Subscription services and their dynamic capabilities

An exploration of the relationship between dynamic capabilities and service quality

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Abstract

Subscription-based businesses operate in a constantly changing environment, which poses them with numerous challenges. Developing dynamic capabilities could help these businesses with dealing with their environment. This study explores how dynamic capabilities manifest themselves in subscription-based businesses. This is done by extending Teece's (2007) sense-seize-reconfigure framework with a number of related, more measurable constructs, resulting in a practical framework of dynamic capabilities. This framework is researched in practice with case studies in six firms operating with a subscription-based business model, in order to see how these businesses deal with the proposed capabilities. Subsequently, the relationship between the development of dynamic capabilities and the degree of service quality is investigated. This is of importance, since subscription services rely on the retention of their customers, and service quality is a great indicator for this (Blery et al., 2009; Venetis & Ghauri, 2004). The service quality of the firms is researched by gathering online reviews of the businesses, and qualitatively analysing these according to dimensions of service quality. The results of this study show that for the development of dynamic capabilities, being market-oriented, technology-oriented and having an open culture are key practices for the subscription-based businesses. The results also indicate that a relationship between the development of dynamic capabilities and greater service quality exists. For subscription-based businesses, developing dynamic capabilities can therefore be seen as a great mean for dealing with a changing environment, while at the same time improving service quality and thereby customer retention.

Keywords: Subscription, dynamic capabilities, service quality, microfoundations, market orientation, technological opportunism

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1. Introduction

Increasingly more companies are selling their products as a service (Zuora, 2018). For example, instead of selling a single bike to a customer, the Dutch start-up Swapfiets sells a subscription to a bike, including maintenance and repairs. This phenomenon can be seen as a shift from ownership to usership. Swapfiets is not the only company that is exploiting this shift in consumerism; many other companies do. Firms like Netflix and Spotify supply their subscribers with unlimited, on-demand entertainment. HelloFresh provides subscribed customers with weekly groceries. Instead of selling a single razor, Boldking continuously supplies its subscribers with razors. Subscriptions are not only limited to the business-to-consumer (B2C) market, there is also a growing interest in the business-to-business (B2B) market. B2B subscriptions often include software-as-a-service (SaaS) propositions, which enable businesses to operate with other firms' software.

All these companies have a 'Subscription-based Business Model' (SBM). A subscription is defined as: "A formal agreement to receive and pay for a product or service for a specified period of time" (Cook & Garver, 2002, p. 39). A SBM is thus a business model in which customers pay a recurring price, in order to gain access to certain products or services. The business model has multiple advantages for firms, such as a recurring revenue, forecastable demand, and brand loyalty (Cook & Garver, 2002; Haycocks, 2018; Tondon, 2015). Customers also experience benefits from the business model, such as convenience, time savings, and price discounts (Cook & Garver, 2002; Wang, Zhang, Ye & Nguyen, 2005). Traditionally, this business model has been around for a long time, e.g. in the form of subscriptions to newspapers or milk. The current application of the business model, however, is quite novel. Cook and Garver (2002) stated that a SBM would not be applicable for high involvement products, such as automobiles, clothing, and television, because customers would enjoy the shopping experience for these goods, or purchase decisions for such goods would require time and effort. In 2002, the application of a SBM in such businesses might have seemed unlikely. Yet today, we see that such high involvement products are being sold a lot on a subscription basis. This shows that the present-day use of SBMs is a very contemporary development.

Subscription-based businesses are booming. Their growth rates from 2012 to 2018 are about five times higher than those of traditional companies, and consumers are spending increasingly more on subscriptions each year (Zuora, 2018). However, as with any business,

subscription-based businesses also face several challenges. An excellent example of a firm that failed in the process of implementing a SBM is the Dutch music start-up Popped, a Sony-backed firm that tried to revolutionize the way people listen to music (Schimmelpenninck, 2017). The firm offered consumers an app in which music playlists were already generated for them, for €4,99 a month, after a free trial of a month. However, consumers did not stick with the service as they found out they had to pay for it to continue, and went to competitors such as Spotify. Eventually, it came down to the fact that the service was not meeting specific consumer demands, which caused them to be unwilling to pay for the service (Schimmelpenninck, 2017). Practice also shows that subscription-based businesses have to be transparent to their customers about the subscription plan. Fashion subscription boxes Adore Me and JustFab are good examples hereof, as they both received heavy criticism due to unclear and misleading subscription policies (Schlossberg, 2016). The failures of these firms demonstrate that implementing a SBM is not a guaranteed success, and that it is vital to listen to customers. This is underscored by strategy and growth expert James Taylor, who stated that "there's a good chance that if subscription models are done incorrectly or perceived as being deceptive, customers will wake up and realise, and this may end up damaging the business's reputation." (Cox, 2018, para. 5).

Consumers' unwillingness to pay for certain subscription services might partially be explained by a trend in consumerism called 'subscription fatigue'. This entails that consumers might become more cautious in what subscriptions they are willing to pay for, due to the large number of services they are already subscribed to (Fetch, 2018). Increasingly more consumers find it hard to keep track of what they are subscribed to, and often underestimate their expenses on subscriptions (Waterstone, 2018). As a consequence, the majority of consumers wants to save money on their subscriptions, even if this means that they will have to concede on choice (Fetch, 2018). In order to overcome subscription fatigue, it is therefore vital for subscription-based businesses that their services are perceived as essential by their customers.

Although subscription-based businesses are booming, it is thus safe to say that they are also faced with challenges in remaining competitive and profitable. The key challenge for subscription-based businesses is retaining customers, as the entire business model is built on the assurance of recurring revenue (Duczeminski, 2017; Longanecker, 2015; Tondon, 2015). Solely a high growth percentage of customers might seem favourable, yet, in the subscriptions market, this is not all that is required for success. Those customers must also stay with a company, for it to enjoy advantages such as recurring revenue and forecastable demand. Also,

acquiring a new customer is about five times more expensive than retaining an existing customer (Pfeifer, 2005), and this inequality is particularly present in the service industry (Ennew & Binks, 1996). Furthermore, retaining customers is even more important in environments characterized by heavy competition, such as that of subscription-based businesses (Hong & John, 2010). The retention of customers should therefore have top priority for subscription-based businesses.

Customer retention is affected by numerous influences, such as customer satisfaction (Gustafsson, Johnson & Roos, 2005), brand awareness (Thaichon & Quach, 2015), or the perceived price (Blery et al., 2009). However, one construct that is even more vital in the process of customer retention is service quality (Blery et al., 2009; Venetis & Ghauri, 2004). Service quality is generally defined as the (dis)confirmation of customers' service expectations (Parasuraman, Zeithaml & Berry, 1985). Service quality influences intentions of customers such as doing more business, willingness to pay more, and giving recommendations (Zeithaml, Berry & Parasuraman, 1996). Furthermore, service quality also enhances the building and maintenance of long-term relationships between businesses and their customers (Anderson, Fornell & Lehmann, 1994; Zahorik & Rust, 1993). These findings all illustrate how service quality is crucial for the retention of subscribers, which is why subscription-based businesses should devote themselves to continuously improve their service quality.

Retaining customers can be a complex task in a dynamic, rapidly changing environment, such as that of subscription-based businesses. Competition is steadily increasing, as everyone wants a slice of what is called the Subscription Economy (Zuora, 2018). It is therefore important that firms can protect themselves from competitors and imitators. Subscription-based businesses are also heavily dependent on technology. Novel technologies often form the base of innovative product offerings, and can differentiate a firm from its competitors. Technological innovations are also vital to the back-end of subscription services, such as innovative payment systems (Buckaroo, 2017), or algorithms on user preferences (Gomez-Uribe & Hunt, 2016; Rataul, Tisch & Zámborský, 2018). Innovations such as these should be kept an eye on, to ensure that the firm stays relevant and competitive. It is therefore important for subscription-based firms to keep up with changes in the environment, to remain competitive, and ensure greater service quality.

However, coping with a rapidly-changing environment can complicated. One way to achieve this is by pursuing dynamic capabilities, as these are essential in remaining competitive in

such an environment (Teece, 2018). Dynamic capabilities are "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece, Pisano & Shuen, 1997, p. 516). The strength of these capabilities is vital in designing and adjusting business models, and maintaining profitability (Teece, 2018). Dynamic capabilities are especially of importance in rapidly changing, technology-based environments, in which the degree of competition and imitation is high (Teece, 2007). As the past sections described, the environment of subscription-based businesses can be classified as such an environment. Dynamic capabilities enable firms to discover opportunities, combine inventions, transfer knowledge, and protect themselves from replicating rivals (Teece, 2007). Specifically, dynamic capabilities can be disaggregated in the capacity to: 1) sense and shape opportunities and threats, 2) seize opportunities, and 3) reconfigure resources (Teece, 2007; Teece, 2018).

Each dynamic capability is built on several microfoundations (Teece, 2007). Microfoundations are "distinct skills, processes, procedures, organizational structures, decision rules, and disciplines" (Teece, 2007, p.1319). Microfoundations are thus the visible organizational processes and structures that altogether form a specific dynamic capability, and form the base of a firm's competitive advantage (Felin, Foss, Heimeriks & Madsen, 2012; Teece, 2007). Microfoundations enable firms to cope with their ever-changing environment, by detecting opportunities and threats early on, and adapting the firm to the environment, based on these opportunities and threats. Teece (2007) has explicated multiple microfoundations for each dynamic capability, such as setting a target market, selecting decision-making protocols, and knowledge management. These are thus certain skills and processes a firm operating in a dynamic environment should pursue, which ought to lead to sustainable competitive advantage (Teece, 2007).

Dynamic capabilities are a well-researched topic in scientific literature (e.g. Eisenhardt & Martin, 2000; Helfat & Peteraf, 2009; Teece, 2007; Teece et al., 1997). The pursuit of dynamic capabilities is, among other things, associated with greater firm performance (Teece, 2007) and a high degree of innovation (Kindström, Kowalkowski, & Sandberg, 2013). One can therefore imagine that the presence of well-developed dynamic capabilities might be associated with a high degree of service quality, as a high degree of innovativeness and agility might lead to a well-developed, competitive service. However, scientific research on this topic is not present as of yet. Existing research on dynamic capabilities furthermore remains mainly theoretical; there is little scientific research done on dynamic capabilities from a practical

point of view (Liu & Jiang, 2009; Sprafke, Externbrink & Wilkens, 2012). This means that there is little practical knowledge about how these microfoundations truly manifest themselves in firms, and how businesses should implement them. Such knowledge is also not present specifically for subscription-based businesses. Despite the growing interest in SBMs, there is very little scientific research done on the business model and the businesses that have implemented it. Therefore, it remains unknown for these businesses which dynamic capabilities they should pursue, how they should do that, which are most important, and whether these affect the service quality of these firms. Given the challenges these businesses face, however, such knowledge is necessary. Hence, the research question of this thesis is stated as following:

How do dynamic capabilities manifest themselves in subscription-based businesses, and do these affect their degree of service quality?

This is a relevant question for business practice, because of the increasing number of businesses that (want to) implement SBMs. Yet, practice shows that a number of these businesses fail in this process, and that there are a lot of challenges they must overcome. The subscription environment is filled with heavy competition, and technological innovations shape the landscape. It can therefore be difficult for subscription-based businesses to continuously improve their service quality, and thereby achieve greater customer retention. The dynamic capabilities point-of-view could give insight in how subscription-based businesses can cope with their ever-changing environment.

Ultimately, this thesis aims to give managers of firms that want to implement a SBM, or already have, handles in this process, and give them advice on which specific microfoundations are essential for coping with their environment. These microfoundations subsequently could lead to greater service quality, and thereby customer retention. Such knowledge is needed, as the environment of subscription-based businesses causes many challenges surrounding customer retention. Academically, this question is also very relevant. There has been very little research done on the subject of SBMs, due to the relative novelty of the business model. This thesis aims to contribute to the body of knowledge on the business model. Also, there is very limited research done on dynamic capabilities from a practical point of view. This thesis will therefore contribute to scientific literature on dynamic capabilities, by studying them from an applied perspective. A framework is formed which encompasses the real-life considerations managers have to make when dealing with their changing environment. Furthermore, no research has been done on the relation between

dynamic capabilities and service quality. This thesis will clarify whether such a relation exists, and if so, what it looks like.

The research question is answered with deductive, qualitative research on firms operating with a SBM. A deductive approach is preferred, because in this manner existing theories can be tested in the new context of subscription-based businesses (Soiferman, 2010). This existing theory concerning dynamic capabilities is Teece's (2007) framework. However, what is problematic with this framework, is that Teece's prescribed microfoundations remain very abstract, and they often do not capture the real-life considerations that have to be made for dealing with a changing environment (Liu & Jiang, 2009; Sprafke et al., 2012). This makes Teece's microfoundations unable to research in this form from a practical point of view. Therefore, for this research, Teece's microfoundations are extended with related, measurable constructs, which results in a multidimensional framework in which dynamic capabilities and their microfoundations can be captured in a practical setting. This framework is then reviewed in practice via semi-structured interviews, in order to see which microfoundations are present in subscription-based businesses, and how they are important for these businesses. Furthermore, the service quality of the interviewed firms is examined using online reviews by customers of the firms. These reviews are used to form an image on how the customers of the firms perceive their services' quality. Subsequently the relationship between the presence of dynamic capabilities in firms and the service quality of those firms is investigated.

This thesis has the following outline. After this introduction, chapter two will provide theoretical background about subscription-based businesses and the concept of service quality. Hereafter, the dynamic capabilities theory is explained, and related constructs are discussed in order to form a new dynamic capabilities framework. Chapter two ends with a visualization of the conceptual model of this thesis, at which this thesis' propositions are explicated. Chapter three subsequently clarifies this thesis' research approach, data sources, operationalization, data analysis procedure and research ethics. Chapter four will then examine the results of the research in detail. In chapter five, these are interpreted, and implications, validity and limitations of this thesis are discussed. The thesis ends with chapter six, which provides a conclusion and a number of recommendations.

2. Theoretical background

2.1 Subscription-based business model

Before SBMs can be explored in detail, it must be understood what constitutes such a business model. The following definition of a business model is used in this thesis: "the design or architecture of the value creation, delivery, and capture mechanisms [a firm] employs. The essence of a business model is in defining the manner by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit." (Teece, 2010, p. 172). A subscription is subsequently defined as: "A formal agreement to receive and pay for a product or service for a specified period of time" (Cook & Garver, 2002, p. 39). Firms that operate with a SBM thus deliver certain goods or services, based on agreements with their customers, stating that they will pay for these goods for a specified time period. This business model has existed for a long time. However, technological advances, such as the internet, have made the current widespread application of it possible (Taylor, 2003). SBMs have many advantages, both for firms and customers, which is why increasingly more firms are adopting the business model (Zuora, 2018).

The biggest advantage of a SBM, is that it ensures recurring sales (Longanecker, 2015; Tondon, 2015). Instead of selling a product to a customer once, the firm ensures that the customer keeps coming back, and thus provides the firm with a continuous cashflow. However, this advantage can only be attained if customers retain with the company. As a result of these recurring sales, demand is forecastable and visible (Cook & Garver, 2002). This enables firms to plan their business operations more efficiently. Inventory can be managed and planned on in advance, the lifetime value of a customer can be calculated, appropriate vendors for product delivery can be hired well in advance, and simple pricing can be offered (Cook & Garver, 2002; Longanecker, 2015; Tondon, 2015). All this efficient planning will save time, effort, and costs. A great example of a subscription-based firm making use of visible and forecastable demand is Netflix. Since the firm collects all kinds of user data, it has a certain 'guarantee' that their customers will watch a certain show. A lot of 'Netflix Originals' are therefore made purely based on user preferences (Rataul et al., 2018).

A SBM also offers interesting opportunities for marketing (Tondon, 2015). The business model ensures that firms can easily reach out to their customers on a regular basis, e.g. via weekly e-mail updates. Since customers can be easily reached, marketing transaction costs can be lower than those of a traditional firm (Cook & Garver, 2002). What is interesting and

quite unique to SBMs, is that they enable firms to continuously collect data on user behaviour (Tondon, 2015). Such data can provide them with insights into customer preferences, which can be used to create personalized marketing opportunities. Because customers can be easily reached, SBMs help build a customer base and brand loyalty (Haycocks, 2018). Personalized promotions and product offerings will benefit the customer experience, and thus create a stronger customer-brand relationship. A result of this relationship is that the firm will be less vulnerable to competitive tactics of competitors, such as price discounts or advertising campaigns (Cook & Garver, 2002). Brand loyalty will also positively affect the retention of customers (Thaichon & Quach, 2015).

Finally, SBMs can contribute to the environmental sustainability of firms that sell physical products (Wissink, 2019). As these products can be shared by customers, and no one technically owns them, firms have to produce less actual products. IKEA, for example, is planning on setting up a subscription service for its furniture (Lieber, 2019). Customers will lease a piece of furniture for a specific time period, after which IKEA will refurbish the product for re-use by other customers.

