will be send to you for verification. After finishing the final report you will receive a version of this. Do you have any questions before I start with the interview?

General questions

1. What is your function in the company?
2. How long do you work at the company?
3. Can you please shortly describe the company and the product(s) it offers?
4. For how long does your company offer accessibility based products?
5. Why did the company start offering accessibility based products?
6. Is offering accessibility based products successful in your situation?

Diffusion

The second part of the interview concerns the market acceptance of the offering.

1. Do you see the adoption (market acceptance) of the idea as a difficulty? If so, why?

- Do you think consumers are ready for accessibility? If so, why?
- Was the acceptance of the offering in the market the same now compared to when you started to work for the company?
- Why do you think your market is suitable for accessibility?
- Do you see a difference in the degree of acceptance between different products?

2. How do you try to speed up the rate of adoption with your offering?
- How do you try to speed up the rate of adoption with the innovation itself?
  Relative advantage, compatibility, complexity, trialability, observability.

3. How do you use the communication channels to speed up the rate of adoption?

4. What information do you offer potential customers about the innovation in order to decrease uncertainty?
- How do you offer this information?
- Do you offer information about evaluations of the innovation to other (potential) customers?
- In what adoption phase is the product now?
  Innovators, early adopters, early majority, late majority, laggards, see figure 1.
- How long did each of these separate phases take?

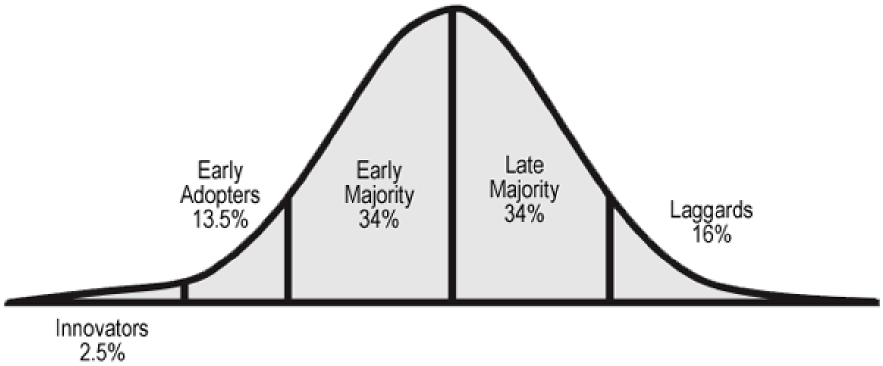

Figure: Adopter groups by Rogers (1995)

5. How do reach opinion leaders (people who have a strong impact on the behavior of others), and make them promote your product?

6. Did you use additional ways to increase the rate of adoption?

Business model

1. Value proposition

A value proposition is an overall view of a company's bundle of products and services which are of value to the customer.
- What products and services do you offer your customers?
- What needs are fulfilled with these products?
- Why are these products and services valuable for your customers?
  Higher value (customized and quality), increased variety, reduced costs, release of responsibilities, reduced risk, reduced complexity, environment.
  - *Do you see taking over the risk as a difficulty? If yes, why?*
  - *What do you feel about taking over the responsibility for the condition and maintenance of the products?*
- Does direct sales of products offer a different value than accessibility based offerings?

2. Target customer

The target customer is a segment of customers a company wants to offer value to.

- Into what segments did you separate the divide?
- Why are you targeting these and not other segments?
- Do you target different segments with direct sales of products (e.g. products get affordable for new segments in case of accessibility)?

3. Distribution channel

A distribution channel is a means of getting in touch with the customer

- What distribution channels do you use to reach your customers?
- How do you get the customers' attention?
- Do you analyze the channels during the buying cycle?
  Awareness, evaluation, purchasing, after sales.
- Do you use more channels to reach the same customers?
- Did the channels you make use of change after offering accessibility based products (e.g. using retailers)?

4. Relationship

The relationship describes the kind of link a company establishes between itself and the customer.

- Do you focus on optimizing the acquisition, retention of, or selling of additional products to customers? Why this focus?
- Do you have short or long-term relationships with customers?
- How many contact moments do you have with customers?
- How do you create customer retention?
  - *Higher quality than customers expect*
  - *High value of the offering*
  - *Product uniqueness and suitability,*
  - *Loyalty programs*
  - *Ease of purchase*
  - *Customer service*
  - *Ease of exit*
- Into how far do you co-create value with your customer (e.g. selection of new products)? What is the result of this?

5. Capability/key resources

A capability is the ability to execute a repeatable pattern of actions that is necessary in order to create value for the customer.

- What are the company's most important resources and capabilities?
  Information management system to manage where products are, in what state, and to inform, educate, and train employees.
- How do these resources and capabilities create a competitive advantage for the company?
  Valuable, rare, imperfectly imitable, and not substitutable.

6. Value configuration/key activities

The value configuration shows all necessary activities, and the links between them, which are needed to create value for the customer.

- What are the company's main activities in order to deliver value to the customer?
  - *The total of logistics (product gets back, perhaps maintenance, manage where products are and in what status).*
  - *Design of sustainable/recyclable product.*
- What are the main differences in activities between direct sales and offering products accessibility based?
- Does a difference in priorities exist between accessibility based products, and direct sales (e.g. product availability might be more important in case of accessibility)?
- What are the most difficult activities (e.g. managing where products are)?

7. Partnership

A partnership is a voluntary initiated cooperative agreement between two or more companies in order to create value for the customer.

- Do you cooperate with partners? If so, with which partners?
- What resources and/or activities are being outsourced to which partner firms?
- Why are these resources and capabilities being outsourced?
  Specificity, strategically important, core competence.
- Does a difference exist in partnerships between products which are directly sold and products which are offered accessibility based?
- Are partnership more intensive after implementing accessibility?

8. Revenue model

The revenue model describes the way a company makes money through a variety of revenue flows.

- What revenue stream(s) and payment mechanisms do you use for your offerings?
  Selling, lending, or licensing a product or service, taking a cut of a transaction, or relying on different sources of advertising.
- Why do you use these and not other revenue streams?
- How did you set prices? Is this difficult to do?
- Do differences in cash flows exist between directly selling products and offering products accessibility based?
  Less money on the short term, more long term.
- Do you see a difference in revenues between times of recession or a booming economy?

9. Cost structure

The cost structure is the representation in money of all the means employed in the business model.

- What are the main cost groups?
- Are some cost groups higher for accessibility based products compared to direct sales?
  Transportation costs increase, increased marketing costs to get attention, information system needed.

Business model innovation difficulties

1. Do/did you see the former business model as a barrier in creating the new business model? If so, why?

- Do you see the rules norms and metrics of the old business model as a barrier for the new one? *Financial (e.g. fixed cost investment, time to breakeven, and gross margins), operational (e.g. end-product quality, owned versus outsources manufacturing, and channels), and lastly other (e.g. product-development life cycles, and brand parameters.*
- Do you feel tensions because the old business model was more profitable in the beginning?
- Do you see the division of assets between the old and the new business model as a problem?

2. Did/do employees see the value of the accessibility based offering of products?

3. Are employees resisting the change? If so, why?
   Change short term to long term profit incentives.
4. What did you do to convince employees to implement accessibility?
   Educate, train and communicate with them.

Appendix C: Interview summaries

Arty

- Owner and director.
- 30 years.
- Art is suitable because it is not depreciated.
- Direct sales was not a success, leasing is way more successful.