Consumers are willing to subscribe to services for various reasons. According to Cook and Garver (2002), only a certain type of consumer is willing to pay for subscriptions. This type of consumer must have a strong preference for assurance of availability and delivery, convenience, time savings and price discounts. Wang et al. (2005) concluded that the top predictors of consumers' willingness to pay for subscription services are the convenience, essentiality, and usage frequency of the service. The perceived quality, fairness and added value of the service also played a role in the consideration of subscription-based services. Randall, Lewis and Davis (2016) also emphasize the importance of the convenience of a subscription-based service. Yet, they also highlight curation, which is the selection of products for customers, so that they will be introduced to new products regularly, and do not have to search for these products themselves. Subscription-based businesses should thus keep these factors in mind, in order to meet the demands of their customers and ensure good service quality.

2.2 Service quality and customer retention

Before looking into the concept of service quality, we must first understand what a service is, and why its quality is especially important for subscription-based businesses. A service can be defined as following: "a means of delivering value to customers by facilitating outcomes

customers want to achieve without the ownership of specific costs and risks." (Iqbal & Nieves, 2007, p. 16). The contemporary use of subscriptions suits well with this definition. Customers of a subscription-based business pay a set price, in order to achieve certain outcomes, such as having a well-working bike, or having software for organizing your marketing. However, by paying this price, customers do not obtain ownership of these outcomes, and do not have to pay for certain costs or risks. Current-day subscriptions can therefore be seen as services.

Service quality can subsequently be defined as the (dis)confirmation of customers' service expectations (Parasuraman, Zeithaml & Berry, 1985). This definition highlights that the quality of a service is to be assessed based on the customers' expectations. A high degree of service quality is positively related to a high degree of customer retention (Blery et al., 2009; Venetis & Ghauri, 2004). Customers who are content with a company are likely to increase their purchases, and may also stay with the company, even if prices are raised (Bolton & Lemon, 1999; Zeithalm, 2000). Also, good perceived service quality may cause customers to share their positive experiences to others, resulting in additional customers (Zeithalm, 2000; Zeithaml et al., 1996). Furthermore, pursuing greater service quality is also regarded as a great mean for service differentiation and competitive advantage, which in turn attracts new customers and will lead to higher market share (Venetis & Ghauri, 2004). Service quality is always perceived relatively to the price customers are paying (Bolton, Kannen & Bramlett, 2000). This means that a lower price may come with lower expectancies of the service, and vice versa.

The positive effects of a high degree of service quality are favourable for every company, but they are even more so for subscription-based businesses. As stated earlier, the biggest challenge for these businesses is retaining their customers, as their entire business model is based on recurring purchases. Customer retention should therefore have great priority for subscription-based businesses, and maintaining excellent service quality is an adequate mean for achieving this. Furthermore, customer retention is not only vital to the survival of subscription-based businesses, but it also might provide them with significant advantages. Sasser, Schlesinger and Heskett (1997) argue that customers that stay with a company for a long time will make more purchases, tolerate higher price premiums, and will engage more in positive word-of-mouth communications. Concluding, this section has made clear that maintaining excellent service quality should be of great importance for subscription-based businesses, as it will lead to higher customer retention.

2.3 Dynamic capabilities and their microfoundations

As stated before, dynamic capabilities are essential for subscription-based firms, as they help firms cope with their fast-paced environment. Dynamic capabilities are defined as: "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997, p. 516). They are especially vital for firms operating in environments that are open to global competition, and characterized by a high degree of innovation (Teece, 2007). In these environments, sustainable competitive advantage requires more than the ownership of difficult-to-replicate (knowledge) assets. Firms also need unique and difficult-to-replicate dynamic capabilities (Teece, 2007). Such capabilities enable firms to continuously improve and protect their unique asset base. Specifically, dynamic capabilities can be disaggregated in the capacity to 1) sense and shape opportunities and threats, 2) seize opportunities, and 3) reconfigure resources (Teece, 2007; Teece, 2018).

Each of these dynamic capabilities is based on several 'microfoundations'. These are "distinct skills, processes, procedures, organizational structures, decision rules, and disciplines" (Teece, 2007, p.1319), that altogether form a dynamic capability. Microfoundations can be of three natures: 1) individuals, 2) processes, and 3) structures (Felin et al., 2012). The presence of specific microfoundations can explain differences in capabilities between firms, and can therefore be seen as the base of a firm's competitive advantage (Felin et al., 2012). Teece (2007) prescribes specific microfoundations for each dynamic capability, which firms should pursue in order to be able to successfully cope with their environment.

However, what is problematic with Teece's (2007) description of the dynamic capabilities and microfoundations, is that it remains very theoretical and abstract (Liu & Jiang, 2009; Sprafke et al., 2012). His descriptions seldom capture the true practical nature of the dynamic capability, and thus do not explain how a dynamic capability can be implemented in the day-to-day management. A distinctive capability is best identified, if it is decomposed into measurable elements (Day & Van den Bulte, 2002). Microfoundations can be seen as such measurable elements, and are thus the research topic of this study. However, since Teece's descriptions of these microfoundations remains so abstract, the dynamic capabilities are quite hard to practically research in this manner (Kraatz & Zajac, 2001). This is problematic for this research, as the aim of this research is to give managers of subscription-based businesses advice on which microfoundations they should pursue. Thus, for the sake of this research, Teece's microfoundations need to be extended (Alsos, Borch, Ljunggren & Madsen, 2008).

More practical concepts are applied to explain dynamic capabilities, which actually do capture the day-to-day considerations managers have to make. Combining these concepts will result in a multidimensional framework, which enables capturing dynamic capabilities and microfoundations in an empirical setting (Wang & Ahmed, 2007). The following sections will elaborate on Teece's (2007) dynamic capabilities and corresponding microfoundations, and combine these with other, related, concepts.

2.3.1 Sensing opportunities and threats

The first dynamic capability that is of great importance for firms is the ability to sense and shape opportunities and threats (Teece, 2007). Sensing opportunities and threats is vital for firm performance in fast-paced, competitive environments. In such environments, opportunities and competitor activities are constantly changing. These changes must be noticed early on, to ensure that the firm remains competitive. For subscription-based businesses, sensing opportunities and threats is therefore critical. Their environment is constantly changing due to new market entrants, (technological) innovations, and changing consumer demands (Buckaroo, 2017; Gomez-Uribe & Hunt, 2016; Rataul et al., 2018; Zuora, 2018). As competition is high, it is thus paramount that subscription-based firms sense opportunities and threats early on, in order to precede competitors

Sensing opportunities is specifically about scanning, learning, and interpretive activities, in both local and distant markets and technologies (Nelson & Winter, 1982; Teece, 2007). This means that firms have to actively engage in searching for opportunities and threats in their environment. These must then be interpreted and learned from, so that, in the following seizing and reconfiguring activities, they can be acted upon appropriately. Teece (2007) prescribes four types of sensing microfoundations: 1) search for new technologies by engaging in internal R&D, 2) tap developments in exogenous science and technologies, 3) tap supplier innovation, and 4) identify changing market segments and customer needs. However, as argued before, these prescribed microfoundations are problematic, as they remain very abstract, and thus hard to practically research in firms in this form. Therefore, they need to be extended to make them measurable and concrete (Alsos et al., 2008; Day & Van den Bulte, 2002). Based on Teece's prescribed microfoundations, two main environments in which firms must sense can be derived: a technology-related one, and a market-related one (Nelson & Winter, 1982; Teece, 2007). Both these environments have

their own key points of attention, which will be deliberated on in the following section. These key processes are considered as the microfoundations for sensing.

First of all, firms need to track developments in their technology-related environment. This environment is very important for subscription-based businesses, because of their heavy reliance on technology. A concept that describes how firms should respond to technological opportunities and threats in a fast-moving environment well, is 'technological opportunism'. Technological opportunism is defined as: "a sense-and-respond capability of firms with respect to new technologies" (Chen & Lien, 2013, p. 2218). As this definition clarifies, technological opportunism is devided into two activities: sensing and responding (Srinivasan, Lilien & Rangaswamy, 2002). For the sensing of opportunities and threats, technological opportunism's sensing activities are most important, as these focus on the gathering of information. The responding activities, however, are key for the seizing activities.

Technological opportunism's sensing is "an organization's ability to acquire knowledge about and understand new technology developments, which may be developed either internally or externally" (Srinivasan et al., 2002, p. 48). Technology-sensing is exerted by firms by regularly searching for information about new technological opportunities and threats (Daft & Weick, 1984). Internally produced innovations must be evaluated, and external innovations must be sought for through meetings with vendors, salespeople, and competitors (Srinivasan et al., 2002). In order to employ technological opportunism well, firms' focus should lie heavily on their future operations, instead of their current ones. This means that firms must review their current technologies on a regular basis, and track new ones, in order to assess whether these could be complementary or harmful to the firms' future objectives. Also, top management must support this search and implementation of new technologies. This is important, because the adoption of new technologies might require abandoning existing (technological) assets, which might envoke resistance by employees. However, if top managers advocate these new technologies, employees are more likely to devote more resources to this cause. If these activities are done well, they are likely to lead to better firm performance (Chen & Lien, 2013; Sarkees, 2011). A technological opportune firm might also have greater service quality, as they are able to detect innovative technologies early on, and can subsequently develop their product with these technologies. This can result in an innovative product, which could differentiate firms from their competitors.

As described earlier, firms must also search for opportunities and threats in a second environment, which is the market-related environment. In this environment, firms must keep

an eye on changes in customer-, supplier-, and competitor behaviour. In order to achieve this, firms must be 'market-oriented' (Day, 1994; Jaworski & Kohli, 1993). A market orientation "represents superior skills in understanding and satisfying customers" (Day, 1994, p. 37). A market oriented firm 1) beliefs that customers' interests must be set in first place (Deshpandé, Farley & Webster, 1993), 2) generates and disseminates superior information about customers, competitors, and suppliers (Kohli & Jaworski, 1990), and 3) coordinates the firm's resources so that superior customer value can be created (Narver & Slater, 1990). If a market oriention is executed well, it is likely to lead to greater firm performance (Deshpandé et al., 1993; Narver & Slater, 1990). A market-oriented firm might also have greater service quality, as they are well aware of their customers, competitors and market, and can adjust their product according to developments in these groups.

The most important process for market oriented firms is the gathering of market intelligence (Day, 1994; Jaworski & Kohli, 1993). Information must be gathered on customer behaviour and preferences, competitor moves, market trends, and supplier activity (Day, 1994; Jaworski & Kohli, 1993). Such information can be collected by a variety of means. Firms can, for instance, engage in regularly meeting with customers, or tracking their behaviour with analytics. Subscription-based businesses are likely to have an advantage here, as they are able to gather a lot of data on customer behaviour and preferences (Tondon, 2015). Firms should pursue durable relationships with their customers, suppliers, and channel members, as this will enable them to anticipate market developments ahead of their competitors (Day, 1994). Such relationships are important, as consumers are sometimes the first to perceive an opportunity in the application of new technologies, and innovations are unlikely to succeed if they are not understood or demanded by customers (Teece, 2007). Relationships with customers could be very important for greater service quality, as they enable firms to develop their products according to the wishes of customers. Relationships with suppliers or other channel members could also be interesting, if you could make use of innovations on their behalf before competitors do (Teece, 2007). The gathered knowledge should not only apply to the current needs of customers, but also their future ones (Kohli & Jaworski, 1990). In this manner, firms can anticipate on future developments, and outperform competitors who do not have such knowledge. Besides information on customers and suppliers, competitor moves also need to be monitored. Gathering information on this ensures that the firm is able to respond to competitor actions quickly, and thus remains competitive. If a market orientation is

applied well throughout the firm, it is likely to provide the firm with long-term advantages (Kohli & Jaworski, 1990).

Concluding, this paragraph has made clear what vital microfoundations are for proper sensing of opportunities and threats. Opportunities and threats must be searched for in two environments: a technology-related one, and a market-related one (Nelson & Winter, 1982; Teece, 2007). Both these environments have their own key processes, which will ensure good sensing. Firms must be technological opportune, to sense opportunities and threats in their technology-related environments. The key microfoundations for this capability are: searching for new technologies, evaluating (current) technologies, having a future focus, and top management support. Furthermore, firms must be market oriented, in order to sense opportunities and threats in their market-related environment. The microfoundations for this capability are: gathering information on consumer-, competitor-, supplier behaviour and market trends, and pursuing durable relationships. Investing in these microfoundations will ensure that threats and opportunities are noticed early on, after which appropriate steps can be taken to respond to them.

2.3.2 Seizing opportunities

When an opportunity is sensed, firms must undertake efforts to develop new products, processes, or services to seize it (Teece, 2007). Such efforts involve maintaining and improving assets and technologies that are likely to achieve a well result in the market (Teece, 2007). Seizing is, however, not just about when, where, and how much to invest. It is about using valuable information, and transforming it into concrete business opportunities (Kump, Engelmann, Kessler & Schweiger, 2019). According to Teece (2007), effective seizing can be achieved by pursuing four specific themes of microfoundations. Firstly, firms must select a fitting business model, which will help define how the firm aims to deliver sustainable value. Secondly, firms must set their boundaries. Boundaries make sure that an innovation benefits the initiator of it, rather than imitators (Chesbrough & Teece, 1996; Teece, 2007). Thirdly, firms must overcome decision biases and errors. These can have very damaging impacts in fact-paced environments, as there are less opportunities for learning and recovering here. Finally, firms must build loyalty and commitment among employees, which will cause them to be more committed to the company's goals.

However, as with sensing, these microfoundations remain very abstract and can not be practically researched in this form (Alsos et al., 2008; Day & Van den Bulte, 2002). What is

most problematic with Teece's microfoundations on seizing, is that they do not completely capture the practical considerations, which must be made when responding to an opportunity. In practice, seizing opportunities comes down to making use of the information that was gathered by effective sensing (Kindström et al., 2013). A firm must assess this information, determine whether it can be transformed into concrete business opportunities, and take actions to seize these opportunities (Kump et al., 2019). Because Teece's (2007) microfoundations do not capture the practicality of seizing, other concepts, which do capture these practical considerations, need to be applied. These concepts will be considered as the microfoundations for seizing opportunities.

Because seizing is about how well sensed knowledge is applied in the firm, seizing can be seen as a knowledge-utilization capability (Jantunen, 2005). This capability indicates "how effectively [a firm] can exploit acquired knowledge in the form of new and improved products" (Jantunen, 2005, p. 340). Seizing is thus about how well knowledge is translated into practical operations, and how quickly this is done. Knowledge utilization is necessary for a high degree of innovativeness, and is therefore vital in dynamic environments (Jantunen, 2005). Knowledge about opportunities and threats stems from multiple sources, and is generated during the sensing phase. During this phase, essential information is mainly gathered from two environments: a technology-related one, and market-related one (Nelson & Winter, 1982; Teece, 2007). Because information was sensed from these environments, I perceive these environments also as the base for seizing activities. Both these environments have their own points of attention in the process of utilizing the knowledge that is generated from them, which is deliberated on below.

As described in the previous paragraph on sensing, the concept that prescribed how firms should respond to opportunities and threats in their technology-related environment well, is technological opportunism. This construct exists of two phases, a sensing phase, which is discussed in the previous paragraph, and a responding phase (Srinivasan et al., 2002). This technology-response capability is essential for effective seizing of opportunities. It is defined as: "an organization's willingness and ability to respond to the new technologies it senses in its environment that may affect the organization" (Srinivasan et al., 2002, p. 49). It is vital that firms must be willing to respond to the technological opportunities, because these new technologies could cannibalize existing products, markets, or organizational relations. Therefore, decisions concerning adopting new technologies need to be well weighed, as this might induce high switching costs (Srinivasan et al., 2002; Teece, 2007). As with technology-

sensing, top management support of the responding activities is important for these activities to succeed (Srinivasan et al., 2002; Thong & Yap, 1995). Depending on the nature of the firm in question, responding to technological opportunities might, for instance, include adopting new technologies in the manufacturing process, producing new products, or integrating innovative operating systems into the firm. Responding to technological opportunities early on, is likely to lead to sustainable competitive advantages (Teece, 2007), and greater firm performance (Olavarrieta & Friedmann, 2008). A quick response to new technologies could also be beneficial for the service quality of a firm, since new technologies might lead to a better customer experience of the subscription. Concluding, for firms to successfully respond to technological opportunities, they must act quickly, evaluate adopting well, be willing to adopt, and all responding activities must be supported by top management.

The second environment in which opportunities must be seized, is the market-related one (Nelson & Winter, 1982; Teece, 2007). In this environment, opportunities and threats are sensed on customer-, supplier- and competitor behaviour (Kohli & Jaworski, 1990). This knowledge must now be utilized, in order to enjoy the benefits of it (Jantunen, 2005). This can be achieved by a market-responsiveness capability (Kohli & Jaworski, 1990). Responding to opportunities or threats can occur in multiple ways, depending on the nature of the sensed opportunity or threat, and the information which was gathered. Based on information on consumer behaviour and market trends, target markets can be selected, and new products or features can be designed that meet the current and future needs of the targeted customers (Jaworski & Kohli, 1993). As competitor activities were also monitored during the sensing phase, actions must also be taken to address these, for instance in the form of a marketing campaign. In order to respond to opportunities or threats well, it is vital that firms act quickly, in order to stay ahead of the competition (Jaworski & Kohli, 1993).

Also, evaluations have to be made on a regular basis (Jaworski & Kohli, 1993). In these evaluations, multiple considerations have to be made on the firm's actions in relation to the market, in order to ensure that the firm keeps delivering what the customer wants, and what they will want in the future. Competitor behaviour should also be evaluated regularly, predicting how they will behave in the future. Based on these evaluations, concrete actions can be taken to address them. As with responding to technological opportunities, top management support of adapting to the market is essential (Jaworski & Kohli, 1993). This support will ensure that market knowledge is applied throughout the firm, which is crucial for effective responding to market opportunities. Exerting these processes well, will secure that

the taken responses will result in sustainable competitive advantages (Deshpandé et al., 1993; Narver & Slater, 1990). They are also likely to lead to greater service quality, as customers will have a better experience when their subscription is personalized to them.

Summarizing, this paragraph has made clear that seizing of opportunities comes down to utilizing the knowledge, which was gathered during the sensing phase (Jantunen, 2005). As during this previous phase information was gathered in the technology-, and the market-related environment, these environments are also the base for the utilization of the information. Microfoundations for seizing technological opportunities are: willingness to adopt, evaluate adopting well, act quickly, and top management support. For seizing market opportunities they are: selecting target markets, developing new products/features, address competitor moves, and top management support. If all these processes are applied well throughout the firm, they are likely to ensure greater firm performance (Olavarrieta & Friedmann, 2008).

2.3.3 Reconfiguring resources

Successful sensing and seizing will create new business opportunities (Teece, 2007). In order to capitalize on these opportunities, new processes, business models, assets or methods are often needed (Jantunen, Puumalainen, Saarenketo & Kyläheiko, 2005). A critical capability for firms is, therefore, the capability to transform and reconfigure its asset base, processes, and structures (Teece, 2007). This capability will enable firms to capture these new opportunities, and create new valuable resource combinations. Reconfiguring resources is essential in remaining competitive in fast-changing environments, as opportunities have to be acted on rapidly, and new opportunities emerge constantly (Teece et al., 1997). If resources are reconfigured well, this should lead to greater firm performance, because the firm's assets are then better matched with its changing environment (Jantunen et al., 2005).

Teece (2007) prescribes four types of microfoundations that are essential for the success of reconfiguring resources. Firstly, firms must strive for decentralization, as this will ensure that managers have access to specific information, and are able to decide quickly. Secondly, firms must manage cospecialization, what refers to the degree to which assets are intertwined with each other, which results in inimitable assets. Thirdly, firms in dynamic environments must engage in knowledge management, as knowledge is a core asset for them (Grant, 1996). To achieve effective decentralization, cospecialization, and knowledge management, the last microfoundation is needed, which is governance (Teece, 2007). The development of

governance mechanisms is needed to minimize agency issues, and protect intellectual property from misappropriation.

Again, as with sensing and seizing these prescribed microfoundations are problematic if they want to be practically researched in firms. Teece's (2007) description of them remains very abstract, and gives little explanation on how these processes actually take place in firms. Also, Teece's microfoundations do not completely capture the practical day-to-day considerations that have to be made when engaging in reconfiguring resources (Jantunen et al., 2005). Reconfigurations can occur in many forms, from small changes to production processes, to large changes in company culture. These changes can also occur in many different ways, ranging from adopting an external, ready-made solution, to continuously experimenting with new solutions. These processes are what reconfiguring is truly about in practice, yet these are not reflected in Teece's microfoundations. Therefore, in this thesis, reconfiguring resources will be viewed from a practical point of view. By doing this, the actual processes that occur during the reconfiguring phase will be better captured, and a more clear image can be formed on how well certain firms perform on reconfiguring, and what distinct processes are vital for these firms.

In practice, reconfiguring resources comes down to implementing organizational changes (Jantunen et al., 2005). Depending on the opportunity which was sensed and seized, changes may need to be made to the firm's strategies, assets, structures, or processes. In order to direct these changes well, firms must therefore engage in change management (Fernandez & Rainey, 2017; Nadler, 1981). Change management can thus be seen as the core process of reconfiguring resources. Even though there are a lot of different types of changes, there are a number of points of attention, which are important for all types of organizational changes. These points of attention will be considered as the microfoundations for reconfiguring resources, as they determine the success of a reconfiguration (Nadler, 1981).

A first key point of attention in managing organizational change, is the need for managers to develop and communicate a clear image of the future (Fernandez & Rainey, 2017; Harris & Beckhard, 1987; Moran & Brightman, 2000). Often, employees in changing firms resist change, because they do not have a good perspective on what is about to happen in their work environment. Because they are uncertain about this, they might form inaccurate expectancies, which could be detrimental to their work attitude. It is therefore vital that the future state of the firm is defined well, as this can serve as a clear guideline, target, or goal. Good communication is key here, as this ensures that those involved in the change are well

informed on it. They need to be informed on what the future state will look like, how the change will be carried out, why it is necessary, and how the individual will be affected by the change (Nadler, 1981). Doing this well, will ensure that employees will devote themselves to the changes more.

A second key point of attention for organizational change, is developing feedback mechanisms (Moran & Brightman, 2000; Nadler, 1981). Feedback mechanisms are essential, as they provide managers with information on the effectiveness of the change, and directions on areas which require additional action. It can be hard for managers to form a complete, clear image on the processes surrounding a change. Feedback on how the change performed can therefore be very valuable. Feedback can be gathered by sending out surveys, performing interviews, or via informal communication channels. This feedback then needs to be assessed, after which steps can be taken to address certain issues, if needed.

Lastly, it is important that top management supports the change (Armenakis, Bernerth, Pitts & Walker, 2007; Fernandez & Rainey, 2017; Moran & Brightman, 2000; Nadler, 1981). If employees feel support from their 'leaders', they will be more devoted to the change, and thus more willing to aid in the change process. Top management can support change in multiple ways. They can, for instance, emphasize the need to change, define the future end product of the change well, and reward those who aid in the transition. Engaging in such activities will make employees more inclined to change, and possibly also motivate peers.

Summarizing, this paragraph has made clear what are vital microfoundations for the reconfiguring of resources. In practice, this dynamic capability comes down to changing the way the firm operates. Such changes can vary from small, incremental changes, to large, radical changes. For all types of changes, there are some key points of attention. Firstly, managers must clearly communicate to their employees about the change, and the future state it will lead to. Secondly, feedback mechanisms must be set in place, in order to capture any problems with the change. Lastly, it is important that top management supports the change, as this will encourage employees to do so as well. These microfoundations are essential for any organizational change, and must thus be implemented well, when addressing an opportunity or threat.

2.4 Conceptual model

Based on the previous literature review and the research question of this study, Figure 1 visualises this thesis' conceptual model. It shows the relationship between the dynamic capabilities, and what specific processes constitute them. The dynamic capabilities are expected to have a positive effect on the degree of service quality.
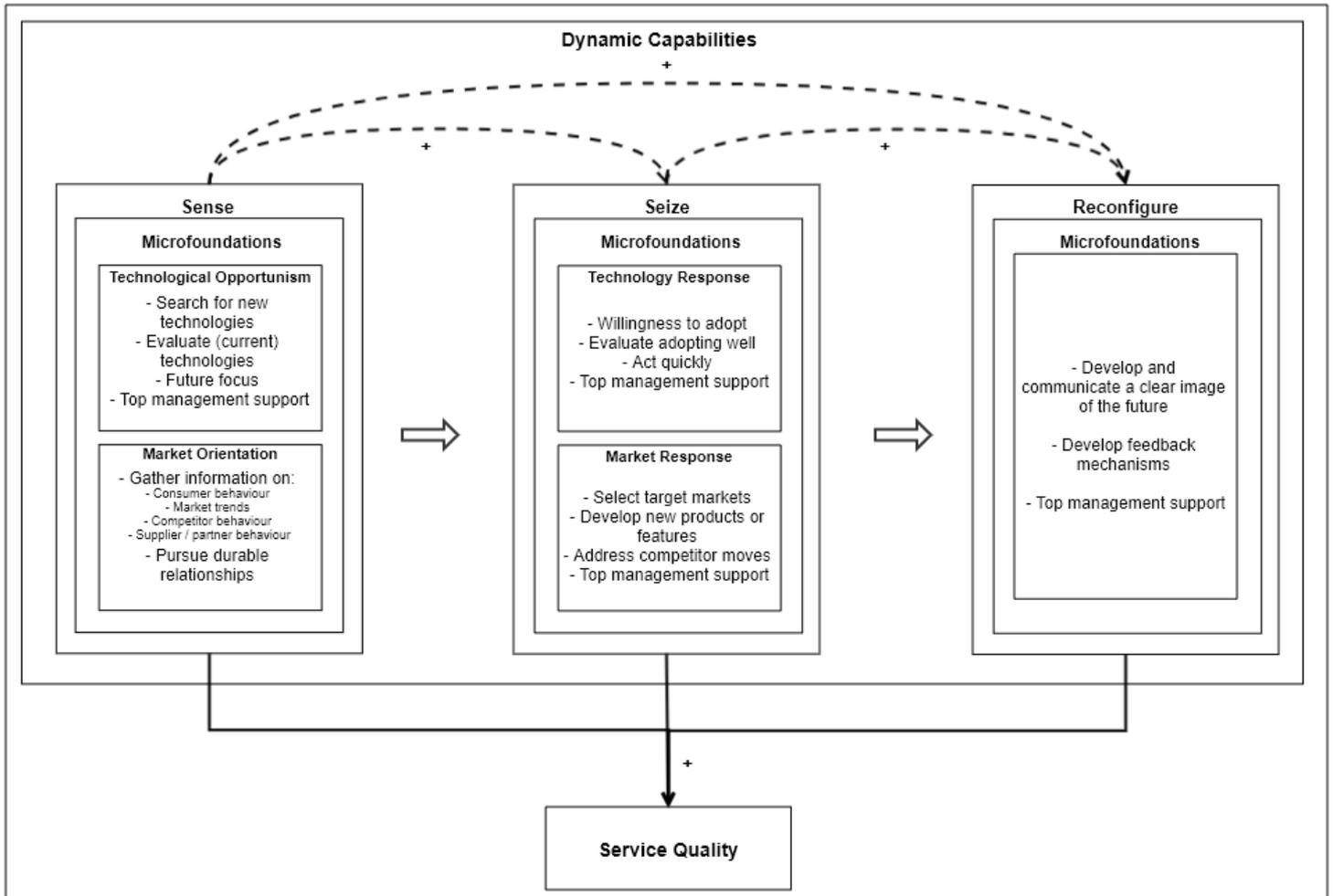
Figure 1: Conceptual model

Based on Figure 1 and the previous literature review, propositions are made which guide the research. The first three propositions concern the relationships among the dynamic capabilities themselves. I namely propose that these influence each other, in the sense that a more developed capability in the beginning of the sensing-seizing-reconfiguring process will result in well-developed capabilities later on in the process. This is to be expected, because the seizing and reconfiguring capabilities will then have better input to act upon.

Proposition 1: Subscription-based businesses that have a more developed sensing capability will have a more developed seizing capability.

Proposition 2: Subscription-based businesses that have a more developed sensing capability will have a more developed reconfiguring capability.

Proposition 3: Subscription-based businesses that have a more developed seizing capability will have a more developed reconfiguring capability.

The next three propositions concern the relationships between the dynamic capabilities and service quality. I anticipate these propositions, based on the expectation that well-developed dynamic capabilities will enable firms to develop their products or services more sophisticatedly. They will namely have more information on their environment, and should be better able to use this information in order to deliver better service according to customer preferences and technological innovations.

Proposition 4: Subscription-based businesses that have a more developed sensing capability will have greater service quality.

Proposition 5: Subscription-based businesses that have a more developed seizing capability will have greater service quality.

Proposition 6: Subscription-based businesses that have a more developed reconfiguring capability will have greater service quality.

Finally, a relationship between higher service quality and greater customer retention is to be expected, based on literature (Blery et al., 2009; Bolton & Lemon, 1999; Venetis & Ghauri, 2004; Zeithalm, 2000). However, this relationship is not tested in this thesis, due to feasibility reasons. Service quality can therefore be seen as a proxy variable for customer retention.

3. Methodology

3.1 Research approach

As stated earlier, the research question of this master thesis is stated as following: *How do dynamic capabilities manifest themselves in subscription-based businesses, and do these affect their degree of service quality?* This question is answered with a qualitative approach. Qualitative research refers to researching "the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things" (Berg & Lune, 2012, p.3). In this study, qualitative research is desired over quantitative research, as it gives more insight into the processes and structures of businesses (Berg & Lune, 2012). Such insight is required to form a clear image on the presence of specific microfoundations, and how these microfoundations are practically executed in firms. Quantitative research would most likely perform less well in exposing certain microfoundations, as this is a more suitable method for the counting and measuring of more concrete and tangible objects of study (Berg & Lune, 2012). Also the construct of service quality is researched qualitatively. This allows for a more specific analysis of the service quality of the firms, looking at which particular factors positively or negatively influence the degree of service quality. Deductive reasoning is applied to the research approach, as this allows the researcher to interpret new phenomena against existing literature (Soiferman, 2010). The new phenomenon in this case are the subscription-based businesses, and the existing literature is the dynamic capabilities approach. Specific indicators and/or processes derived from literature surrounding dynamic capabilities and related concepts (as seen in chapter two), will be sought in these businesses. This will create a clear image on how these dynamic capabilities manifest themselves in subscription-based businesses.

Specifically, the research question will be answered by case studies at six firms that operate with a SBM. A case study as research method is chosen, as it enables researchers to discover certain patterns and processes in a firm (Bleijenberg, 2015; Berg & Lune, 2012). Case studies thus make it possible to clearly observe microfoundations in firms. The number of six firms is chosen, because of the feasibility of the research. Interviewing and researching six firms will also give a broad image on how dynamic capabilities manifest themselves in subscription-based businesses. Moreover, businesses from different industries (both B2C and B2B) will be researched, to create a comprehensive impression of the dynamic capabilities of subscription-based businesses.

3.2 Data sources

Inside these six firms, interviews are held with a variety of individuals. Both employees as well as managers are interviewed, with the goal of creating a broad image of the organization from multiple perspectives. Specifically, semi-structured interviews are held in these companies. This means that a series of predetermined questions are be asked in all the companies. Semi-structured interviews are preferred, as they allow the interviewer to digress from the prepared questions, if necessary (Berg & Lune, 2012). Such digression might be useful in some situations, for example if a certain answer to a question requires some follow up questions for clarity. In total, ten interviews have been conducted in the six firms. This means that not every firm is researched with the same amount of interviews. This discrepancy stems from the unavailability of interviewees at some businesses. However, each interview is still assumed to illustrate an adequate image of the dynamic capabilities of each firm, due to the depth of the interview questions.

In contrast to the dynamic capabilities, service quality is researched with online reviews. Since service quality is perceived by the customers of the businesses, their perceptions have to be used in order to determine service quality. One advantage many subscription-based businesses have over traditional firms, is that they are extremely embedded into the online domain. This means that they often offer their services by means of applications for mobile phones or via their own websites. As a result, their customers can express their feelings on the quality of the service easily via reviews on app stores or online review websites, and many do so. This offers an interesting opportunity for this research for determining the subscription-based businesses' service quality, as online reviews are a valuable source of unfiltered customer intelligence (Palese & Piccoli, 2016). This approach is preferred over more traditional means of analysing service quality, because it allows for qualitative analysis of a great number of reviews very easily. Therefore, this study has made use of these reviews, and these form the base of the construct of service quality. For five of the six interviewed firms online reviews could be found. This one business for which no reviews could be found will therefore be used purely to see how dynamic capabilities manifest themselves in subscription-based businesses, and will not be used to see whether these capabilities affect the degree of service quality. For the other businesses, it was aimed to collect 100 online reviews. This was successful for all but two businesses, as these businesses did not have a 100 reviews available online. A number of different online review sources have been used for the collection of the reviews, depending on the nature of the business and the availability of the reviews.

The researched firms are shortly described below.