Business model Element	Important aspects
Value proposition	• Professional high quality art. • Need for culture. • Low price. • Lower complexity. • Lower risk (trialability).
Target customer	• Individuals. • Companies. • Most competitors only focus on individuals.
Distribution channel	• Gallery (here customer decides to lease a piece of art, so is important). • Website and Facebook (mainly to create awareness and make customers evaluate the offering). • Not different from direct sales.
Relationship	• Acquisition (word of mouth works best) and retention. • Long-term relationship. • Customer retention: o High value product-service offering. o Loyalty program (bottle of Prosecco, invitation for openings and expositions). o Easy to acquire a product. o Exit less interesting because leasing amount counts as a discount for purchasing. o Organizing events to show that the company is active. • No co-creation.
Capability/key resources	• Human resources. • Financial resources (huge investments necessary). • Information management software (planning etc.). • Competitive advantage because company already dealt with many difficulties and also has experience in selecting art.
Value configuration/activities	• Orient on, and select art, frame and present art, attract customers (expositions, free publicity), acquiring art, manage where products are etc., send reminder to pay if needed, customers can acquire art and use rental amount as a discount. • Art which is damaged too quickly is not leased.
Partnership	• Interior landscaping. • Interior decorator. • Bank which finances contracts with B2B customers. • Art academy (for internships). • Artists from which art is leased. • Frame maker.
Revenue model	• To companies via operational and financial lease. • Consumers financial lease. • Possibility to swap art or to purchase art with a discount. • Pricing is based on market price. • Lease prices are 10% above sales price. • Returns on leasing are higher compared with sales, however, takes longer. • Goal is 50% percent via B2B and 50% via B2C because art is mostly leased to

	companies and later to consumers. • Successful during recession and economic growth.
Cost structure	• Huge investment to acquire art. • Also employee (administration) costs, the building, advertisement, and transportation (own transportation service) are the largest cost groups. • Especially costs to acquire art, and employee costs are higher compared with direct sales. • Higher insurance costs (also art in customers' homes).

Table 19: Business model Arty.

Diffusion

- Very high acceptance (lower threshold, lower price and trialability) right from the beginning (no difficulty).
- Increased number of galleries offer possibility to swap art.
- Company did not try to increase acceptance, because this was already very high and there was a lack of financial capital to grow.
- The product-service itself leads to acceptance:
  - The relative advantage of being able to acquire art at a monthly fee.
  - Art is a difficult product to sell because one actually sells emotion. Every piece of art has its own story, however, by letting the consumer take the piece of art home this complexity is decreased.
  - Customers have the ability to try the product, which creates a bonding between the consumer and the piece of art.
  - Customers can observe the art in the gallery before they lease it. At the moment they lease it, customers can observe the art in their home, and change if they dislike it.
- The gallery, website, newsletter, and exhibitions and so free press, are used to show consumers that the company leases art.
- No online reviews, but customers can upload photos with art in its new environment. Artists have a résumé which customers can evaluate.
- Art itself is adopted by innovators, followers, and the early majority, art leasing is adopted by the innovators and followers. Adoption by the early majority takes longer.
- No opinion leaders are used to promote the product, however, this might be a good idea.

Difficulties

- Taking over this risk can be seen as a difficulty for the company because consumers can bring art back, and so the company might get left with art consumers are not interested in.
- "Competitors state that the sales mechanism and the product are of a lower quality, however, of course this is not true because we offer the same art. This is a difficulty we have to deal with."
- Huge investment needed.
- Company stated planning manually, however, this is not doable without software.
- Because the VAT percentage has increased from six till nineteen percent, customers who are already leasing for one and a half year, have to pay the nineteen percent if they want to buy the piece of art, although they expected the six percent.
- The first five or six years the company had major difficulties with its liquidity. Leasing to companies is less difficult than to individuals, as the bank finances the leasing contracts with companies.

Laptop4you

- Owner and financial administrative work, dealer acquisition and retention, increase of dealers' revenues, and general activities like talking to customers.
- 9 years.
- Laptop, personal computer, television, and beamer, selling, leasing and rental company.
- Renting out is interesting but investment in new products needed.
- Prices decreased dramatically so increase in sales.

Business model Element	Important aspects
Value proposition	• Laptops, beamers, televisions and others e.g. printers and Ipads. • Own laptop e.g. repaired, or large screen for soccer match. • Lower prices, less responsibilities (carefree), calculated risk (rental prices, not more). • Company has to deal with the risk.
Target customer	• Customers with little money, a lot of money, students, and with specific demands. • With sales on customers working on their own and demanding a customized laptop (also an option for rental).
Distribution channel	• Via website ninety-nine percent of times, additionally via 150 dealers (own promotion). • To get attention, Google Adwords is used. • Via the website everything is explained and customers can evaluate the offering. • Also via phone and e-mail possibility to evaluate.
Relationship	• Customer acquisition and retention both important, however, retention follows automatically, for acquisition more effort is needed. • Long-term relationship. • Ask information, receive product, product returned, survey, rent a new product. • Retention; greater value than expected, suitable product, less expensive on long-term, customer service (very friendly and personal), no exit before end of contract, create account so easy to rent. • New product in assortment based on customer's demand (select together).
Capability/key resources	• Financial and human resources important. • Software program to plan etc. • Competitive advantage due to flexibility, personal contact, direct response, customized solutions.
Value configuration/activities	• Order placing, check where products are, plan (is essential), make a contract, purchase and customize product if needed, send product, send pick-up order, check/update/repair. • Products have to be checked, important but not difficult. • On-time delivery of the right product has priority (compared with sales). • Different websites used to distinguish renting from leasing and sales.
Partnership	• For specific solutions with other rental firms. • A dealer network is used, which functions as a regional contact point for customers.
Revenue model	• Direct sales, leasing, rent-to-own, and renting. • Longer rental periods (e.g. rent-to-own) is less expensive for customers. • In case of purchase, discount offered. • Set prices based on costs, what customer wants to pay, and competition. • Earning revenues for renting takes longer, however, leads to higher earnings. • Less likely to rent during recession because products are something extra.

Cost structure	• Investment in products themselves. • Employees are a large cost group, and needed for all handlings (e.g. administration, maintenance). • Software program for planning. • Lastly transportation costs. • All above mentioned costs are higher compared with direct sales.

Table 20: Business model Laptop4you.

Diffusion

- Before decrease in prices, individuals were renting a laptop for e.g. their time in a hospital.
- Due to decreases in prices, many individuals own a laptop, so less demand.
- Beamers and televisions are mainly rented during times of e.g. sports events.
- Acceptance is increased because of lower complexity (product fully installed etc.), observability, lower price, less responsibilities, lower risk
- Almost all products are sold via the website, however, advantages of renting are not really communicated.
- Evaluations of other current customers are not presented.
- From 2000 till 2003/2004, innovators and early adopters rented products, after that also early and late majority.
- Some customers are identified as opinion leaders, with them the communication is more extensive.

Difficulties

- Customers not returning the (complete) product in time, this makes planning difficult.
- Setting rental prices is somewhat more difficult than for direct sales.
- Continuous investment in new products needed.

Instrumental

- Owner and director.
- Since three years.
- Make music accessible.
- Own (less expensive) instruments line.
- Prefer direct sales because this is simpler, however, more individuals than expected are renting.
- Sales is more successful, however, both successful, customers now have trialability.