Storytel

Storytel is a B2C firm originally from Sweden, and has multiple divisions worldwide. For this research, the Dutch division is the subject of study. Storytel offers its subscribers audiobooks via an app. Two interviews have been conducted in this firm. First, with a digital marketing manager (Storytel_1), who is responsible for digital campaigns and growth. Second, with the country manager of Storytel Netherlands (Storytel_2), who manages the Dutch department of Storytel and has contact with the Swedish offices. In total, one hundred online reviews have been gathered on Storytel, fifty from the Apple App Store, and fifty from the Google Play Store.

Bookchoice

Bookchoice is a B2C firm that offers its subscribers a monthly selection of e-books and audiobooks. One interview has been conducted at Bookchoice, with the campaign leader of Bookchoice (Bookchoice_1), who directs the marketing and operations team. In total one hundred online reviews have been gathered about Bookchoice; 33 from the Apple App Store, 33 from the Google Play Store, and 34 from Trustpilot.com.

Gerrard Street

Gerrard street is a B2C business that offers its subscribers an always working headphone. The subscription therefore also includes repairs of the headphones. At Gerrard Street, one interview has been held with the co-founder of the company (Gerrard Street_1), who is responsible for the production and operations. For Gerrard Street, only 78 online reviews could be found; 75 from Trustpilot.com, and three from Tweakers.net.

MoreApp

MoreApp is a B2B firm which enables its subscribers to create their own digital forms. MoreApp is a Dutch firm, but it also has divisions in Berlin and Barcelona. Three interviews have been held at MoreApp. The first interview was conducted with a Product Genius (MoreApp_1), who is concerned with customer support and marketing. The second interviewee was the CTO of MoreApp (MoreApp_2). This means that this person leads the development team, and is generally responsible for the technology within MoreApp. The last interviewee at MoreApp was the CEO of the company (MoreApp_3), who is head responsible for the company and the teams in Berlin and Barcelona. In total, 100 online reviews have

been gathered about MoreApp, 50 from the Apple App Store, and 50 from the Google Play Store.

OutSmart

OutSmart is a B2B business that offers its subscribers software-as-a-service (SaaS) for field service management. Two interviews have been conducted at OutSmart. The first was with the founder of OutSmart (OutSmart_1), who is head responsible for the company and general operations. Second, an interview has been held with a marketeer of OutSmart (OutSmart_2), who is responsible for the (online) marketing and communication of the company. In total, 95 online reviews have been gathered about OutSmart; 25 from the Apple App Store, 64 from the Google Play Store, and 6 from Out-Smart.com.

Squeezely

Squeezely is a B2B firm that offers its subscribers SaaS for managing their customer data. One interview has been held at Squeezely, with a customer success manager (Squeezely_1), who is responsible for supporting customers with implementing their product, and marketing. Unfortunately, no online reviews were available for Squeezely. Therefore, the interview at Squeezely will solely be used for getting an image of how dynamic capabilities manifest themselves in subscription-based businesses, and for answering the first three propositions.

3.3 Operationalization

3.3.1 Operationalization of the microfoundations

In chapter two, multiple microfoundations have been distinguished for each dynamic capability, which are also visible in the conceptual model. These microfoundations are the subject of this research. However, to be able to practically research these microfoundations, they need to be operationalized. Per microfoundation, one or more interview questions are asked to the interviewees, which stem from relevant literature. These questions should clarify how a certain microfoundation takes place in the interviewee's firm, and how this microfoundation affects the success of the firm. The operationalization is visible in in the following three tables, in which each table will deliberate on one of the three dynamic capabilities.

Table 1: Operationalization of Sensing

	Microfoundation		**Measurement**	**Source / Based on**
Technological Opportunism	Search for new technologies		Does your firm actively seek intelligence on technological changes in the environment that are likely to affect your business? If so, how?	Chen & Lien, 2013; Srinivasan et al., 2002
			Is your firm often one of the first in your industry to detect technological developments that may potentially affect your business?	
			Does your firm regularly meet with vendors, salespeople, or competitors, to find external innovations? If so, how?	
	Evaluate (current) technologies		Does your firm periodically review the likely effects of changes in technology on your business? If so, how?	Chen & Lien, 2013; Srinivasan et al., 2002
			Does your firm periodically review current technologies, to see whether they still are up to industry standards? If so, how?	
	Future focus		Does your firm mainly search for technologies that might be relevant in the future, or for technologies that fit with current operations? If so, how?	Srinivasan et al., 2002
	Top management support		Do top managers encourage employees to search for new technologies? If so, how?	Srinivasan et al., 2002
Market orientation	Gather information on:	Consumer behaviour	Does your firm regularly meet with customers to find out what products or services they will need in the future? If so, how?	Gray, Matear, Boshoff & Matheson,1998; Jaworski & Kohli, 1993
			Does your firm poll end users at least once a year to assess the quality of your products and services? If so, how?	
			Does your firm track customer behaviour with analytics? If so, how?	
		Market trends	Does your firm keep an eye on market trends? If so, how?	
		Competitor behaviour	Does your firm continuously track competitor behaviour, in order to discover any (possible) threats to your business? If so, how?	
		Supplier / partner behaviour	Does your firm periodically meet with suppliers or other partners, in order to discover any possible innovations on their behalf? If so, how?	
	Pursue durable relationships		Does your firm pursue durable relationships with customers and suppliers? If so, how?	Jaworski & Kohli, 1993

Table 2: Operationalization of Seizing

	Microfoundation	**Measurement**	**Source / Based on**
Technology Response	Willingness to adopt	Is your firm generally willing to adopt new technologies, or do such developments often hit resistance? If they hit resistance, why?	Chen & Lien, 2013; Srinivasan et al., 2002
	Evaluate adopting well	Does your firm evaluate and assess the consequences of adopting a new technology thoroughly? If so, how?	Srinivasan et al., 2002
	Act quickly	Does your firm generally respond very quickly to technological changes in the environment? If so, how?	Chen & Lien, 2013; Srinivasan et al., 2002
		Does your firm generally respond to technological changes before competitors do?	
	Top management support	Are top managers in this firm frequently the most passionate champions of new technologies? If so, how do they express this?	Srinivasan et al., 2002
Market response	Select target markets	Does your firm select markets to target, based on market intelligence? If so, how?	Jantunen, 2005; Jaworski & Kohli, 1993
		Does your firm regularly evaluate the current state of the targeted market? If so, how?	
	Develop new products or features	Does your firm develop products or services based on market intelligence? If so, how?	Jaworski & Kohli, 1993
		Does your firm implement changes when customer feedback gives you reason to change? If so, how?	Jantunen, 2005
		How quick is your firm to respond to market developments?	
	Address competitor moves	If a major competitor were to launch an intensive campaign targeted at our customers, would your firm implement a response immediately? If so, how?	Grey et al., 1998; Jantunen, 2005; Jaworski & Kohli, 1993
		Does your firm regularly evaluate competitor's positions in the market? If so, how?	
	Top management support	Do top managers repeatedly tell employees that your business's survival depends on its adapting to market? If so, how?	Grey et al., 1998; Jaworski & Kohli, 1993
		Do top managers often tell employees to be sensitive to the activities of your competitors?	

Table 3: Operationalization of Reconfiguring

Microfoundation	Measurement	Source / Based on
-	Has your firm implemented any changes recently? If so, what kind of changes, and how well did these changes perform?	Jantunen et al., 2005
Develop and communicate a clear image of the future	Do managers inform employees on the necessity, consequences, and implementation process of a change, before it is implemented? If so, how?	Fernandez & Rainey, 2017; Nadler, 1981)
	Do managers define clear targets of a change, before implementing it? If so, how?	
Develop feedback mechanisms	Does your firm gather feedback after a change from employees or others who have been affected by a change, by, for instance, surveys, interviews or informal channels? If so, how?	Moran & Brightman, 2000; Nadler, 1981
Top management support	Does top management reward employees who aid in the change process? If so, how?	Armenakis et al., 2007; Fernandez & Rainey, 2017; Moran & Brightman, 2000; Nadler, 1981

3.3.2 Operationalization of service quality

The most used method for measuring service quality is the SERVQUAL method by Parasuraman et al. (1985). This method proposes ten dimensions on which service quality can be assessed. These ten have later been reduced into five dimensions: "tangibles (physical facilities, equipment, and appearance of personnel), reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customers and to provide prompt service), assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence), and empathy (caring, individualized attention the firm provides its customers)" (Parasuraman, Zeithaml & Berry, 1988, p. 23). However, the SERVQUAL method has received a lot of criticism over the years (Buttle, 1996). The most important point of criticism that applies to this thesis is that the SERVQUAL model focuses almost entirely on the process of service delivery, rather than the outcomes of a service. Emphasis lies on customer-firm interactions, which is problematic for this thesis, as these interactions are quite limited in the subscription services market. Almost all subscription services can be purchased online, which means that consumers can subscribe to a subscription service without requiring many interactions with a firm and its employees. As a result, the process of service delivery plays a small role in evaluating a subscription service, in comparison to the actual outcomes of the subscriptions. These outcomes, or the actual products, are the reason why consumers want to subscribe to a service, since they want to

obtain them, and can therefore be seen as the quality base of the service. I therefore assume that the evaluating of the quality of a subscription service is more focused on the product itself, rather than the process of subscribing. So, since the process of delivery of a service plays a small role for subscription services, the SERVQUAL method is not appropriate for analysing the service quality of subscription-based firms.

For assessing the service quality of subscription services, emphasis thus lies on the actual outcomes of the service, e.g. the functioning an app, software, or a bike. This can also be seen when looking at the dataset containing online reviews of subscription services. Customers evaluate their subscriptions based on how well they work or how they look, rather than on the process of purchasing the service. This means that the quality of subscription services should be evaluated based on the characteristics of the actual products. Garvin (1984) explicates eight dimensions of product quality, which have been validated in a number of research settings (Sebastianelli & Tamimi, 2002). These dimensions are: Performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Each of these dimensions is associated with greater product quality, and therefore assumed to be associated with greater service quality for subscription-based businesses. Hence, the online reviews will be analysed according to these dimensions. The dimensions are defined and operationalized below in Table 4, based on Garvin (1984).

Table 4: Operationalization of Service Quality

Dimension	Definition
Performance	The primary operating characteristics of a product E.g.: sound quality of headphones, content offering of a media subscription
Features	Secondary characteristics that supplement the product's basic functioning E.g.: recommendation function of media subscription
Reliability	The product's probability of failure-free performance over a specified period of time E.g.: Does the consumer experience bugs in software?
Conformance	The degree to which a product's design and operating characteristics match preestablished standards E.g.: Does the sound quality of a media subscription conform to standards?
Durability	Measure of product life. The amount of use one gets from a product before it deteriorates E.g.: How long can headphones be used before they break? Is the software kept up-to-date with innovative developments?
Serviceability	The ease, speed, courtesy and competence of repair E.g.: How good is customer service? How quickly are software bugs fixed?
Aesthetics	How a product looks, feels, sounds, a matter of personal preferences E.g..: How does the app look?
Perceived quality	Quality based on image, brand name, or advertising, rather than product attributes E.g.: Does the brand of the subscription contribute to the perceived quality?

3.4 Data analysis procedure

The data of the case studies is interview-based. Therefore, the interviews must be analysed thoroughly. This is done by applying codes to the transcripts of the interviews. The coding process was performed using the program Atlas.ti, as this program offers a very clear coding and analysing method. A code in this sense is "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (Saldaña, 2013, p. 3). The coding was done with a deductive approach. This means that the coding was performed with the operationalization of the variables kept in mind. First of all, the interviews were scanned to find main themes that emerged from the data. These main themes correspond to the themes of the microfoundations (technological opportunism, market orientation, technology response, market response, and reconfiguring). After these were assigned, a closer look was taken at these codes, in order to find the specific microfoundations that corresponded to the piece of transcript. In this process, a microfoundation was assigned that fit within the broader microfoundation theme. For example, a piece of text was first given the code 'market response', after which the more specific code 'select target markets' was given. The result of this process is that each specific microfoundation was assigned to a number of quotations. Each microfoundation is subsequently looked into, in order to see how businesses deal with these processes in practice.

An assessment was then made on how well each business performs each microfoundation. This assessment is based on how the microfoundation is prescribed in the literature, and whether the business meets those requirements. Whether or not a business meets such requirements is decided based on the statements of the interviewees. For example, literature concerning the microfoundation 'evaluate (current) technologies' prescribes that firms regularly evaluate new technologies in the market, as well as the current technologies in the firm. If an interviewee indicates that his/her firm hardly ever evaluates its technologies, this firm does not perform well at this microfoundation. However, if an interviewee explained that their firm has a lot of processes in place for the evaluation of technologies, their firm performs well at this microfoundation.

Based on this consideration, either a plus (+), minus (-), or plus minus (+/-) is assigned to a firm in relation to each microfoundation. A plus in this sense implies that this specific microfoundation was well-developed in a firm. A minus indicates that the microfoundation was poorly developed in a firm. Finally, a plus minus means that a firm developed the microfoundation mediocrely, not good, but also not bad. A final summarization is then made

on the number of plusses each firm has for a specific dynamic capability. A plus counts as +1, a minus as -1, and a plus minus as 0. The greater the number of plusses a firm has, the better the dynamic capability is developed in this firm. The number of plusses is also expressed in a percentage, so that the dynamic capabilities can be compared with each other more easily. Not every dynamic capability namely has the same amount of microfoundations. This percentage is based on the number of plusses the firm has, divided by the number of plusses that could be acquired in total (or the number of microfoundations of this specific dynamic capability). The percentages are rounded to whole numbers.

The service quality of the subscription businesses has been analysed based on online reviews. These reviews have also been coded with a deductive approach. The dimensions of service quality, operationalized in Table 4, form the base of these codes. This means that the transcripts were scanned for these dimensions, after which a clear image was formed on how customers perceive the service quality of each business.

3.5 Validity and reliability

The validity of this thesis is assured by a number of factors. First of all, the variables have been specifically operationalized according to relevant scientific literature, and the interview questions are based on this. Because this thesis is interested in what practical considerations have to be made when dealing with a changing environment, specific literature is chosen with a practical character, rather than the more abstract, theoretical literature of Teece (2007). This ensured that the dynamic capabilities could be captured in a practical setting. The framework for the variable service quality was also specifically chosen with the goal of capturing the actual considerations of customers when assessing the quality of their subscription. The traditional SERVQUAL model by Parasuraman et al. (1985) did not fit well with the product offerings of subscription-based businesses, which is why this model was disregarded. By choosing the framework by Garvin (1984), it was ensured that the service quality of subscription-based businesses could be captured correctly. This model namely fit better within the context of SBMs, as explained earlier on. Furthermore, by researching with semi-structured interviews, follow-up questioning was possible. By allowing this, it was made sure that the all relevant data was extracted from the interviewees. This data was then recorded and transcribed word-for-word, which ensured that no data was lost. The interviews were also specifically held with both managers as well as employees. This was done with the goal of hearing all perspectives, so that a broad image on each business could be developed.

Reliability was assured by interviewing all interviewees the same way. The structure of the interviews was the same for each interviewee, and the same questions were asked. The interviews were always held at the businesses themselves, so that the interviewees were comfortable in their known environments. Also, the same number of B2C and B2B businesses have been researched. These businesses operated in different markets and had different product offerings. Selecting both B2B and B2C businesses was done with the aim of developing a broad image of the dynamic capabilities in subscription-based businesses in general. The results of this thesis are therefore applicable for any subscription-based business. Reliability was also assured by explicating the full research process in this thesis, so that it can be repeated (in a different context). The operationalizations, methods of data gathering, analysis methods and general considerations can all be found in this thesis. Further research could therefore make use of the exact same research approach as in this thesis.

3.6 Research ethics

Before participating in the study, the possible participants were provided with adequate information on the topic of the research. Based on the information, they could decide for themselves whether or not, and how, they wanted to participate. Managers, employees, or other individuals were always free to choose whether or not they wanted to participate in the study. If desired, the participants could also be provided with the outcomes of the research in the end. The interviewees were always free to refuse answering specific question, or giving certain private information, and were able to cancel their participation in the research at any time. All participants of the research remain anonymous, so that they are free to answer as they like, and do not have to fear certain consequences of their statements. This confidentiality is guaranteed by not explicating any names, descriptions, or other specific characteristics of the participants in the study. As a researcher, I have not pressurized the researched individuals into giving certain answers.

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4. Results

In this chapter, the results of the analyses are discussed. First, the results of the interviews are deliberated on. This is done per dynamic capability, and per specific microfoundation. This will form a clear image on how each dynamic capability and microfoundation manifests itself in subscription-based businesses, and how these are important for them. After explicating on the dynamic capabilities, a summarizing table is given which shows how well each firm has developed each microfoundation. Hereafter, the results concerning the service quality of the firms are discussed. Per firm is considered on how customers experience the service quality and which dimensions are most often mentioned in the online reviews. This will show how customers perceive the service quality of each business, after which conclusions can be made on whether a better developed dynamic capabilities affect the degree of service quality.