Business model Element	Important aspects
Value proposition	• Instruments. • Play music. • Good price quality ratio, deliverable from stock, trialability (per quarter, competitors per year), less responsibilities (e.g. tuning).
Target customer	• Music projects (e.g. music schools). • Individuals (mostly aspiring musicians). • Orchestras.
Distribution channel	• Awareness and evaluation via the website (Google Adwords, online marketplace), via music schools (leaflets), phone, e-mail, and physical store. Awareness also via Facebook and Twitter. • No conflicts exist because offerings are the same.
Relationship	• Both, however, focus lies on customer acquisition. • Long-term relationship (however, not actively managed). • Reminder one month before contract ends, new invoice if not terminated, if so, asked for reason. • Customer retention through, good price quality ratio, suitability, large assortment, no out of stock, easy to extend rental period. • Ask instrument users how product can be improved and use this knowledge.
Capability/key resources	• Financial resources, for first shipment external financing. • Software program for administration and planning. • Human resources (owner has international experience, proficient in managing relationships). External human resources to improve instrument. • Competitive advantage with own instrument line (own management and quality control).
Value configuration/activities	• Visit website, decide to rent, contract made, customer picks up and return instrument, check instrument, return (or not) deposit. • Planning is an essential activity. • Design functionality into product is important.
Partnership	• Asian instrument producers. • Freelancer for maintaining and repairing instruments.
Revenue model	• Direct sales, renting, rent-to-own. • Rent per quarter • Possibility to purchase after renting, with discount of fifty percent form rental amount. • Ninety percent of revenues through sales. • Mostly new products rented because perhaps purchase in the future. • Price setting based on costs and competitors' prices. • Returns with renting on the long-term, with sales on short-term. • Returns for rental larger because mostly sold later on.
Cost structure	• To acquire instruments. • About ten percent on marketing. • Building.

	• Software program. • Human resources (external, and owner himself).

Table 21: Business model Instrumental.

Diffusion

- Renting of music instruments is not a difficulty, orchestras rent this to their members for a very long time already.
- Customers may first want to try a product (not only in the shop), lower prices.
- Even before renting, customers first go to the store.
- Google Adwords and online marketplaces are used to promote own website.
- Decrease uncertainty by letting customers know (website, e-mail) they have a seven-day trial period.
- Additionally, product video’s with the instrument, and on what basis these were selected.
- Furthermore, several online payment methods possible to decrease uncertainty about online ordering.
- Communicate very openly about rental agreement (can be found online).
- Whole ordering process explained on website.
- Evaluation of the offering on the website.

Difficulties

- Difficult to decide what amount of money is returned to customer in case of damages.

Boats4rent

- Interviewee took over a boat rental company a few months ago.
- The company exists over thirty years.
- Former owner was spending too much which led to bankruptcy.
- Focus lies on only renting high-quality boats.

Business model Element	Important aspects
Value proposition	• Rent ten till fifteen meter motorized boats. • Experiencing life on the water in a certain area. • Renting is less expensive, less responsibilities and so complexity (maintenance, insurance), decreased risk (e.g. financial), trialability (and so variety, also in areas). • Taking over risk is not a huge difficulty (large fleet, steel boats, internal repairing, insured).
Target customer	• Dutch and international customers. • Families and groups of friends. • Prefer groups with lower damage risk. • Selling companies focus on very wealthy customers with large egos(other group).
Distribution channel	• Company website, boat rental website, leaflets, word-of-mouth, exhibitions. • Used to create awareness and evaluate. • Book via website, e-mail, or phone. • Specific offering for type of customer (i.e. lower price-quality, higher price-quality). • Personal contact makes customer book. • After booking, e.g. sailing router offered. • If channel conflicts occur, discounts offered.
Relationship	• Acquisition and retention. • Long-term relationship. • More contact moments (answering questions during rental period, then with returning the boat). • Retention by offering higher quality, and service, friendly communication and offering information, discounts when renting more often, easier to rent another boat (customer knows the boats). • Customer reviews used to improve boats.
Capability/key resources	• Repair and maintain boats (HR). • Customer focus, friendliness, right information provision (HR). • High quality boats (financial resources). • Access database for planning. • High quality boats and service, and good location to be competitive.
Value configuration/activities	• Technical maintenance. • Design sustainable boats. • Contact moments with customers.
Partnership	• Aim to establish partnerships with suppliers. • Aim to establish partnership with a boat rental firm from another area.
Revenue model	• Mainly renting boats. • Maintenance of boats sailing along. • Selling diesel. • Prices based on competitors' prices and popularity of a boat. • Easy to set prices because of the transparency. • Revenues are earned over a longer period (earned back in three years). • After earning the boat back a lot of money is earned.

	• Renting more stable business than sales.
Cost structure	• Personnel costs (technical employees). • Boats and materials.

Table 22: Business model Boats4rent.

Diffusion

- During crisis more logical to rent.
- Boat renting is accepted (this company does it for thirty years), the market is suited for it.
- Company website, boat rental website, leaflets, in the future exhibitions used to attract customer, discounts to make them rent.
- Good location increases acceptance.
- Various boat sizes is attractive.
- Less expensive, media presents renting as attractive, customers only use boats a few days per year, trialability of boats and areas, less complex (e.g. no maintenance, insurance).
- Decrease uncertainty via communication channels, boat videos and extensive explanation about renting on website, sailing instructions and routes offered.
- Customers can write a review on the website in the future.
- Quite conservative customer, part of the late majority.

Difficulties

- Deal with unsatisfied customers without giving them too much money.

Gamez

- Interviewee is the owner and director of an game materials rental company.
- 27 years.
- Also creates own games.
- Hard work needed (creating and maintaining games).

Business model Element	Important aspects
Value proposition	• Games which make customers move. • Value compared with sales are; lower prices, higher variety, and a lower complexity, responsibility, trialability, no storage, and risk. • Taking over risk means maintenance work.
Target customer	• Schools, companies, camping sites, associations, and individuals. • Especially associations only during summer.
Distribution channel	• Website, leaflets, Facebook, and personal contact are used to make people aware, and also evaluate the offering. • By answering questions clearly and directly, customers are persuaded to rent. • No channel conflicts.
Relationship	• Customer acquisition and retention. • Long-term relationship. • Contact via website, then phone or e-mail, respond and confirm order, eight days to change product, only change with additional costs, delivery, picking up product. • More contact moment than sales, seen as challenge and opportunity to find out what customer want and show what company has. • Retention with very high service, variety of products, unique products, discounts for loyal customers, and loyalty discount program, registered customers can win prizes, always in stock if indicated, few days before delivery no money returned. • Sometimes products created based on customers' suggestion if fits to company.
Capability/key resources	• Important are; flexibility, creativity, experience, and own production capacity. • Financial and human resources necessary. • Software tool critical for planning and bookings. • Competitive advantage with unique products.
Value configuration/activities	• Design games (transportable, sustainable, easy to install). • Include a description. • Deliver and pick up product. • Check and repair product. • Maintenance is crucial, products last longer, customers are satisfied. • Planning and logistics crucial activities.
Partnership	• No partnerships.
Revenue model	• Renting and selling products. • Rent out a product twenty-five times to cover costs. • Setting prices is easy.
Cost structure	• Human resources largest cost group. • Website and software program large groups. • Products not a large cost group anymore, these were produced years ago, only minor adaptations needed.

Table 23: Business model Gamez.

Diffusion

- No individual rented first fifteen years, increased last ten years.
- In the beginning only very wealthy individuals.
- Internet opened up the market, making customers purchase cheap untested games.
- Renting for e.g. a barbecue, or men’s weekend for children aged 3-12.
- Individuals know the company from e.g. a neighbourhood party.
- Since six years ago individuals rent bouncy castles, which were rented by neighbourhoods and elementary schools much longer ago.
- When an individual once rented a product, he will do this again to avoid a party to be less fun.
- Market is suitable for renting, the acceptance is not seen as a difficulty.
- Prefer renting because it is cheaper, no need to store, rent diverse original products, trialability, low complexity and high convenience (company delivers installs and disassembles).
- Word-of-mouth, the internet (website), leaflets, e-mail, and phone are used to communicate with customers. Advantages of renting are presented so that customers can evaluate offerings.
- Uncertainty is decreased by communicating very clearly, customers can also visit references.
- Diffusion is at the end of the followers phase.
- Adoption is expected to increase in the coming years due to the internet.
- Increase in rental market levelled off during the crisis.
- Long-term customers receive discounts and promote the company by means of word-of-mouth.