4.1 Sensing opportunities and threats

In chapter two, the dynamic capability 'sensing opportunities and threats' has been divided into two main themes: Technological Opportunism, and Market Orientation. Both these capabilities have their own specific microfoundations, which are operationalized in section 3.3.1. The following sections will explicate per microfoundation how these manifested themselves in the researched firms.

4.1.1 Technological opportunism

4.1.1.1 Search for new technologies

All respondents declare that technologies play a great role in their firms. Technologies are being mainly sought after for developing a more innovative product, but also for the general operations and back-ends of the businesses. New technologies are found via a number of different channels. First of all, all six firms have an internal development team. These teams are concerned with the search and implementation of technologies, as well as fixing problems with the actual products. *"Because we develop our own software, the boys themselves are continuously busy with finding things like these. Looking at the market and developments, what the competition does, what other businesses do, and what is most needed"* (MoreApp_3). However, new technologies are not only sought after by individuals in these teams; managers also play a great role in this. They often attend events concerning innovations, and regularly keep an eye on technology-related websites and blogs. *"We follow certain developer blogs (…). And on a yearly basis we also go to conferences about*

technological developments and everything concerning the back-end, infrastructure, mobile".
(MoreApp_2). *"Everybody also visits international events. Mostly the global team, but also locally when there are interesting developments"* (Storytel_2). Another channel by which some subscription-based businesses get information on new technologies, is from their partners, suppliers, or customers. *"We work a lot with third parties (...). Those third parties often are large businesses, which do have the budget and people to developing such things. So yes, we try to keep ourselves involved in that through our partnerships"* (OutSmart_1). This is not the case for every firm though. Two interviewees state that they experience that their business is more innovative than their partners or customers, causing them have a leading role concerning technological innovations. *"That is not the channel by which we get technological innovations, it is actually more the other way around. We are the innovative factor in the business of the customer"* (Moreapp_2). Concluding, subscription-based businesses search for new technologies via a number of channels. They mainly look for new technologies by checking websites or blogs on a regular basis, and by attending technology-based events. New technologies can be suggested by partners, suppliers or customers, but this depends on the degree of innovativeness of the other parties.

4.1.1.2 Evaluate (current) technologies

The evaluation of new and current technologies occurred via a number of ways in the interviewed firms. The most mentioned way of evaluating technologies, is evaluating based on customer feedback. Interviewees from Storytel, Gerrard Street, OutSmart and MoreApp stated that they often do this. *"If we see that too much headphone cables are breaking, that is a moment for us to evaluate. Is this due to our technologies or production method, is it just a coincidence, or do we need to improve our product?"* (Gerrard Street_1). Evaluating technologies also happens based on the behaviour of suppliers. MoreApp evaluates its technology suppliers on a yearly basis, in order to determine whether they are still up to the firm's standards. *"We have a list of our suppliers on a shared page. We then look every once in a while whether they still meet our wishes."* (MoreApp_1). Such an evaluating structure, however, is not present in each firm. Respondents of Bookchoice, OutSmart and Squeezely state that their firms do not have structural methods by which they evaluate technologies. *"We often first do, and than think, when we develop something. Why? You cannot know everything in advance."* (OutSmart_1). Concluding, it can be said that not every subscription-based

businesses has well-developed processes and structures for evaluating new or current technologies. The most used method for doing this, is by using customer feedback.

4.1.1.3 Future focus

A focus on future operations is needed in order to be technological opportune (Srinivasan et al., 2002). In practice, respondents state that it is often hard to put future operations above current ones. Especially somewhat smaller firms that are still growing find it difficult to focus more on the future than on the present. *"Because we are still small at this moment, we cannot constantly say: we'll do this, and we'll do that. I think that we will look more into the future when we will grow. But at this moment, we do what we can do."* (MoreApp_1). Respondents from Bookchoice and Squeezely also state that they will look more into future operations, if their current operations and changes have proven themselves. Most businesses therefore try to combine both: looking for opportunities that could be interesting for their current operations, but at the same time also trying to look ahead for technological innovations that could shape their future product offerings. *"I think that it is always important to optimize your current activities. You have to make sure that you listen to your current users, and optimize your products according to their advises. But, we also look for future developments, of which there are a lot in the audio domain. So, we also make sure that we keep an eye on those."* (Storytel_2). The microfoundation of future focus in its pure form, meaning that a firm puts its future operations above its current ones, can therefore not be found in the subscription-based businesses.

4.1.1.4 Top management support

The support of top management is another important facilitator for sensing technological opportunities (Srinivasan et al., 2002). The results of the interviews show a varying image of the support of managers in subscription-based businesses. One firm that excels at this microfoundation is MoreApp. *"The managers like it when you bring new ideas. (…) They let you do your own thing and encourage you to search for new things. They also express that in all of the meetings."* (MoreApp_1). *"For the development team, every Friday is actually the moment to go crazy. Just to go looking for something cool, kind of like a pet projects day. On this day, we don't follow our normal routine, but we're really searching for new, interesting techniques."* (MoreApp_2). As these quotes show, management really enables its employees to look for new technologies themselves, which is something they appreciate. This is facilitated by an open culture inside the firm, something that is also expressed by respondents

from OutSmart and Squeezely. Managers themselves should also be advocates of new technologies, which can be expressed by searching and using technologies themselves, or being openly enthusiastic about them towards the rest of the company. Not every respondent experienced the full support of management in the search for new technologies though. Respondents from Bookchoice and Storytel stated that they do not experience a culture in which innovativeness is really stimulated. Concluding, creating an innovative and open culture can be seen as the most important mean for managers by which they can support the search for new technologies.

4.1.2 Market orientation

The most important microfoundation for a market orientated firm is the gathering of market information (Jaworski & Kohli, 1993). Market information can be divided into four main areas: information about customers, competitors, market trends, and suppliers. Therefore, this section will deliberate on each area of market information separately.

4.1.2.1 Gathering of consumer information

First of all, information must be sought about the customers of the firms. All respondents indicate that their customers are a great source of information. All firms are therefore also engaged in gathering information about their customers. This occurs via a number of ways in the researched firms. First of all, all but two firms send surveys to their users on a regular basis. The topics of these surveys vary, from general feedback, to specific questions about certain functionalities of the products. However, such surveys do not always provide the firms with good quality information of depth. *"If someone cancels his or hers subscription, they get a survey asking why they cancelled. That is what we do. But I think that the answering of one question is a completely different experience than having an actual conversation with someone"* (Storytel_1). Using only surveys to question customers therefore often leave firms with unanswered questions and incomplete information. Some firms therefore also engage with their customers face-to-face. Three firms organize focus groups or knowledge sessions on a regular basis, in which they explain their products to their customers, after which customers can ask questions and provide feedback. Such discussions are found to be very useful by all these three firms. One respondent states that such sessions also increase the probability of subscription renewal. *"Our product is SaaS software, so we preferably do not have contact with all customers. We have a couple thousand customers, and only twenty employees, so that would be impossible. On the other hand, you do want to get in contact with*

them, because you know that that would increase the chance of paying, the time between trial and subscribing will be shorter, and you get feedback." (MoreApp_3). Three out of six firms also gather analytics about the behaviour of their customers with the product. Data about this can form the basis of personalized product offerings. Last of all, every firm has a support channel by which customers can ask questions and provide the firms with feedback. Concluding, meeting face-to-face with customers can be seen as the best mean for gathering customer information.

4.1.2.2 Gathering of competitor information

A second section of the market in which information can be sought, is the competitor environment of the firms. All respondents indicate that they find the tracking of competitor behaviour very important. However, in practice, this is not as easy as it seems. Information about competitor moves seems to be hard to find in the subscription market, as concrete, valuable information is not publicly available. The most used method for tracking the competition is therefore by simply looking at their websites, social media, news letters, or app store ratings. The interviewee of Bookchoice also stated that they not only gather information about their direct competitors in the listening book/e-book market, but also generally about businesses in the subscription market. *"We have a couple of subscription boxes or businesses that we closely keep an eye on, because we think that they are very progressive in what they do"* (Bookchoice_1). One method that two firms also apply is making an account at the competitor's subscription service, in order to see what functionalities they have. Because of the limited information that is available, an actual competitor analysis seems to be difficult in the subscription market, which is why only two firms declared that they do this.

4.1.2.3 Gathering of market trend information

For a successful market orientation, firms must also sense opportunities and threats about market trends. The interviews show a number of areas in which the businesses gather information about market trends. First of all, respondents of three out of six firms indicate that they mainly gather information about market trends concerning their product. Such information is found via available researches, websites, (start-up) news, and conferences. *"We use a reading monitor that registers what the reading behaviour is of Dutch consumers."* (Bookchoice_1). *"An example of a trend that we are very aware of, is the use of workflow automation programs. (…) We see that tools like that are increasingly being used in businesses. So, yes, you have to respond to that trend. MoreApp also needs to be a part of,*

what we call, the 'connected economy'. (MoreApp_2). Information is also being sought about market trends concerning the communication of businesses towards their (potential) users. Such information is about how other firms brand themselves and how they communicate with consumers. *"We often see that Facebook and Instagram are increasingly promoting life stories. So then, we ask ourselves whether we should also use more life stories, or stories at all, rather than static images."* (Gerrard Street_1). Information about market trends is thus mostly sought with the goal of keeping up with the market, whether it is product-related or communication-related.

4.1.2.4 Gathering of supplier/partner information

The last environment in which market information can be sought, is the supplier-related environment. However, almost all interviewees state that they do not find a lot of valuable information from this environment. The subscription-based businesses are often more innovative than their suppliers. Because of this, the businesses frequently do not see their suppliers as valuable information sources for innovations or new developments. *"The book industry is not a very innovative industry. So our suppliers don't come to us every half year with new products"* (Bookchoice_1). *"I notice that we are ahead of them. We are more experienced in software, marketing, SaaS, cloud, hosting, that sort of things. So no, that kind of disappoints me.* (MoreApp_3). Moreover, many interviewees indicate that the suppliers of subscription-based businesses are often very large companies. Because of this, personal contact with them can often be quite limited. However, some companies do find opportunities by engaging with their suppliers, such as new features for their product, or the ability to test out new features of the supplier's service. *"Our supplier can also produce digital noise cancelling now. They presented that to us, and now we are developing a digital noise cancelling model together."* (Gerrard Street_1). Concluding, the contact between subscription-based businesses and their suppliers is often quite minimal, which is why suppliers are not seen as a great base for new innovations.

4.1.2.5 Pursue durable relationships

The second microfoundation for a market orientation is pursuing durable relationships with customers, suppliers, and/or other partners. All interviewees state that the pursuit of durable relationships with their customers and/or suppliers is very important for them. Interviewees of three out of six firms indicate that they mainly engage in building a durable relationship with their customers by creating the best possible product. *"We exist at the grace of the content on*

our platform. (...) The content, and its findability is experienced as most important by our users, which is also shown in all our researches.” (Storytel_2). The relationship with customers is furthermore strengthened by providing great customer support. This means that questions by customers should be answered quickly and thoroughly, and customers should be kept up to date on developments concerning the product or the business. This can be done by sending them e-mails on a regular basis, or showing pop-ups in the product. However, two interviewees find that building durable relationships with customers can be a difficult task for subscription-based businesses, as these businesses operate (almost) completely online. *“It’s difficult for an online business. I’ve got some salespeople on the road, but I can’t send a salesman every year to each firm for a cup of coffee, especially for the price our customers are paying.”* (Outsmart_1). Reaching out to customers online can also be difficult. *“Most customers, when they receive a newsletter, say ‘unsubscribe’. And then they say: “I did not know that you had a new product”. So yes, that can be difficult.”* (Outsmart_1). Building relationships with suppliers is also found important by a number of respondents. However, this is, of course, dependent on the type of relationship the business has with its suppliers, since section 4.1.2.4 indicated that most firms have little contact with their suppliers. The interviewee of Bookchoice indicates that their relationship with their suppliers is extremely important, because this relationship makes the content of their product possible. *“You can imagine that when a couple of big publishers who publish bestsellers decide not to work with us, that our product will become a lot less relevant.”* (Bookchoice_1). An interviewee of MoreApp also indicates that their relationship with their suppliers also allows them to test new functions first, which is beneficial for their company. Concluding, the best mean for subscription-based businesses for creating durable relationships with customers is simply by creating an almost flawless product, with the best possible content. Or in other words, by ensuring the best possible service quality.

4.2 Seizing opportunities

After successful sensing of opportunities, these opportunities can be seized. Again, as with sensing, a distinction has been made between the two main activities of seizing: technology response, and market response. This section will deliberate on both separately, and will discuss how each specific microfoundation has manifested itself in the researched subscription-based businesses.

4.2.1 Technology response

4.2.1.1 Willingness to adopt

For firms to effectively seize technological opportunities, they have to be willing to adopt the new technologies. All interviewees from all firms state that their business is generally very willing to adopt new technologies. Interestingly, multiple interviewees mention the size of their firm as either a facilitator or a barrier for the ability to adopt new technologies. On one hand, some interviewees state that since their firm is relatively small, they are very willing to adopt new technologies. *"We are a very small team, so the lines are short. If there are enough arguments to introduce something new, then that will happen quite easily."* (Squeezely_1). *"I think we have little resistance to new technologies, since we are small"* (MoreApp_3). Smaller teams thus seem to make it easier to discuss new technologies and decide on them. This is confirmed by a respondent from Storytel, who claims that his/hers firm is too big to be willing to adopt new technologies. *"We are in 18 countries, and every country has its own initiatives and things of which they think that they work good. So everyone is knocking on the door of the global team, saying 'we should do this or that'. But they are quite critical, which is also the Swedish attitude of holding that back."* (Storytel_1).

On the other hand, respondents also say that, because their firm is relatively small, they are not always able to implement new technologies. *"Resistance is often only due to budget problems, or feasibility with our team"* (Bookchoice_1). *"We can want all sort of things, but if we don't have the time or the money for it, we can't do it."* (MoreApp_1). Another discrepancy found in the data on the ability to adopt new technologies stems from the type of product offering of the firms. Most firms in the dataset are purely online based (apps or SaaS), and can therefore relatively easy alter their product with new technologies. However, this is not the case for Gerrard Street, who's offering a physical product (headphones). The interviewee from this firm says that they are generally very innovative and willing to adopt new technologies. The areas of the business which are relatively easily altered, such as the back-end of the firm, are therefore often modified. However, since their product is a physical headphone, this can not be altered as easy as software. *"You are quite invested in the current model. You finance molds in advance, that sort of things, and of course these have to pay themselves off before you can introduce a new model."* (Gerrard Street_1).

4.2.1.2 Evaluate adopting well

In order to seize technological opportunities well, the adopting of these technologies should be evaluated well. Interviewees of four out of six firms indicate that their firms evaluate adopting well. When a new technology is found, analyses are made on their risks, costs and impact. Also, it is considered whether new employees need to be hired for the task, and whether customers need to be aware of the change (in technology). A respondent also indicates that the open culture in his/her company facilitates the evaluating, since it allows employees to discuss topics such as these easily. However, not every firm in the dataset has developed this microfoundation as well as others. Interviewees from OutSmart and Squeezely namely state that their firms 'first do, and then think'. *"I think that you need to have flexibility these days, and you sometimes just need to do things. Afterwards we see how that decision performed, so we work in iterations"* (Squeezely_1).

4.2.1.3 Act quickly

If technological opportunities or threats are sensed, they must be acted on quickly, in order to keep up with the changing environment and stay ahead of competitors. In the interviewed firms, this microfoundation is seen as a complicated one. Interviewees of all firms indicate that their business struggles with limitations when it comes to acting quickly. Limitations include shortage of budget, employees or resources in general. This causes some firms to sometimes not act as fast as they would like to. *"Our willingness to act quickly is very high. The only pullback is that we sometimes don't have the capacity to do so. Where a lot of competitors have tons of funding, we are still searching for that"* (MoreApp_2). However, most respondents claim that their business acts relatively quickly, as well as they can with their somewhat limited resources. *"It depends on what you see as quickly. When you look at Sennheiser, for example. When they start a project, it might take one and a half to two years before it's in the market. We are also able to do that within two years, but with a much smaller team."* (Gerrard Street_1). Being smaller can therefore also be seen as an advantage towards bigger competitors, as this allows firms to adjust themselves easily. Some respondents also say that their firm deliberately sometimes chooses not to act too fast on technological opportunities. *"Readers in the Netherlands are mostly 45+, which is why we choose not to be the first one implementing new developments. Our target customers are namely also not the early adaptors of these things."* (Bookchoice_1). This is a great demonstration of the market orientation of this firm, as the firm consciously focusses itself on

its customers, rather than solely on technological innovativeness. A respondent from OutSmart also says that his/her firm sometimes chooses not to move too fast, because their current product offering is still good enough for winning market share: *"You must not move too fast with things that seem interesting and which can offer you something, when you can still gain a lot of market share with the solution that you currently have."* (OutSmart_1). Acting quickly on technological opportunities and threats is therefore a microfoundation that must be seen in perspective to the firm's size and resources. Furthermore, the interviews show that acting too quickly on these opportunities may not always be the best move.

4.2.1.4 Top management support

As with the sensing of technological opportunities and threats, top management support is important for technological seizing activities. Two interviewees who are employees (i.e. not managers) say that they appreciate it when managers engage into conversation with them about new technological developments. *"I have weekly meetings with the two managers in which I can show my progress. They are always very interested in those meetings and fully support me."* (MoreApp_1). Top management support therefore seems to positively influence the willingness of employees to implement new technologies. Employees in the dataset also say that they appreciate it when managers themselves are initiators of new technologies. Two managers and one employee in the dataset say that their firm is able to deal with new technologies quickly, because they have little management layers. This enables managers and employees to discuss new technologies very easily, which in turn lead to quicker response time to developments. For this microfoundation, it therefore seems important that managers are approachable, and that everyone in the firm is able to speak his/her mind on technological developments. *"I would appreciate it a lot if everyone in the team would take a look on the internet once in a while at whether there are new innovations in his/her expertise. (…) And I think that, if we implement something new, that it will be carried by the whole team. So not from the top, but from the bottom. So that we really do it together.* (MoreApp_3).

4.2.2 Market response

4.2.2.1 Select target markets

The first microfoundation for seizing market-related opportunities, is selecting target markets. All interviewees state that their firm selects a target market to some degree, and it is found quite important. However, the data shows that B2B and B2C firms select target markets

differently. The interviewees from all B2C firms say that they select a target market based on demographics to some degree. However, what seems most important for these firms is selecting a target market based on the content of their product. *"Our target market is actually very broad, just as broad as the content that we have on our platform. (…) For example: Harry Potter is one of the best listened to titles on our platform, and a Harry Potter enthusiast can just as well be an 80 year old man, or a 15 year old teenage girl. (…) So we don't only look very traditional at: it's a man, or the age category."* (Storytel_2). The marketing of these firms is therefore not only based on purely demographics, but also on which content seems popular. *"If we see that more thrillers are being listened to in the app, or more novels, then we use those groups as a face for marketing, since we expect that more people will listen to these."* (Storytel_1). Furthermore, testing and evaluating a target audience also seems important for B2C firms. *"You cannot just say: 'We think that…'. Your product and your subscription price, you really have to test those with your target audience. So you have to be willing to adjust yourself often."* (Gerrard Street_1).

Selecting a target market based on the content of your product seems less relevant for B2B firms, since their products are generally quite generic. This means that not just one type of business can profit from their solution, but it is applicable to many sorts of businesses. The B2B firms in the dataset therefore mostly select their target market based on firm size, country, and, most important, sector. Interviewees from two out of three B2B firms say that their business selects a target market according to a certain sector, based on the sectors that they are already active in. Engaging in a sector in which you are already familiar is found very useful by respondents, since they have more certainty that their product will be appreciated, and they are able to personalize their product better according to the sector. *"We are moving more towards niches. Our application can be used very generic for everyone, but we also see that businesses appreciate it when you talk in their language."* (OutSmart_1). *"First, we were kind of shooting with hail. So we took every opportunity for pitching, giving a demo, or anything. That cost us a lot of time, and it was not effective at all"* (Squeezely_1). Furthermore, marketing efforts are also often based around a certain sector. *"If we see that there is a lot of demand for inspection forms in the construction sector, more than in healthcare, then we will make more marketing content for inspection forms for construction"* (MoreApp_3).

Concluding, there is a difference to be noticed between B2B and B2C firms when it comes to selecting a target market. Where B2C firms mostly select their target audience based on their product offering, B2B firms do this based on the sectors in which they are familiar.

4.2.2.2 Develop new products or features

The second microfoundation for effective seizing of market opportunities, is the developing of new products or features based on market information. This can thus occur based on information gathered on consumer preferences, but also on competitor moves or general market trends. All interviewees of all firms say that their firms heavily engage in this process. The dialogue between the firm and its consumers if found very important, and their input is very much appreciated. The development of new products or features occurs via two main ways in the dataset. First of all, firms engage in developing based on actual concrete questions by consumers. In this case, consumers reach out to the firm, saying that they miss certain features in the product, or that they experience issues with the product. For the B2B firms especially, this is seen as the most important mean for developing according to market information. *"We will never start anything without having customer demand. So we are really customer-driven, I have to say. And that ensures that you don't develop things that the customer is not waiting for."* (OutSmart_1). *"We could figure out what we think that they would appreciate, but they tell us themselves. So we really listen well to our customers"* (MoreApp_1). Of course, not every customer question can result in a change to the product. Therefore, the questions of the customers are often being assessed to some degree. *"We really ask ourselves three questions. Is it one customer, or whole group of customers? Is it a small problem, or a big problem? And, is there a simple workaround for it? If the answer is: it concerns a lot of people, it has great impact, and there is no alternative or workaround, then we will put it high on the agenda"* (MoreApp_2). Similar systems are being handled at more firms, with the most important indicator being the number of customers that are asking about the change. A number of interviewees also say that the more customers asking about a certain change, and the greater the impact of that change, the faster this change will be realised.

Secondly, new products or features are being developed based on the insights of the firms themselves. These insights are mainly gained from customer data or market trends. This manner of introducing new changes to the product seems more important for the B2C firms. The two firms offering (audio)books mainly use such information for determining which genres of books they will mostly add to their product. Storytel takes a next step in this

process, and even has its own production line with 'Storytel Originals'. *"We for sure look at what are areas of interest, and we develop according to those with our Storytel Originals line. So we look at where the most interest lie. Is that at true crime, podcasts, or more at laidback listening and letting yourself be carried with a somewhat lighter story?"* (Storytel_2).

Concluding, developing changes according to the demands of customers is seen as a very important process for subscription-based firms. In the dataset, developing new products or features is mostly done based on two information sources: concrete questions of customers, or business insights about customers and the market.

4.2.2.3 Address competitor moves

The third microfoundation for effective seizing of market-related opportunities or threats, is addressing competitor moves. However, this microfoundation is sometimes found quite difficult, due to the lack of information about competitor moves, as also described in section 4.1.2.2. Addressing competitor moves therefore mostly happens based on what the firms are able to see in the market: marketing campaigns, product developments, online reviews, branding, and/or general researches concerning market trends. When looking at marketing, the most important topic for the interviewed firms is their findability online. Respondents of four out of six firms indicate that their firm looks at how competitors brand themselves, and how their (online) marketing efforts look. If this does not correspond to how their firm operates, an adjustment might be made. *"So if we notice that we need to adjust our marketing because we see a lot of companies using a different kind of stories, or using other kinds of words, then we change that ourselves also directly."* (Gerrard Street_1). *"An example is that we used to call ourselves a DMP, data management platform. Then we noticed that everyone was branding themselves as a CDP, customer data platform. (…) So eventually, we also started to call ourselves a CDP."* (Squeezely_1).

Changing the product according to competitor moves happens less often. Most interviewees say that their business keeps an eye on what (new) products or features their competitors have, but these do not necessarily call for an adjustment of their product. However, this does happen, as described by the interviewee of Gerrard Street. *"We also read a lot of online reviews. For example, now that we are putting our active noise cancelling on the market, then we look at online reviews of Bose. What do people think of the loading time, battery life? This then becomes a sort of standard for us"* (Gerrard Street_1). The fact that competitor moves do not always call for action, also stems from the specific propositions some firms choose. The

interviewee of Bookhoice, for example, states that his/her company has consciously chose a price proposition, which is why they are unique in their market, and not every competitor move is seen as a threat. Storytel also has a specific strategy when it comes to competition. *"We really have one big competitor: Audible. So we move ourselves to the places in which Audible is not. This causes us to be in a market in which we don't have a lot of competition. (...) Therefore, we don't have to actively consider our competition all the time."* (Storytel_1). This strategy can also be seen as a way to address competitor moves.

Concluding, addressing competitor moves can be quite difficult in the subscription market, due to limited available information. Competitor moves concerning marketing are often followed, since these are relatively visible. The actual changing of the product according to competitor moves, however, seems less likely in the subscription market. In the process of staying competitive, choosing a specific strategy or proposition for dealing with competitors could be a good solution for the lack of information about competitors.

4.2.2.4 Top management support

The final microfoundation for the market response capability is top management support. Rather than supporting the search for new technologies, as with technological opportunism, managers should support the process of adapting to the market and keeping an eye on competitors. All interviewees indicate that their firm is aware of their position in their market, and that changing is necessary. *"We are aware of the fact that it is game-over when you can't keep up with market developments. Standing still is not an option, we must continue to scale up."* (MoreApp_2). The main mean for top management support concerning market opportunities and threats seems to be communication. A number of managers in the dataset say that they often talk to their employees about where the firm is heading and what obstacles are in the way. Managers thereby also often ask their employees to check out certain developments concerning customers, competitors or the market in general. This makes sure that everyone is on the same page and is knowledgeable about relevant developments. A number of employees in the dataset also say that they appreciate talks with their managers. Clear and motivating communication towards employees therefore seems to be important for a well-developed market response capability.

4.3 Reconfiguring

4.3.1 Develop and communicate a clear image of the future

The first microfoundation for successful reconfiguring is the developing and communicating of a clear image of the future. The setting of goals is found very important by the interviewees. Eight out of ten interviewees state that their firm actively sets goals, or is planning to do so. It is subsequently important that these goals are shared with the entire firm, so that everyone is knowledgeable on what is going on in the firm, and where they are heading. Sharing goals also enables employees to speak their minds on the goals, which allows for discussion. A smaller firm size and an open culture seems to facilitate discussions about goals and the progress that is being made on them. *"If you have a big company, then you would have to e-mail everyone about what is about to happen. We just discuss that during lunch, so that is the power of a smaller team"* (Squeezely_1). The importance of sharing goals with employees is well illustrated by the interviewees at OutSmart. The manager at OutSmart (OutSmart_1) says that they set clear goals with management. *"At management level, we state for ourselves where something should lead to."* However, the second interviewee, who is an employee, (OutSmart_2) knows little about these goals. *"I can't imagine that everything is done blindly, but I don't know if something is written down black on white.".* Communicating a clear image of the future therefore seems very important. *"If there's not a goal behind something, we'll get critical questions."* (MoreApp_2)

When it comes to the actual setting of goals and communicating those, the interviewees in the dataset describe a number of ways by which this happens. At MoreApp, the teams work with 'rocks', describing a number of goals to be attained by each quarter. The progress of reaching these goals is subsequently discussed every two weeks. *"We have two-weekly demos, in which the development team shows what new developments there are, new features, bug fixes, you name it. This is also the moment at which the marketing team shows what they are doing: newsletters, blogs, events, that sort of things. We also then have an update concerning the business, so about important business changes".* (MoreApp_2). Storytel also works with goals on a quarterly basis, whereas Gerrard Street maintains short-term goals of one week. It must also be noted that not only the setting of goals is important, but also the maintaining and evaluating of those goals. *"Things often change, and sometimes you lose the ultimate goal which you are working for. You then lose sight of those things, and you could be doing the wrong things"* (Gerrard Street_1).

Concluding, developing a clear image of the future is found very important by most interviewees. This can be done by setting clear goals and determining measurable outcomes. Communicating those goals is subsequently very important, so that everyone in the firm is knowledgeable about them, which will enable them to more actively pursue them.

4.3.2 Develop feedback mechanisms

The second microfoundation for effective reconfiguring is the developing of feedback mechanisms. The data shows that not a lot of firms have implemented actual structures to facilitate feedback. Feedback is mostly given informally, which is facilitated by an open culture in which employees are able to speak their minds. *"We are a very open company, in which everyone is able to give his/her input, and we seriously look at that"* (MoreApp_1). Again, a smaller size firm seems to have an advantage here, as feedback can easily be given, without having to go through hierarchical layers. *"We have very short lines. The whole team is able to sit at one table, so we don't have to discuss something for hours before we implement it. We can make decisions very quickly."* (Gerrard Street_1). However, structural feedback mechanisms can provide firms with real value. MoreApp and Storytel are the only firms in the dataset of which interviewees say that they have a structure for giving and receiving feedback. These interviewees claim that this structure provides them with real advantages. *"We have a retrospective every two weeks. Here we discuss with the entire team things like: Where should MoreApp start with, according to you? What should we absolutely stop doing? With what should we continue? So our biggest business changes actually emerge from these sessions"* (MoreApp_2). Besides employees, customers can also be seen as a source of feedback. When they experience problems with the product, they can discuss this with firms via a support channel, for example. Support employees can subsequently pass on this feedback to the rest of the company, after which changes can be made. *"If employees tell me: "Customers react very bad to this advertisement, or we made this e-mail but something is missing", then we change those things of course."* (Gerrard Street_1).

Concluding, structural feedback mechanisms are not always as well-developed in the interviewed firms. An open culture seems to be the greatest facilitator for the giving of feedback by employees.

4.3.3 Top management support

The final microfoundation for the reconfiguring capability is the support of top management for employees who aid in the process of implementing changes. The data shows that this microfoundation is not as formally developed as it is described in literature. The support of management of employees who aid in a change does occur, but not in a structured way. This means that no interviewee says that their managers hand out bonuses in any form to employees who helped in a change, or things like that. The focus of top management support in this sense lies more on the informal contact. This means taking out employees to dinner, going out for a drink with the team, and generally celebrating successes. *"One of our goals is that we want to celebrate successes. So we use the 'work hard, play hard' principle. For example, when we rolled out our new pricing model, we had a drink and a quiz. So we try to do this with all big events and changes."* (MoreApp_2). Furthermore, allowing employees to personally develop themselves is another way by which top management can show its support to the rest of the firm. *"I think that we reward with us is that we are a very learning organization, offering a lot of development, career opportunities, and room for education. Also, you get an awesome job in which you can initiate things at every level, and receive room to get those things implemented. So our reward system is more concerned with personal development, than with actual bonusses."* (Storytel_2).

Concluding, the support of top management when it comes to (aiding in) implementing changes has a more informal character. Rewarding employees with casual events, celebrating successes, can seen as a good mean for showing support.

4.4 Summary on the presence of the dynamic capabilities

In this section, the performance of the firms on each dynamic capability is summarized. Each dynamic capability is discussed per table, in which the microfoundations that form the capability are visible. An assessment is made per microfoundation on how well this microfoundation manifested itself in each firm. As stated earlier, this is done by assigning either a plus (+), a minus (-), or a plus minus (+/-), depending on how well the firm performs at each microfoundation. This consideration is made based on whether a firm has certain processes in place as prescribed by literature concerning each microfoundation. The number of plusses is also expressed in a percentage, so that the dynamic capabilities can be compared with each other. The summarizations flowing out these tables can then be used to see whether

a greater performance on a certain dynamic capability is associated with a greater performance on another one, and can thus check the first three propositions of this thesis.

Table 5: Summary of the development of the Sensing capability

Dynamic Capability	Microfoundations	Performance by firms on each microfoundation					
		Storytel	*Bookchoice*	*Gerrard Street*	*MoreApp*	*OutSmart*	*Squeezely*
Sensing	Search for new technologies	+	+	+	+	+	-
	Evaluate (current) technologies	+	-	+	+	-	-
	Future focus	+/-	-	-	+/-	+	-
	Top management support	-	-	+/-	+	+	+
	Gather consumer information	+	+/-	+	+	+	-
	Gather competitor information	+	+/-	+/-	+	+/-	+/-
	Gather market trend information	+	+	+	+	-	+
	Gather supplier-/partner information	+	+/-	+	+	-	-
	Pursue durable relationships	+	+	+/-	+	+/-	+
Summarization of number of +		6 (67%)	0 (0%)	4 (44%)	8 (89%)	1 (11%)	-2 (-22%)
Average number of +	2,83 (31%)						

Table 6: Summary of the development of the Seizing capability

Dynamic Capability	Microfoundations	Performance by firm on each microfoundation					
		Storytel	*Bookchoice*	*Gerrard Street*	*MoreApp*	*OutSmart*	*Squeezely*
Seizing	Willingness to adopt	-	+	+	+	+	+
	Evaluate adopting well	+	+	+	+	-	-
	Act quickly	+/-	+	+	+	+	+
	Top management support	-	+	+	+	+/-	+
	Select target markets	+	+	+	+/-	+	+
	Develop new products or features	+	+	+	+	+	+
	Address competitor moves	+	+	+	+	+/-	+/-
	Top management support	+/-	+/-	+	+	-	-
Summarization of number of +		2 (25%)	7 (88%)	8 (100%)	7 (88%)	2 (25%)	3 (38%)
Average number of +	4,83 (60%)						

Table 7: Summary of the development of the Reconfiguring capability

Dynamic Capability	Microfoundations	Performance by firm on each microfoundation					
		Storytel	*Bookchoice*	*Gerrard Street*	*MoreApp*	*OutSmart*	*Squeezely*
Reconfiguring	Develop and communicate a clear image of the future	+	+/-	+/-	+	+/-	+/-
	Develop feedback mechanisms	+	+/-	+	+	+/-	+/-
	Top management support	+	+	+	+	+	+/-
Summarization of number of +		3 (100%)	1 (33%)	2 (67%)	3 (100%)	1 (33%)	0 (0%)
Average number of +	1,66 (55%)						

4.5 Service quality

In this section, the service quality of the researched firms is discussed. This is done per firm, explicating how well customers evaluate the service of the firm. As stated earlier, unfortunately no online reviews could have been found for Squeezely, which is why this firm is not included in this analysis. Specifically, each dimension of service quality is considered separately, looking at the temper of each online review; is it positive or negative? A positive experience is characterized by the customer generally appreciating the subscription service, mentioning what specific factor makes them appreciate it. A negative one is characterized by the customer experiencing issues with the service, or missing features they would appreciate.