Heat Boilers

- Interviewee is responsible for marketing and communication, had several other functions.
- Installation company which delivers, and is responsible for service and maintenance of heath and water heaters (250,000 devices installed at about 45,000 customers).
- Company started renting out more than twenty-five years ago (half of the boilers is now being rented out).
- Part of a larger gas and energy supplying company.
- An increasing number of customers sees the advantages of renting (e.g. total is cheaper because maintenance, repairing, spare parts are all included).
- Successfulness nowadays is based on the number of customers bound to the company (for twelve years so many customers in this case).
- Long-term relationships leads to certainties and very efficient planning.

Business model Element	Important aspects
Value proposition	• Indirectly heat and hot water is offered. • Low investment, convenience (service and maintenance included), certainty that everything works (low risk). • Company takes over the risk, has over forty-three years of experience, so no difficulty.
Target customer	• No segmentation yet, based on the parent firm in the future.
Distribution channel	• Contact via website, Facebook, Twitter telephone, leaflets, e-mail, advisors and mechanics, both evaluation and awareness. • Customer gets aware, contacts company, advisor visits customer or directly making offer, rental period starts after signing, mechanics have contact periodically and might advise to rent a new product. • Advisors have a crucial role, customer decides depending on what advisor advises. • No channel conflicts occur, same offerings.
Relationship	• Focus on acquisition and retention, however, also additional products. • Customer calls company or lets company know (via website or reply card) they want to be contacted, make an appointment or quotation, appointment then quotation, customer thinks about offering, asks questions, or company contacts customer, appointment to install, after 1,5 year mechanics visit customer every year for maintenance, also in case of defects. • Way more contact compared to sales, seen as opportunity for customer retention. • Retention by offering very high quality products and service, customer loyalty programs (discounts), mechanics promote renting new product, contractually bound for 12 years, renting out more products to one customer leads to retention, no huge exit barrier after 12 years, would lead to dissatisfaction.
Capability/key resources	• Website parent firm to attract customers. • Advisors and mechanics essential in customer decision process. • Financial resources due to need to pre-finance. • Replacement parts in stock. • Software program needed for planning and analysis. • Database with all products being rented, including failure rates. • Competitive advantage due to image parent company, and financial resources.
Value configuration/activities	• Planning, select products with low failure rates, install product, maintenance. • No difficulties, software is used. • No difference in priorities with sales.

Partnership	• Discounts from suppliers. • Fuel cards are used. • No difference between sales and renting out.
Revenue model	• Selling and renting out products. • Setting prices is easy, based on formula. • Earning revenues takes longer with renting out, however, customers bounden for 12 years.
Cost structure	• Employee costs especially because of maintenance. • Products themselves and replacement parts. • Employee and products costs higher compared with sales.

Table 24: Business model Heat Boilers.

Diffusion

- Started five or six years ago to proactively promote renting (internally and externally).
- Idea was that only customers would rent due to a lack of financial capital, now idea is that also wealthy customers rent due to its convenience.
- Internet makes market transparent and aware of renting.
- Sceptical customers mention they pay three times the value, however, not true because maintenance, spare parts, etc. are included.
- Every marketing campaign is used to promote renting and present its advantages (purchase option is presented in a small section).
- Especially during an economical downturn renting is preferred, however, it is expected that more customers see the advantages and start renting after the downturn.
- Reasons for renting; lower investment, convenience (less responsible e.g. maintenance, lower risk).
- To finally sign the contract, advisors use example calculations to convince customers.
- Large part of the late majority rent the company's products.
- Total diffusion is not expected, some customers do not want to hear anything about the rental advantages.

Difficulties

- One of the most difficult situations occurs when customers want to eliminate the contract because they e.g. want to move. To deal with this problem, the company offers information materials, and the advisors explain customers what the rental contract actually means.
- Till a few years ago products were also offered via financial lease, however, the credit company decided to stop offering credits to consumers because this is too difficult. The company then decided to stop offering products in this way, also due to a lack of demand for this offering.

Business model innovation difficulties

- Five or six years ago started to proactively promote renting out instead of selling.
- Developing advisors and making them promote renting can be seen as a difficulty.
- However, the same difficulties exist if the company decides to offer different products to their customers.
- Change targets from revenues towards number of products.
- Idea of renting out products was communicated very comprehensively to employees, advisors were trained a lot and received a lot of help if needed.

- Advisors who were performing well and so rented a lot of products received positive feedback, motivating other advisors.
- Measure and present results stimulates to focus on renting out.
- Employees did not resist the change itself, but had difficulties to change their mindset.

ToysOnline

- The interviewee is the owner of an in 2011 established company that sells and rents out toys.
- Despite the success other companies have in renting out products, for this company selling products seems to be more attractive.

Business model Element	Important aspects
Value proposition	• Toys with which children can play conveniently. • Initial thought about reasons to rent are; less expensive, trialability, no storage needed, less responsibilities and lower risk. • Risk is not lower due to deposit (is not convenient for customer).
Target customer	• Consumers are children aged 0-6. • Parents and grandparents acquire toys.
Distribution channel	• Advertisements in customer specific magazines, Google Adwords campaigns, existing customers who currently buy toys, and parents networks, lead to visit on website. • Awareness created and advantages presented via these channels. • Customers thought that products which were sold are rented first, now it is mentioned on the website this is not the case. • No further channel conflicts.
Relationship	• Customer acquisition and retention. • Long-term relationship. • Attracted by e.g. website, place order, receive automatic confirmation, welcome e-mail, send toys, return toys and send track-and-trace code by e-mail, sometimes extension rental period. • Many contact moments seen as opportunity to build up a good relationship.
Capability/key resources	• Financial resources to acquire toys etc. • Human resources for the many activities. • Microsoft Excel for planning (time intensive). • More variety and longer opening hours than Speel-o-theek.
Value configuration/activities	• Send information to customers, package product (packages have to be ordered), fifty euro deposit and rental amount, inform how to return product, after products are returned, check and decide deposits to return, clean products, damages or missing parts, purchase new, inform about additional payment in case of longer rental period, everything has to be planned. • Very time intensive compared with sales. • Select products that do not break soon, not too heavy (increases transportation costs), not too high priced products (too high risk). • No difference in priorities between sales and renting out.
Partnership	• No partnerships.
Revenue model	• Direct sales and renting. • With sales investment directly earned back, with renting out this takes longer (ten periods). • Rental price ten percent of sales price (lower means no profit), was higher but people demanded lower prices. • Setting prices is quite easy. • Three articles have to be rent at once to increase revenues per order, still margins are very small due to short rental periods (mostly no longer than one month). • No very cheap products offered.
Cost structure	• Purchasing toys is a large cost group. • Transportation costs to and back from customers makes renting out for short periods uninteresting. • Owner is only employee and spends a lot of time, otherwise employee costs would

	be high.

Table 25: Business model ToysOnline.

Diffusion

- Customers mainly spend money on toys for birthdays, Santa-Claus and Christmas.
- Toys are then bought and not rented as a present.
- Customers want to have toys for longer periods.
- Perhaps more expensive toys are an option but then higher deposits will form a barrier, parents will be also more afraid that toys will be damaged.
- Customers who are on holidays rent toys for a few weeks, however, this is unprofitable.
- Baby toys were rented, however, market is too small and margins too low.
- Initial thoughts why renting would be interesting; less expensive, trialability, no need for storage, lower responsibility and risk.
- However, customers are not renting a lot, and seem not to see a decreased risk because they might lose their deposit (risk of damages is high especially for children aged 0-6).
- Communication channels to increase acceptance; advertisement in customer specific magazines, Google Adwords campaigns, customers who buy toys, and parent networks.
- Advertisements led to peaks in numbers of website visitors, however, only a small number decided to rent.
- Via the channels, advantages of renting are promoted.
- Customers also had the opportunity to purchase the toy and receive the rental amount as a discount.
- Uncertainty was decreased by offering a frequently asked question section on the website where all important aspects are described comprehensively.
- Customers which were on holiday in the Netherlands were very satisfied, their reviews are shown on the website.
- Only some innovators are renting from this company, expectation is that not more groups will adopt the offering.

Difficulties

- Convince customers to rent.
- High transportation costs especially a problem for short periods of renting.
- Planning and logistics (a lot of handlings needed).
- Deciding what deposits to return to customers.
- Making customers pay.

CarsPerKm

- One of three owners of a car sharing company.
- Launched in 2009.
- Self-service.
- Technology was important at the time because only a handful developers existed which only delivered large customers.
- First company in Europe with the focus on students.
- In 2010 a few angel investors invested in the company, however, additional capital is needed.

Business model Element	Important aspects
Value proposition	• Cars and so mobility is offered. • Less expensive, directly available based on self-service, convenient and less complex (less responsibilities e.g. insurance), lower risk (only responsible while using the car), higher trialability, for some lower environmental impact is important.
Target customer	• Focus on students. • Divided into Dutch and foreign students. • Additionally starters on the job market. • On the long-term more target groups.
Distribution channel	• Interviews in newspapers, Google Adwords, Facebook, and Groupon, e-mails, partnering student housing companies , advertised itself at universities during introduction weeks, for awareness and evaluation. • Surveys (one before subscribing and one after unsubscribing) to get insight into customer behavior. • Feedback asked after first reservation. • Statistics used to determine car locations. • Channel conflicts occur, by Groupon wrongly edited advertisement led to losing customers.
Relationship	• Focus on customer acquisition and retention. • Long-term relationship. • Customer gets aware (e.g. Facebook), interested via website, subscribe, welcome e-mail, receive a pass, survey after first reservation, newsletter once a month, Facebook messages. • Extra contact moments seen as opportunity to build stronger relationships. • Retention by; higher value (convenience), low prices, attractive car locating, discount for long-term customers, easier after first reservation, exit easy otherwise unsatisfied customers, driving credits offered in case of failure, 24 hours customer service. • Listen to customer, base offerings (e.g. car location, stickers on cars) on it.
Capability/key resources	• Human and financial resources crucial. • Software crucial for bookings, planning, etc. • Technology (e.g. GPS to track cars, ability to open cars). • Competitive advantage due to fit with target group, exclusive partnerships with universities.
Value configuration/activities	• Check driver license etc., create pass and link to account, send to customer, customer selects date and time, check car for damage (let company know), return car too late (call or extend period by phone), lock car, receive invoice automatically, money automatically from bank at end month. • Some contracts eliminated due to undesired behavior (e.g. smoking). • Open car if battery is empty. • Wash cars (mostly by users in exchange for driving credits). • Quite automated system.

	• Call centre.
Partnership	• Angel investors. • Car leasing firm. • Student housing companies. • Universities.
Revenue model	• Enrolment fee, subscription, pay-per-hour and pay-per-kilometer, advertisement. • Due to high investments, certain price has to be demanded, questionnaire to find out what customer wants to pay, competitors' prices taken into account. • Price elasticity lower than expected so small increase. • Takes long before investments are earned back.
Cost structure	• Cars, insurance, employees, license fees for car system, software (planning, booking) are large cost groups. • Leasing cars to keep investments small. • Marketing costs lower now due to focus on word-of-mouth.

Table 26: Business model CarPerKm.

Diffusion

- Known where customers can be reached, however, difficult with limited funds due to other advertisers.
- Concept was new which slows down the adoption.
- Still the market is ready for acceptance, customers are satisfied and its convenient.
- Focus on students makes adoption difficult (lack of disposable income, public transport for free).
- Dutch students accept the concept, however, do not register.
- Enough users for number of cars so concept works.
- Foreign student use the service more (no free public transport or family car to use).
- Small inexpensive cars attractive for women, somewhat larger for students finishing their studies or starters on the job market.
- Costs are lower, less complex (no insurance, taxes), trialability (statistically proven that consumers later on purchase the car).
- Promoted as complementary to public transport.
- Interviews in newspapers, online (Google Adwords, Facebook, Groupon), via the board of student associations, e-mails to members, via student housing companies, university introduction weeks.
- Cars themselves and word-of-mouth (driving credits can be earned) seem best ways to attract customers.
- Decrease uncertainty by presenting advantages via mentioned communication, website for comprehensive explanation.
- Evaluations not shown, only "like" via Facebook.
- Adopted by innovators and early adopters.
- Expected early majority and part of late majority in future, however, no total replacement.
- Due to the financial crisis, less is earned on advertisements on cars.

Difficulty

- Gaining financial capital.
- Price setting not that easy and changed quite often (a limited number of kilometres may be driven, with pricing one can prevent customers from driving too far).
- Takes long before investments are earned back.
- Difficult to decide who is responsible for damage (could be after rental and before rental next one).

- Sometimes lighting not turned out (system does not work, not able to open from a distance).
- Difficult to make customers aware due to other advertisers.
- Focus on students makes adoption difficult (lack of disposable income, public transport for free).

Playful

- The interviewee is agogic, and property manager of a “Speel-o-theek” for one and a half year now.
- The speel-o-theek can be compared with a library, customers lend toys.
- One has to pay €0,50 for one toy which then can be rented for three weeks.
- Customers become members, however, no subscription fee.
- Other “speel-o-theken” mostly use a fee because of needed investments in e.g. toys.
- Part of non-profit organization so no fee necessary (toys were received for free).
- Part of community centre, goal to bring people together, and rent as many toys as possible.
- Increased number of users.

Business model Element	Important aspects
Value proposition	• Toys with which children can play and have fun. • Lower price, trialability, lower risk (child might not like toy after a short amount of time), no need to stock toys, environmental reasons, higher variety. • Customers keep responsibility.
Target customer	• Children aged 0-4. • Divided into babies and somewhat older children. • Due to space limitations no older children.
Distribution channel	• Increase acceptance with posters and leaflets at district offices, clinics, playgroups, etc., articles and interviews in newspapers, social media (Facebook, Twitter), the website, and lastly word-of-mouth. • No evaluation in newspaper due to space limitation. • Customer enters, employee explains. • Some stop renting due to limited opening hours. • Future opened on more days. • Return toys, help select new ones, ask for evaluation. • No channel conflict, no different information.
Relationship	• Customer acquisition and retention. • Long-term based. • First contact website, leaflets, etc., employee explaining, help selecting, and renting, periodic e-mail (e.g. news). • High number of contact moments are seen as an opportunity. • Employees are customer focused, friendly, and helpful, toys selected based on suitability, easy to rent and return toys, possible to return same day without cost, letter in case of lack of renting, social environment for customer so employees communicate. • If customers mention they want to rent something, try to get such toy.
Capability/key resources	• Financial resources for new products. • Human resources (customer focused, open-minded, enthusiast, like children). • Physical location. • Card system to manage where products are, when they should be returned etc. is crucial. • Competitive advantage created with offering, employees, and location.
Value configuration/activities	• Promote the speel-o-theek. • Select suitable sustainable toys. • Register customer, help with selection, search for card belonging to toy, register toy rental, accounting, check returned toys, return cards, return toys to stock, if not clean, missing, or damaged, clean toys and purchase new part (customer pays). • Damaged toys are part of the job.