Based on the number of reviews that have either a negative or a positive sentiment, conclusions can be made on the service quality of each firm. Since no threshold could be found in literature on which service quality should be assessed, assessments are made on the average service quality of the researched firms. This is done by calculating the average percentage of positive experiences, as well as the average percentage of negative experiences. This makes it possible to easily compare the service quality among firms. The percentage is rounded to whole numbers. The total number of codes is 751, of which 469 (62%) had a positive sentiment, and 282 (38%) a negative one. The assessment of a firm's service quality is based on these percentages, i.e. did the firm score above or below average?

4.5.1 Storytel

As stated earlier, for Storytel a total of 100 online reviews have been gathered: 50 from the Apple App Store and 50 from the Google Play Store. These reviews resulted in 160 codes, of which 68 with a positive attitude, and 92 a negative one. In Table 8, the number of codes and their corresponding dimensions are visible.

Table 8: Service Quality of Storytel

Dimension	Number	Positive experience	Negative experience
Aesthetics	18	9	9
Conformance	14	0	14
Durability	3	1	2
Features	42	9	33
Perceived Quality	3	2	1
Performance	47	44	3
Reliability	26	2	24
Serviceability	7	1	6
Total	160	68 (42%)	92 (58%)

The most mentioned dimensions are performance and features. Notable is that the performance of Storytel is very positively experienced (44 positive vs. 3 negative), yet the features quite negative (9 positive vs. 33 negative). When looking into the codes corresponding to these dimensions, it is visible that a lot of people generally appreciate the service, hence the high level of positive experiences concerning performance. However, even those who appreciate the performance, often still have things to note on the features of the Storytel app. They often say that certain features are not to their liking, or that they still miss some features. *"The content is okay, but surely not complete. However, it is hard to find it. The search function is very bad. When you, for example, search for books written by 'Bakker', you get all the books in which 'Bakker' is mentioned in either the title or the description. You cannot divide that. So if you want something else than the standard shown content, you just have back luck. English content also is disappointing, and you can only choose two languages. I'm considering to end my subscription after one month."* (Storytel service quality code 74). Another dimension that is experienced extremely negatively is Conformance. This discrepancy stems from customers finding the price of the service too high in comparison to the advantages it brings them. Finally, also the reliability is experienced very negatively. This is due to customers experiencing issues with the service, which prevents them from using it to their liking.

Concluding, when considering the overall service quality of Storytel, customers experience the service predominantly negatively. Almost all dimensions are experienced more negatively (58%) than positively (42%). Since the average percentage of positive experiences is 62%, Storytel's service quality is labelled as below average.

4.5.2 Bookchoice

For Bookchoice, also 100 online reviews have been gathered: 33 from the Apple App Store, 33 from the Google Play Store, and 34 from Trustpilot.com. These reviews resulted in 151 codes, of which 46 had a positive sentiment, and 105 a negative one. Table 9 shows the distribution of the number codes per dimension.

Table 9: Service Quality of Bookchoice

Dimension	Number	Positive experience	Negative experience
Aesthetics	8	4	4
Conformance	6	1	5
Durability	0	0	0
Features	10	0	10
Perceived Quality	4	0	4
Performance	41	37	4
Reliability	59	0	59
Serviceability	23	4	19
Total	151	46 (30%)	105 (70%)

The most mentioned dimensions are performance and reliability. When talking about performance, most reviewers were positive about Bookchoice. The most mentioned subject here was the content of Bookchoice, which a lot of reviewers appreciated. However, a lot of customers were unable to enjoy the content of Bookchoice due to issues they experienced with the product. *"Every time I have read a book, the app closes and I get error notifications saying that the Bookchoice app does not respond. I can fix this by closing the app in the settings, but I actually should not have to do this. It obstructs me to use the app"* (Bookchoice service quality code 93). Because of errors such as these, a number of reviewers say that they are thinking of ending their subscriptions, and/or going to the service of a competitor. *"The subscription stands or falls with a good app, so…"* (Bookchoice service quality code 83). Furthermore, when users who experience issues contact the support of Bookchoice, they feel like they are not being helped well. According to reviewers, the support of Bookchoice is hard to reach, often does not respond or responds very late, and does not actually help the users who experience problems.

Concluding, most online reviews about Bookchoice have a negative sentiment (70%). The content of the service is mostly enjoyed. However, a lot of users are unable to enjoy this content due to issues with the app. When contacting Bookchoice about these issues, many users felt that they were not helped a lot. Since the average percentage of positive experiences is 62%, and Bookchoice's is 30%, the firm's service quality is labelled as below average.

4.5.3 Gerrard Street

For Gerrard Street, a total of 78 online reviews were gathered; 75 from Trustpilot.com, and three from Tweakers.net. Based on these reviews, 187 codes have been formed, of which 157

had a positive sentiment, and 30 a negative one. Table 10 shows the dispersion of the number of codes per dimension.

Table 10: Service Quality of Gerrard Street

Dimension	Number	Positive experience	Negative experience
Aesthetics	16	14	2
Conformance	18	13	5
Durability	3	1	2
Features	12	8	4
Perceived Quality	20	20	0
Performance	66	58	8
Reliability	2	0	2
Serviceability	50	43	7
Total	187	157 (84%)	30 (16%)

The most mentioned dimensions were performance and serviceability. The majority of the reviews that mentioned these dimensions had a positive attitude. Users of Gerrard Street most of all enjoyed the sound quality of the headphones. Many customers also noted that they appreciated the firm because of its sustainable proposition, since parts of the headphones are re-usable. Furthermore, a lot of users positively experienced the serviceability Gerrard Street. Reviewers say that the support reacts very quickly, friendly and helpful. Also, subscribers found it very easy to send broken parts to Gerrard Street, and new replacing ones are sent very quickly. This is extra important for Gerrard Street, since their business model surrounding the replacing of headphone parts relies on this. *"An excellent service overall. Had a more expensive part of the headphones break pretty early on, they replaced it without any questions as the service would suggest. They where very helpful in finding out the problem and their helpdesk via WhatsApp is quick to respond."* (Gerrard Street service quality code 85).

All in all, most users experience the service of Gerrard Street very positively (84%). This percentage is higher than the average (62,5%), which is why Gerrard Street's service quality is labelled above average.

4.5.4 MoreApp

For MoreApp, 100 online reviews have been collected; 50 from the Apple App Store and 50 from the Google Play Store. These reviews resulted in 134 codes, of which 130 described a positive experience, and 4 a negative one. Table 11 shows the number of codes per dimension.

Table 11: Service Quality of MoreApp

Dimension	Number	Positive experience	Negative experience
Aesthetics	10	10	0
Conformance	3	3	0
Durability	1	1	0
Features	10	10	0
Perceived Quality	2	1	1
Performance	54	54	0
Reliability	3	0	3
Serviceability	51	51	0
Total	134	130 (97%)	4 (3%)

The online reviews for MoreApp were overwhelmingly positive; only four reviews had a negative sentiment. Performance and serviceability were the most mentioned dimensions. Many reviewers stated that they really appreciated the functionalities of the MoreApp app and the user friendliness of the app. Many reviewers also said that the app made their jobs a lot easier. *"Moreapp has literally made my job easier, I'm so surprised and satisfied with it. It's way easier to use, and makes the process of collecting data more user-friendly for both parties. I'll definitely keep using it, it's saving me so much time and paperwork. If you use forms in your day-to-day, trust me, this app helps so much"* (MoreApp service quality code 5). Furthermore, the serviceability of MoreApp is appreciated exceptionally well. Reviewers said that the support of MoreApp responds very quick and adequate. Also, the workshops that MoreApp offers its (potential) customers is valued a lot. *"The workshop is excellent! The personnel is very friendly and helpful. Because of this, you can make your forms as quickly as possible."* (MoreApp service quality code 106). The only negative experiences reviewers had were due to issues with the app. However, according to the positive reviews on the serviceability of MoreApp, such issues are usually fixed very quickly.

Concluding, since 130 out of 134 codes (97%) had a positive sentiment, MoreApp's service quality can be labelled as above average.

4.5.5 OutSmart

For OutSmart, 95 online reviews have been collected: 25 from the Apple App Store, 64 from the Google Play Store, and 6 from Out-Smart.com. These reviews resulted in 119 codes, of which 68 discussed a positive experience, and 51 a negative one. Table 12 shows how the codes are dispersed by dimension.

Table 12: Service Quality of OutSmart

Dimension	Number	Positive experience	Negative experience
Aesthetics	12	6	6
Conformance	3	2	1
Durability	0	0	0
Features	9	5	4
Perceived Quality	0	0	0
Performance	40	36	4
Reliability	37	1	36
Serviceability	18	18	0
Total	119	68 (57%)	51 (43%)

The most frequently mentioned dimensions were performance and reliability. When discussing performance, a lot of reviewers mentioned that they appreciated OutSmart's product because of its functionalities. The app allowed them to save money and time, and be more precise in their work. *"Very pleasant and cost saving. We started using this a couple of months ago, but we should have done it way earlier. It saves us so much work, both for our engineers on the road, as well as for our backoffice"* (OutSmart service quality code 14). However, the reviews regarding the reliability of OutSmart were less positive. Most of the reviewers here mentioned that the app often did not function properly, which, in some cases, has led firms to experience costs. These issues with the app also led some customers to cancel their subscription and go to other services. *"After the update 95 tablets are not functioning anymore, which is already the second time this has happened. We are trying to figure it out for more than a day now, without result. You can guess that we have gigantic financial damage."* (OutSmart service quality code 31).

Concluding, the service quality of OutSmart is not as good as it could be. Customers enjoy the functionalities of the app, but it can be unreliable. Since the average percentage of positive experiences is 62%, and OutSmart's is 57%, the firm's service quality is labelled as below average.

5. Discussion

In this chapter, the results of each dynamic capability are discussed in detail, focusing on specific processes that stood out in the data. Based on the data concerning the development of the capabilities the first three propositions are checked. Subsequently, the relationship between dynamic capabilities and service quality is investigated. Here, the final three propositions are assessed. Hereafter, a number of remarks are made concerning the research contributions, implications and limitations of this thesis.

5.1 Sensing opportunities and threats

The results indicate that the dynamic capability 'sensing opportunities and threats' is very important for subscription-based businesses. The information gathered with the processes within this capability forms the basis of their operations and is used throughout the firms. As stated earlier, the capability consists of two themes: 'technological opportunism' and 'market orientation'.

When it comes to technological opportunism, the microfoundations 'search for new technologies' and 'evaluate (current) technologies' were quite well-developed in most firms. These two microfoundations can also be perceived as the most important for technological opportunism, as with these processes actual information is gathered, which subsequently can be transformed into concrete business opportunities or changes. Surprisingly, the most mentioned method for evaluating technologies was evaluating based on customer intelligence. This means that the processes of 'technological opportunism' and 'market orientation' are not stand-alone practices, but that they are interrelated. I.e. if a firm has well-developed methods for gathering customer intelligence, this is likely to positively affect the firm's ability to evaluate (current) technologies also. The microfoundation 'future focus', however, was lacking in most businesses. Especially respondents from smaller, growing firms explained that they found it hard to put their future operations above their current ones, because of limited resources. Finally, half of the interviewed firms had developed the microfoundation 'top management support' properly. Many respondents perceived this microfoundation as very important, because it allowed employees to fully devote themselves to searching for interesting new technological opportunities.

When it comes to the market orientation of the subscription-based businesses, the gathering of consumer information is the most crucial microfoundation. Many interviewees state that

consumer intelligence is key information for them, and this often forms the basis of the product offerings of the firms. The best way for gathering such intelligence is by engaging with (potential) customers face-to-face, as this enables both parties to share knowledge and feedback can easily be given. Furthermore, interviewees also state that such meetings strengthen the firm-customer relationship. This is important for the microfoundation 'pursue durable relationships', as building such relationships with customers seems to be difficult for online-operating companies, since interaction between both parties is often limited and impersonal. Despite the difficulty of this process, most subscription-based firms engaged quite heavily in building relationships with their customers, with the goal of retaining them. The best mean for creating durable relationships with customers, and thereby retaining them, is the content of the product. If the content is lacking, customers will eventually be dissatisfied and unsubscribe. It is therefore also important to track market trends concerning the content or the users of the product, which is something almost all subscription-based firms did well. The microfoundation of tracking competitor moves, on the other hand, was found very difficult by most firms. Information about the competition is often not openly available, which led most subscription-based firms to struggle with this process. Finally, the microfoundation of gathering supplier/partner information was not as important for each firm. This was due to the fact that most firms had little contact with their suppliers, or the subscription-based firms were more innovative than their suppliers.

5.2 Seizing opportunities

The subsequent seizing capability also consists of two themes: 'technology response' and 'market response'. When looking at the technology response microfoundations, two that almost all firms excelled well at were 'willingness to adopt' and 'act quickly'. A smaller firm size can both be seen as a facilitator as well as a obstacle for these two microfoundations. On one hand, a smaller firm size allows firms to be agile and adopt new technologies quickly. On the other hand, a smaller firm size often comes with a limitation of resources, which prevents firms from implementing certain changes. It must also be noted that not every subscription-based business might be as able to quickly adopt new technologies as the other, due to the nature of the product offering of the firm. Purely online-based firms are more able to easily make changes to the product, as opposed to firms with physical products, who often are committed to a certain production method etc. Evaluations concerning the adoption of new technologies are made well by most firms, through a number of analysis methods. A

facilitator for this microfoundation, which corresponds to the microfoundation 'top management support', is an open culture inside the business. An open culture allows employees to discuss adopting a new technology freely, which will lead to a better weighed decision. In an open culture, employees can also easily approach managers, and the other way around. The microfoundation of top management support is quite well-developed in most researched firms.

The microfoundations belonging to 'market response' were overall fairly well-established in most firms. The microfoundation which every firm excelled at was developing new products or features according to market information. This process lies at the base of the product offerings of the firms, and is seen as crucial. Most firms never develop new products or features when there is no concrete customer demand for it. This ensures that the firms deliver what the customers want, which contributes to greater service quality. The microfoundation of selecting target markets was also very well developed in most firms. An interesting distinction was to be found here between B2C and B2B firms. Whereas B2C firms selected a target audience based on (some) demographics and the content of their product, most B2B firms selected their target market based on the sectors that they were already active in. For B2B firms, this ensured that they knew what their customers wanted and were able to deliver it well. Addressing competitor moves was seen as a somewhat difficult microfoundation, due to the limited information about the competition. This therefore serves as evidence that ineffective sensing leads to ineffective seizing. Finally, again the main mean for top management support of market response activities is great communication and an open culture. This makes sure that everybody is on the same page about market developments and allows for quick decision-making.

Based on Tables 5 and 6, conclusions can be made on the first proposition of this thesis; whether firms with a more developed sensing capability also have a more developed seizing capability. This conclusion is based on whether or not a firm performed below or above average on both sensing and seizing. The two tables show somewhat mixed results. Gerrard Street and MoreApp performed above average on both the sensing and seizing capabilities. Likewise, both OutSmart and Squeezely performed below average on both sensing and seizing. This would suggest that there is a real connection between the two capabilities. However, this relation did not exist for Storytel and Bookchoice, which performed above average on sensing, and below average on seizing, or vice versa. This means that the relationship proposed in proposition one is found in two thirds of the researched firms. Since

proposition one is not true for all researched firms, it is not fully accepted. The fact Storytel and Bookchoice did not conform with the proposition implies that the relationship between sensing and seizing is not completely dependent and mutually inclusive, as the proposition suggests. This means that a firm can have a well-developed sensing capability, while having a lacking seizing capability.