Partnership	• No partnerships. • Option would be partnership with a toy supplier.
Revenue model	• Renting products. • Same prices as former “speel-o-theek”, so easy to set. • Enough earned to acquire new toys. • Takes very long before toys are earned back. • After usage, toys should be replaced.
Cost structure	• No need to pay employees (volunteers and interns), the building, and advertisement. • If no part of funded non-profit organization costs would increase dramatically. • Cost group is toys.

Table 27: Business model Playful.

Diffusion

- Not seen as difficulty, period also used to try toys.
- Customers accept renting toys for a long period, expected they will always be.
- Increase in renting is expected.
- Increase acceptance with posters and leaflets at district offices, clinics, playgroups, etc., articles and interviews in newspapers, social media (Facebook, Twitter), the website, and lastly word-of-mouth.
- Less expensive, trialability, contact between parents.
- Low uncertainty due to low threshold (no subscription costs, low rental price), and toys are not that breakable, if they get lost or are damaged customer can hand in toy later, purchase it, or pay a compensation (small amount so no barrier).
- Not so wealthy and also wealthy people rent toys.
- Barrier is limited opening hours (one day a week).
- Customers are asked for evaluation of products, these are then presented to other customers.
- Diffusion for this speel-o-theek till early majority, in future probably late majority, probably never totally diffused.
- Sometimes parents which are identified to be opinion leaders, are provided with leaflets they can use to promote the speel-o-theek.

Difficulties

- It is difficult and least pleasant if customers return toys too late. Employees have to call customers to ask when they will return the toys. This is the least pleasant task for employees.

MagazineMap

- Commercial manager of a company that offers subscriptions for magazine portfolios, and works here since 2007.
- Company offers magazine portfolios since the fifties.
- Average portfolio has thirteen magazines, also budget and specific portfolios offered.
- Delivery once a week.
- Successful business which exists several decades, however, had ups and downs.
- During crisis a strong increase in demand, decrease during economic growth.
- Customers read less (increased demand for smaller portfolios).

Business model Element	**Important aspects**
Value proposition	• Magazines for information, relaxation, entertainment. • Less expensive, lower complexity (brought home), larger variety, environmental reasons, trialability. • Customer responsible for magazine (almost no problems) so no increased risk for the company.
Target customer	• Consumers (since fifties) and companies with a waiting area (since seven or eight years). • Companies because publishers can expand their reach then, so increase advertisement income. • Women focused, they decide to subscribe.
Distribution channel	• All channels described in diffusion used for awareness and present advantages, so evaluation. • Easy to subscribe so no last minute cancellation. • After subscribing, communication on a weekly basis with deliverer (same for years). • No channel conflicts (no differences).
Relationship	• Focus on acquisition and retention. • Long-term relationship. • Customer gets to know the company, subscription, weekly return and delivery of portfolio. • Many contact moments seen as opportunity. • Contact moments monitored to deal with complaints and improve service. • Portfolio suitable for customer, otherwise perhaps changed, present in case of extension contract, easy to receive a product, customer service, no exit barrier otherwise bad company image. • If customers want a certain magazine, it might be included in the portfolio.
Capability/key resources	• Financial and human resources important. • Software program for planning is crucial. • Competitive advantage with portfolio composition and prices.
Value configuration/activities	• Decide to subscribe, bring and pick up portfolio, bring portfolio to next family (up to fifteen families). • Deal with specific customer needs e.g. deliver portfolio at neighbour. • Planning is crucial (not difficult with software). • With direct sales magazines sometimes out of stock, however, portfolios always complete (high priority).
Partnership	• Magazine company. • Publishers. • Goal to establish partnerships with companies to reach target groups with advertisement.

Revenue model	• Subscriptions and advertisement. • Based on costs and margin, formula used which makes it easy. • Revenues earned over longer period, however, expected to be more successful.
Cost structure	• Personnel and magazines are largest cost groups. • Software program not huge costs. • Own transportation network, also fractional costs. • Marketing costs not substantial.

Table 28: Business model MagazineMap.

Diffusion

- Very high acceptance of portfolios (especially during sixties and seventies).
- New leisure activities (e.g. personal computer, social media) make portfolios less interesting, however, still many prefer hard-copy magazines (might change in the coming years).
- New portfolio compositions and customer specific portfolios are used to retain and attract customers, with success.
- Currently 180.000 families use portfolios in the Netherlands.
- Less expensive (for ninety percent reason to rent portfolio), lower complexity (delivered and picked up), environmental reasons, trialability (especially with one month trial version).
- Affiliate marketing campaigns, newsletters with other company (specific for target groups), doorstep sales, newspaper advertisement, and exhibitions to attract new customers (present offering and its advantages.
- Conversion rate for affiliate marketing and newsletter are higher.
- Discount and a present used to make customers subscribe.
- Long-term relationship with customers is presented as satisfied customers.
- The offering is adopted by the innovators, followers, early majority, and perhaps also part of the late majority.
- Opinion leaders are not actively used to promote offerings at potential customer, however, this would be an attractive option.
- During crisis increased number of subscribers.

Brown&White

- Two interviewees, the controller (2,5 years), and communication specialist (four months).
- The company mainly rents out brown and white goods to individuals for about forty-five years.
- In the past the company also had physical stores.
- Renting out is successful for the company, survived several crises and exists already fort-five years, and results are good.
- Relatively long rental period of five years creates stability and makes it possible to plan very efficiently.
- Banks are sceptical to lending money, contracts are not that valuable to banks.

Business model Element	Important aspects
Value proposition	• Products are "necessary" (e.g. washing machine) for household, or seen as luxury entertainment (e.g. flats screen television). • High quality products, less expensive, carefree (less risks and responsibilities, not difficult but part of the job gives right to exist), greater variety (more affordable), low complexity, quick delivery.
Target customer	• Not very wealthy consumers who cannot afford purchasing. • Perhaps in the future other groups. • Competitors now also focus on these groups by offering lease contracts.
Distribution channel	• Website, online marketplace, newsletter (including customer reviews) with link to website (seven reasons to rent presented), order product then employee contacts via phone, possibility to ask customer service questions by phone, contract made, technical representative delivers and installs. • Above mentioned channels to make consumers aware, and evaluate advantages. • After installation, periodic surveys, in case of dissatisfaction customer is contact to find a solution. • No huge channel conflicts, otherwise explanation via customer service.
Relationship	• Customer acquisition (marketing) and retention (customer service) which is cheaper. • Not additional products, might cause financial problems. • Long-term relationship (at least five years). • More contact moments, after instalment surveys, reparation, offering to rent new product, could be even more proactive. • Number of contact moments are opportunity. • Swap product for new one, easy to extend rental period, high service level, exit before five years difficult, after this period no ownership so new product needed. • No co-creation, however, customer demanded product can be included in assortment.
Capability/key resources	• Employees for customer service, logistics/planning, purchasing, repairing. • Software program for whole logistics. • Financial resources important for acquiring products. • Customer service leads to competitive advantage.
Value configuration/activities	• Information provision via all channels, communication by phone, check customer's likelihood to pay (eighty percent refused), make contract, deliver and install product, survey (sometimes improvements follow), repairs. • Planning and logistics crucial. • Make customers pay. • Select high end products to keep failure rates low.
Partnership	• With one supplier where products are purchased.