5.3 Reconfiguring resources

Finally, the results concerning the dynamic capability 'reconfiguring resources' are somewhat mixed. The microfoundation 'develop and communicate a clear image of the future' was not found as well-developed in each firm. Even though the setting of goals is found very important by most interviewees, the actual communicating of those goals is sometimes lacking. Again, an open culture in which all employees are engaged can facilitate this process. The evaluation of goals is also critical, since these subscription-based businesses operate in a dynamic environment. It could therefore be the case that an earlier formed goals is not as relevant to the current situation, due to environmental changes. Because of the dynamic environment of subscription-based businesses, it is also extra important to have good feedback mechanisms. Feedback can come both from customers as well as from employees. The microfoundation of developing feedback mechanisms, however, was not as well-formed in each firm. Not every firm had concrete processes in place for delivering and catching feedback. A smaller, open-cultured firm seems to have an advantage here, since this enables employees to communicate with each other easily. As firms grow, feedback structures, such as weekly retrospective meetings, should be set in place, to make sure that employees are able to communicate their feedback. The microfoundation of 'top management support' in the sense of formal support occurred little in the subscription-based businesses. Rather, managers showed their support to their employees in the form of informal gatherings, such as going out to dinner of having drinks with the company.

Based on Tables 5,6 and 7, conclusions can be made on the second and third propositions of this thesis. The second proposition concerned the relationship between the sensing and reconfiguring capabilities. A firm with a better developed sensing capability should also have a better developed reconfiguring capability. This conclusion is based on whether or not a firm performed below or above average on both sensing and reconfiguring. Storytel, Gerrard Street and MoreApp all had an above average developed sensing capability, and also an above average developed reconfiguring capability. On the other hand, Bookchoice, OutSmart and

Squeezely all had a below average developed sensing capability, and a below average developed reconfiguring capability. Proposition two therefore holds for all firms and is thus accepted.

Proposition three concerned the relationship between the seizing and reconfiguring capabilities. A firm with a better developed seizing capability should also have a better developed reconfiguring capability. This was the case for Gerrard Street and MoreApp, as these both had an above average developed seizing and reconfiguring capability. Also, OutSmart and Squeezely had a below average developed seizing and reconfiguring capability. However, the proposition was not true for Storytel and Bookchoice. Storytel had a below average developed seizing capability, and an above average developed reconfiguring capability, Bookchoice had this the other way around. Based on these results, the relationship between seizing and reconfiguring can therefore not be seen as fully dependent and mutually inclusive. However, the results do indicate a strong connection between the two capabilities, since it is true for two thirds of the firms.

5.4 Service quality

For all researched firms, a number of dimensions of service quality were mentioned most. For each business, the performance of the service is the most important indicator for the quality of the service. This means that customers mainly assess the quality of a subscription service by its primary operating characteristics. For Storytel, for example, this is the number of listening books available in the app, while for Gerrard Street it is the audio quality of the headphones. Secondly, a lot of customers mentioned the serviceability of the researched firms. This means that these customers specifically enjoyed (or were discontented with) the communication between them and a firm. The fact that serviceability was mentioned as much is somewhat surprising, since the contact between subscription-based businesses and their customers is generally quite limited. These businesses namely operate mostly online, and customers can make purchases or find answers to their questions without any contact with employees. However, when there was actual firm-customer contact, especially for Gerrard Street and MoreApp, it often was of such quality that customers mentioned it in their reviews. The final dimension that was mentioned most was reliability, which pertains to whether a service does what it is supposed to do, without issues. This dimension was mainly discussed negatively, when customers experienced problems with their service. Especially customers from Bookchoice and OutSmart expressed their issues with the services. It often concerned bugs in

the apps of the services, which prohibited users from using them to their wishing, Many reviewers also stated that they were going to cancel their subscription because of these problems.

The relationship between the development of dynamic and the degree of service quality is analysed based on Tables 5-12. This relationship is checked by looking at the development of each capability for each firm in Tables 5-7, and subsequently linking this with the degree of service quality, as represented in Tables 8-12. These results indicate a relationship between dynamic capabilities and service quality to some degree. The two firms that excelled at the development of dynamic capabilities, Gerrard Street and MoreApp, namely also excel at their respective degrees of service quality. On the other hand, OutSmart, who had less developed dynamic capabilities, also had below average service quality. However, for the other two firms, Storytel and Bookchoice, this relationship was not as unambiguous. These firms namely had mixed results concerning their development of the dynamic capabilities, yet both had below average service quality. The relationship between the development of dynamic capabilities and the degree of service quality is therefore not clear-cut in the sense that the one definitely leads to the other. The results of this thesis do however indicate that there is some relationship between the two.

Specifically, a relationship between sensing and service quality was found for four firms. Both Gerrard Street and MoreApp had a better developed sensing capability, and also above average service quality. As opposed to Bookchoice and OutSmart, who both had a below average developed sensing capability and below average service quality. The only firm for which the proposition was not true was Storytel, which had an above average developed sensing capability, yet below average service quality.

Also for seizing, a relationship with service quality was found for four out of five firms. Gerrard Street and MoreApp had an above average developed seizing capability, and also an above average service quality. Vice versa, Storytel and OutSmart had a below average seizing capability and a below average service quality. The exception was Bookchoice, who had an above average seizing capability, yet below average service quality.

Finally, a relationship between reconfiguring and service quality is found for four out of five firms. Gerrard Street and MoreApp had an above average developed reconfiguring capability, and above average service quality. On the other hand, Bookchoice and OutSmart had a below average developed reconfiguring capability, and below average service quality. The outlier

was again Storytel, which had an above average developed reconfiguring capability, yet below average service quality.

Propositions four, five, and six are thus all true for four out of five firms. This suggests that a real relationship exists between the development of dynamic capabilities and the degree of service quality for subscription-based businesses. Further research could transform these propositions into actual hypotheses, and research these quantitatively to see whether they still hold and are statistically significant.

5.5 Research contributions and implications

The results of the research implicate a number of things. First of all, as the final three propositions have shown, pursuing greater dynamic capabilities seems to be associated with greater service quality for subscription-based businesses. Developing dynamic capabilities enables firms to cope better with their changing environment, by being more aware about changes and better able to act on those changes. This in turn has a positive effect on the service quality of subscription-based firms. Firms with more developed dynamic capabilities are, for example, more able to listen to questions of customers, or more skilled in the tracking of new technologies, which improve the service quality of the product. This link between dynamic capabilities and service quality has not yet been proven in scientific research, which is why this thesis makes a great addition to the body of knowledge on both these constructs. This relationship between dynamic capabilities and service quality is not only interesting for the subscription market, but could be for many more industries.

These findings are in line with the knowledge that is already present on the effects of dynamic capabilities. It is namely known that developing dynamic capabilities in general has a positive effect on firm performance and competitive advantage (Teece, 2007; Zott, 2003). The positive effect on service quality can therefore be seen as a confirmation of these effects. Another interesting contribution of this thesis is that it studies the effects of dynamic capabilities from a consumer-perspective, rather than from a firm-perspective. Most studies on dynamic capabilities look at the effects of them from the viewpoint of a business, i.e. what impact do they have for the performance of the business itself. However, by investigating service quality from a consumer-perspective, this thesis also looks at what the effects are of dynamic capabilities for the consumers of the firm, i.e. does the customer experience improve? By proving the relationship between dynamic capabilities and service quality, this thesis has

therefore shown that implementing strategy at the business level also has actual effects on at the consumer level.

Second of all, it is important to invest in all dynamic capabilities simultaneously, rather than just in sensing for example. This is substantiated by the first three propositions, which all indicate a strong connection among the capabilities. This means that developing one certain capability well also has an effect on the development of other capabilities. If information about, for example, customer preferences is not gathered well, firms cannot act upon this information correctly. It is therefore important that businesses invest well in each dynamic capability, in order to fully benefit from the advantages dynamic capabilities offer. These findings fit with Teece's (2007) view on dynamic capabilities, which also explicates the need for dynamic capabilities to be simultaneously developed and applied. Teece, however, does not substantiate this statement with actual evidence that the capabilities influence each other. This thesis does provide that evidence with the first three propositions, and thereby contributes to the dynamic capabilities literature.

Third of all, this thesis makes a great addition to the scientific literature on dynamic capabilities from a practical point of view. Until now, traditional literature on these capabilities has a very theoretical and conceptual character (Liu & Jiang, 2009; Sprafke et al., 2012). Teece (2007) suggests the sensing-seizing-reconfiguring framework for dealing with a changing environment. The microfoundations proposed in this framework do, however, not reflect the day-to-day decisions that managers have to make when dealing with their changing environment. This thesis therefore extended Teece's (2007) framework with a number of concepts, which do actually give managers handles for coping with their environment. For sensing and seizing, the constructs 'technological opportunism' and 'market orientation' are seen as essential microfoundations. Both these constructs prescribe certain activities that allow firms to effectively search for opportunities and threats, and successfully respond to those developments. For the reconfiguring capability, processes concerning the actual procedure of organizational change are chosen as key microfoundations. This thesis thus makes an addition to scientific literature concerning dynamic capabilities, by extending Teece's (2007) sensing-seizing-reconfiguring framework with more practical concepts, that actually capture the day-to-day operations of firms dealing with a changing environment. This framework is not only interesting for subscription-based businesses, but could be for any firm in a changing environment.

Finally, this thesis is also a great addition to the scientific literature on the subject of SBMs. Due to the novelty of the business model, scientific literature on the subject is very limited. The literature that is available furthermore provides managers of these businesses with little recommendations on how they could operate their firm in the best way. By studying subscription-based businesses from a practical point-of-view, this thesis does provide these managers with concrete handles on how they could improve their business. Moreover, subscription-based businesses have not yet been researched with the perspective of dynamic capabilities, even though this perspective is incredibly relevant for them due to their changing environment. The construct of service quality also has not been properly investigated in the context of subscription-based businesses. It is known that perceived service quality is a great indicator for the willingness to subscribe of consumers (Wang, Zhang, Ye & Nguyen, 2005). However, it remained unknown which specific indicators of service quality were the most important for subscription-based businesses. This thesis has shown that these are: performance, serviceability and reliability. With these indicators known, it makes it easier for managers of subscription-based businesses to improve their service quality. Concluding, this thesis provides managers of subscription-based businesses many practical handles by which they can improve their business.

5.6 Limitations

As with any study, there are some limitations to be mentioned. The first limitation regards the generalizability of the results. A case study was chosen as research approach, because it allowed for in-depth investigation of the microfoundations of the businesses. However, case studies generally provide little basis for generalization, as the results of them are based on relatively few subjects (Yin, 2014). This is also the case for this thesis, as the results are based on (only) six firms, and ten interviews. Also, there is an inequality in the number of interviews per business. In some businesses, it was not possible to perform multiple interviews, while in others it was. Because of this, some businesses might be somewhat over-represented in the data compared to others. Also some issues arose during the gathering of data concerning one firm, Squeezely, for which no online reviews were available. This firm was therefore excluded from testing the final three propositions. Future research could address this issue by gathering a larger sample of businesses, and with it more interviews. The number of interviews per firm could be taken into account here, so that each business is evenly represented. Also, concerning the generalization, quantitative research could be applied to test

the propositions proposed in this thesis. This will allow for both a larger dataset, as well as testing the statistical significance of the propositions.

Secondly, there exist some limitations concerning the variable 'service quality'. In this research, this variable is chosen because it has a great effect on customer retention. This implicates that what this thesis is actually interested in is the variable 'customer retention', which is somewhat true. During the process of interviewing, however, I was not able to retrieve the retention rates of the participating businesses. This was due to the fact that this was very sensible data to these firms, and they were therefore not willing to share it. As a consequence, I chose 'service quality' as a proxy variable for customer retention. However, the retention of customers is, of course, dependent on more variables besides service quality. The results of this thesis should therefore not be interpreted in the sense that pursuing dynamic capabilities definitely leads to better customer retention. Further research could focus on the (possible) relationship between dynamic capabilities and customer retention, if those rates are available for certain businesses.

Finally, there are some limitations to the clarification and methodology of the dynamic capabilities framework. As stated earlier, the traditional dynamic capabilities framework (Teece, 2007) did not prescribe any practical handles by which the capabilities could be pursued. Therefore, for this thesis, I extended Teece's framework by adding related, more measurable constructs, which formed the microfoundations of the capabilities. Depending on the capability, three to nine microfoundations were chosen for each capability, by which a firm's performance on each capability was measured. However, this does not mean that these microfoundations are the only processes that are important for the development of dynamic capabilities. There exist many more processes or structures that could be helpful for dealing with a changing environment. Other researchers might choose to look at Teece's framework differently, and might pick other constructs to explain certain dynamic capabilities. The end results of this thesis must thus not be viewed as 'the one truth', but solely as one perspective on dynamic capabilities and subscription-based businesses. Future research could therefore include other processes or structures as microfoundations, in order to see whether these are important for firms. The dynamic capabilities framework proposed in this thesis is also quite focused on processes that are important for subscription-based businesses. For businesses from other industries, however, these processes might be less vital. Further research could therefore investigate whether the framework as proposed in this thesis is also applicable to businesses from other dynamic industries.

6. Conclusion and recommendations

The research question of this thesis is: *How do dynamic capabilities manifest themselves in subscription-based businesses, and do these affect their degree of service quality?* This question has been answered by forming a dynamic capabilities framework, and subsequently investigating how subscription-based businesses practically deal with the processes as proposed in the framework. The framework in this thesis reasoned from the assumption that there are three main dynamic capabilities: sensing, seizing and reconfiguring. Each of these capabilities have their own key processes, or microfoundations, that enable business to deal with their changing environment. Because there exist so many different processes, there is not a 'single answer' to how dynamic capabilities manifest themselves in subscription-based businesses. However, the results of this thesis have shown that underneath the specific microfoundations lie certain common themes that are important for each dynamic capability for subscription-based firms.

First of all, it is extremely important for subscription-based businesses to be market-oriented, and specifically customer-oriented. The results of the interviews indicate that almost decisions concerning, for example, the adoption of new technologies, or developing new products are mostly made based on information about customer preferences. This ensures that the businesses deliver exactly what their customers want, which in turn makes the customers more likely to keep their subscription going. It is therefore vital that information about the market in which subscription-based businesses operate is sensed well, so that effective steps can subsequently be taken to address the detected developments. The process of engaging with customers and building durable relationships with them should therefore be a top priority for subscription-based businesses.

Secondly, the results have shown that an open culture is very important for dealing with a changing environment. Since the degree of competition is high in the subscription market, and changes in technologies and/or customer preferences arise continuously, developments should be acted upon quickly. The results of this thesis indicate that somewhat smaller firms have an advantage here. Because of their small size, employees can easily deliberate with one another over how to address such changes. This does, however, not mean that larger firms are not able to do the same thing. An open culture makes it possible to easily discuss changes, and quickly act upon them. It is important here that communication between management and employees occurs transparent, and everybody inside the firm is kept up-to-date on developments. This

ensures that everyone knows what is going on inside the business, and that feedback can easily be given to each other.

Third of all, this thesis has confirmed that a relationship between the three dynamic capabilities exists. This means that well-developed processes for, for example, the sensing capability positively influence a firm's capability to seize opportunities correctly, and vice versa. This is important for business practice, because it indicates that the development of dynamic capabilities should not be seen as standalone processes, but rather as interconnected activities. Implementing dynamic capabilities should therefore not be done in only a few departments, but should occur firm-wide.

Furthermore, the results of this thesis indicate that a positive relationship exists between the development of dynamic capabilities and greater service quality for subscription-based businesses. Service quality can be seen as an essential indicator for the retention of customers (Blery et al., 2009; Venetis & Ghauri, 2004). Pursuing greater levels of service quality should therefore be of utmost priority for subscription-based businesses. The results of this thesis imply that the services of subscription-based firms with better-developed dynamic capabilities are generally appreciated more by customers than those of firms with ill-developed capabilities. This could be due to the fact that firms with well-developed dynamic capabilities often have better processes in place for listening to their customers, timely implementing changes according to their preferences, applying innovative technologies etc. All these processes result in a better-developed service, which makes sure that customers keep their subscription going. Implementing dynamic capabilities should therefore not only be seen as a mean for dealing with a changing environment, but also as a great mean for improving service quality and retaining customers.

Concluding, managers of subscription-based businesses should pay more attention to the dynamic capabilities of their firms. With the development of these capabilities, emphasis should lie on being customer-oriented and developing an open culture within the firm. Well-developed dynamic capabilities should improve the service quality of the firms, which is vital for retaining customers. This relationship should therefore receive more attention in the subscription market. Besides the relationship between dynamic capabilities and service quality, pursuing these capabilities will also provide subscription-based firms will real competitive advantages. It is therefore recommended that subscription-based businesses invest more time and effort into developing the dynamic capabilities, as prescribed in this thesis, as this will provide them with actual benefits.

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