Revenue model	• Renting products for five years, and direct sales of second hand products. • Prices based on costs and margin, formula used to set price (steps of five Euros, e.g. 24,95 or 29,95), quite easy. • Compared with direct sales takes longer to earn product back.
Cost structure	• Purchasing of products, and personnel costs are highest. • Transportation, marketing, and the software program are relatively small cost groups for the company.

Table 29: Business model Brown&White.

Diffusion

- Acceptance high, certain products are needed and made available by the company.
- Customer have a short term view and prefer spending a monthly fee which is in the end way higher than acquiring the product.
- Customers are less responsible because company is responsible and takes care of repairs, low complexity (installation by company), high service level increases acceptance (creates an alibi), high observability because products are also sold and presented in showrooms.
- Company probably more known and acceptance higher during time of physical stores and television commercials.
- Acceptance for products really needed (e.g. washing machine), higher than luxury products (e.g. flat screen television).
- Via every channel advantages are presented.
- With high service level customer retention is aimed for, and acquisition of new customer via word-of-mouth.
- Increase acceptance by analyzing target group more in-depth and e.g. change assortment.
- To decrease uncertainty, via the website, e-mail, phone, and during instalment (even then cancellation is possible), information is provided and customers can ask questions.
- Customer reviews shown on the website.
- Innovators, followers, part of the early majority, and also part of the late majority for the target group, have adopted the company’s offerings.
- Success does not depend on economic situation, during crisis some cannot afford renting anymore, others cannot afford buying.

Difficulty

- Lending money from banks (contracts does not say that much).
- Keeping up with technological developments, and train employees are a challenge to the company.
- Lack of financial resources needed to invest in product might be a barrier for rental start-ups, not for this firm anymore.
- Make customers pay (about twenty percent of the customers does not pay in time).

Car L&R

- The interviewee is operations manager at the lease department of a car company where he works for five years now.
- Next to leasing, the company also rents out and sells cars both to companies and individuals, additionally it has its own bodyshop and car conversion company.
- The cars are being leased and rented for about twenty years now, before that cars were being sold.
- Both leasing and renting out have been successful.
- Number of cars rented out to business and consumers increased to three hundred, about one-fourth used as replacement transport. About 3600 leasing contract signed by business customers. Since two month, operational lease possibility for individuals, already twenty contracts signed. About fifty requests from individuals to lease a car per month..
- Operational lease is more interesting for the company than sales because in case of sales a customer is lost after the transaction, with leasing the customer is bound to the company.

Business model Element	Important aspects
Value proposition	• Mobility is offered with cars. • Value with lower costs, risk and responsibilities, higher variety (more products available, and swapping possible), lower complexity (yearly costs clear), for some customers environmental reasons, higher trialability for rental. • Taking over risk is not a difficulty, but gives the company the right to exist.
Target customer	• Target companies and individuals. • Segmentation based on cars (small and affordable, more expensive, very expensive). • Individuals probably want to own more expensive cars.
Distribution channel	• Awareness created with, advertisements (newspapers, professional journals), direct mails, company website (Adwords campaigns), social media (Facebook, Twitter), and sales representatives. • Via direct mail, the website, and sales representative, advantages of operational lease are presented, customers can evaluate the offering. • With personal contact for both renting and leasing, the company tries to make the customer sign the contract. • After signing not a lot of contact in case of renting a car (only if they rent for months). With leasing, contact at least once a year, and half a year before the end of the contract. • Sometimes channel conflicts occur, however, these can be dealt with easily. • The same channels are used for sales, renting, and leasing. • The company clearly presents the offerings separately (e.g. separate website for selling, renting, and leasing).
Relationship	• Renting out focus on acquisition and additional products, leasing also retention. • Long-term for leasing, short-term for most renting customers. • Before leasing, communication with sales representative to select the right car, the number of kilometers, the tariff, etc. • Renters have less contact because the tariffs and the car are already known. • After this, especially with leasing, a lot of contact moments exist. Many contact moments are seen as an opportunity to create a stronger relationship, and perhaps also acquire new customers. • High value offered (product, maintenance), high quality customer service, easy to rent or lease, with renting higher value than expected, easy exit, the leasing offering is unique, loyal customers receive a discount, exit during contract very difficult, afterwards car still needed.

	• No co-creation with customers.
Capability/key resources	• Reach a lot of customers in a friendly manner. • Effective advertisement. • Own bodyshop. • HR (sales, customer service, maintenance). • Financial resources most important (also compared with sales). • Extensive and crucial software program for administration and planning. • A building is needed. • Competitive advantage with personnel (friendly, customer focused), good prices (due to financial resources), car fleet management (inform customer on fuel usage, maintenance, etc.).
Value configuration/activities	• For renting out, purchase and add cars to the system. Leasing customers select cars themselves, contract made by the company. Employees check the exterior of the car before and after renting out. Once in a while also maintenance check. Operational lease customers responsible to let the company know that maintenance is required, company responsible for maintenance itself. Planning is a very important activity for the rental business. Less crucial for the leasing business. Activities for selling cars are almost the same as leasing activities, however after signing the contract, leasing activities continue. • Car availability is of high priority for renting out. For sales representatives the priority lies on the car in case of sales, and on the total offering in case of leasing.
Partnership	• Some business customers are partners. • Partnership with a famous soccer club. • There is no difference in partnerships between the rental, leasing, and sales.
Revenue model	• Rental, operational lease, and direct sales of cars to individuals. • External partner used to set rental prices, these are actually based on market prices. • Lease prices based on the market and costs. • Software program used to calculate prices, making it easy. • With direct sales, cars are earned back instantly. With leasing and renting out it takes way longer to earn cars back.
Cost structure	• The rental cars are leased from the company's own leasing department. • To acquire cars a lot of money is needed. • Insurance for the car fleet is costly. • Employees are a huge cost group. Costs to purchase and insure cars and also employee costs (e.g. for maintenance work, administration, sales) are higher for leasing and rental than direct sales of cars. • Software and marketing costs are relatively small. These do also not really differ between sales, rental, and leasing.

Table 30: Business model Car L&R.

Diffusion

- Acceptance of renting a car was probably already high twenty years ago. During the last few years the acceptance really increased because car ownership is not such an issue anymore.
- Operational lease for individuals is not well known, customers are a bit anxious (that they will be bound to a long-term contract) sometimes.
- Smaller and less expensive cars are most popular especially with leasing. A probable reason for this is that the difference in monthly costs is highest here (switching from an old expensive car towards a less expensive new and small car).
- Advertisements (e.g. newspaper, the internet) in which it is presented that leasing a car is less expensive is used to increase the acceptance. Additionally, sales representatives also communicate this to potential customers. Furthermore, the company tries to interest individuals via their

business customers. A contact person within such company presenting the operational lease option leads to higher confidence.

- Main reasons for lease instead of purchase are the lower costs, lower risk (e.g. damages, robbery), and responsibilities (e.g. insurance). For renting, the same reasons apply, however, the lower costs are less important. Customers rent because they e.g. want a different car for their holiday, so the cost aspect is less important. The trialability is also a reason for customers to rent a car. For leasing the trialability is not really a reason because the leasing period till now is at least three years.
- Individuals are also switching financial lease for operational lease. One reason is that with financial lease the customer has to take over the car and so in the end pay a final amount of money. With operational lease one exactly knows when the contract ends and what one has to pay. Furthermore, with operational lease no registration with a credit agency is required.
- Not a lot of uncertainties exist for renting a car. One knows what one has to pay, and the rental period is mostly quite short. With operational lease, the uncertainty is higher because one leases for a few years. Although the monthly amount customers have to pay is fixed, customers are afraid this amount will change. The company clearly communicates that the monthly amount is fixed. Additionally the operational lease option is compared with the costs for owning a specific car. The advantages of operational lease are communicated via all communication channels.
- Evaluations of existing customers are not presented to potential customers, this might be an option for the future.
- Operational car leasing is not well known in the Netherlands, at the moment innovators are adopting the concept. Renting a car is well known and laggards have also adopted this.
- For the rental business some famous Dutch citizens were used as opinion leaders to promote the offerings. Additionally, employees from companies leasing cars also rent cars from the company. The company increasingly tries to make more CEOs promote the possibility to operational lease.
- The rental market is very sensitive for the economic situation. During times of recession, less customers rent a car. On the contrary, the operational lease possibility is interesting for customers during times of recession.

Difficulties

- Even with a software program, planning is difficult for the rental business.
- The most difficult activity in case of operational lease is to estimate risks (i.e. whether the customer will pay) before the contract is signed. Risks are estimated via a credit rating agency, however, this stays difficult.
- For the rental business it is difficult to estimate whether someone will steal the car.
- It is also difficult to make the leasing customers pay for the contract.
- Additionally, it is important but difficult to gather and analyze customer data in order to create customer retention for the rental business.
- The company fights for the acceptance from the operational lease option. This is quite difficult.

Business model innovation difficulties

- Sales representatives had to be convinced of the importance and advantages of operational lease.
- The CEO presented the importance twice, information was provided via e-mail and the intranet, sales representatives which are successful are mentioned in e-mails, and receive a coupon.

- An additional barrier about which management had to think was the risk the company takes with operational lease to consumers (the risk with business customers is smaller).

Appendix D: Comparison of findings with theory

In the following tables the research findings are compared with theory. For each business model element and difficulty group, first the theory that can be confirmed based on the research findings is presented and marked light grey (5% darkness). For some findings it is not really clear whether theory can be confirmed with this, these are marked somewhat darker grey (25% darkness). Additionally findings that can be added to theory are not marked at all. Lastly, the theory that cannot be confirmed based on the research findings is marked dark grey (darkness 50%).

Business model		
Scholars	**Found in theory**	**Found in this research**
Value proposition		
Botsman & Rogers (2010).	Market scenarios for accessibility including products with; high purchasing costs, high idling capacity, limited use, or when the value of the product diminishes after use.	Yes
Drury et al. (2012).	Upfront costs are lower for customers.	Yes
Lawson (2011).	Customers' desire for variety and increased trialability is fulfilled.	Yes
Mont (2002), Baines et al. (2007), Lawson (2011), and Beltagui (2011).	Customers are released of responsibilities for the product.	Yes
Drury et al. (2012) and Lawson (2011).	Customers value reduced technology risk and complexity of the product.	Yes
Spring and Araujo (2012).	Low environmental impact is valued.	Yes/no
-	-	• Different products are suitable for accessibility, this includes cheap and expensive, as well as luxurious and more common products.
Mont (2002) and Baines et al. (2007).	Higher value due to an increase in customization and quality.	No
Target customer		
Mont et al. (2006).	Market potential from new market segments.	Yes
-	-	• Diverse customer groups targeted. • With expensive products, target customers with low risk of damage. • With expensive products for the long-term, target customers with high likeliness of paying.
Distribution channel		
-	-	• Physical location plays a more significant role because customers return to the physical location after product usage. • Mechanics are send to customers to maintain and repair products, and deliverers are used to bring and pick up products.
Mont et al. (2006).	Retailers should be part of the distribution channel because transporting the products back to the manufacturer after a customer lease is too expensive.	No

Relationship		
Senge & Carstedt (2001) and Mont et al. (2006).	Long-term relationships with customers.	Yes
-	-	• Retention especially with very easy to acquire a new product or extend the period of access, and a high customer service level. • Many more contact moments exist compared with sales, which is seen as an opportunity.
Senge & Carstedt (2001).	Consumers also become co-creators of value.	No
Capabilities and key resources		
Mont et al. (2006).	Information system needs to be installed to efficiently manage the planning.	Yes
Mont et al. (2006).	Negative cash flow in the beginning, financial resources are import.	Yes
Hu et al. (2012).	Maintenance system is needed to make sure that products keep their high quality.	Yes
-	-	• Customer service is a crucial capability. • Both the maintenance and repairs and customer service human resources are crucial.
Value configuration and activities		
Beltagui et al. (2008) and Hu et al. (2012).	Products should be designed that last longer.	Yes
Beltagui et al. (2008).	On-time delivery might become a high priority.	Yes
-	-	• The planning is a crucial activity. • For expensive products offered for longer periods an important activity is also to check the customers' financial situation. • While and after product access, activities being executed are; inform customers, make customers pay, maintain and repair products, pick up products, check the product, return deposits, clean and repair products, and lastly purchase new parts if needed.
Partnerships		
Mont et al. (2006) and Beltagiu (2011).	Partnerships with external firms (e.g. retailers) have to be intensified.	No
Revenue model		
Lawson (2011).	Different revenue streams can be used by accessibility based companies, namely; leasing, renting out, subscription, and pay-per-use.	Yes
-	-	• Operational and financial lease, and also rent-to-own, and advertisement are also used as revenue streams.
Mont et al. (2006).	Revenue stream can lead to a long-term relationship with customers.	Yes

Mont et al. (2006).	Highest profits will be earned toward the end of the product life-cycle.	Yes
Cost structure		
Mont et al. (2006), Lines et al. (2008), and Hu et al. (2012).	High investments in products because earning revenues takes longer.	Yes
Mont et al. (2006).	Money needs to be spend on an information system for the planning.	Yes
Mont et al. (2006).	Transportation costs are increased because products have to be returned.	Yes
-	-	• Employee costs are higher because of the higher efforts required for the planning, service, and maintenance and repairs. • Companies which offer expensive products have to deal with higher insurance costs.
Mont et al. (2006).	Marketing costs will be higher.	No

Table 31: Comparison findings with theory - Accessibility based business model elements.

Difficulties		
Scholars	**Found in theory**	**Found in this research**
Diffusion		
Baines et al. (2007) and Goedkoop et al. (1999).	Consumers might not be very open for ownerless consumption.	No
Business model related difficulties		
Mont et al. (2006).	To not damage the direct sales business, a separate independent department may need to be set up.	Yes
Kuo et al. (2010).	Strategic planning (including the product damage status and history of demand) is difficult.	Yes
Goedkoop et al. (1999).	Companies have difficulties with pricing their offerings.	Yes/no
Goedkoop et al. (1999).	Absorbing risks customers are responsible for normally is difficult.	Yes/no
-	-	• Acquiring enough financial capital. • Transportation costs can be an obstacle. • Deciding which customers are likely to pay. • Make customers return products. • Decide what amount of deposits should be returned. • Explaining customer they cannot eliminate the contract. • Keep up with technological developments needed to repair and maintain products.
Accessibility based business model transition		
Kuo et al. (2010).	Employees have to understand the business model in order to reduce inertia.	Yes
-	-	• Convince sales representatives

		and advisors to promote the new offering.
Christensen (1997) and Amit and Zott (2001).	Already established business model forms a barrier, conflicts can arise while dividing assets, managers might resist the new business model because the fear of negative consequences, and tensions migh occur because the old business model is more profitable.	No
Johnson et al. (2008).	Rules, norms, and metrics are protecting the status quo of the old business model.	No
Mont (2002).	Change from short-term towards long-term profit.	No

Table 32: Comparison findings with theory - Difficulties.