



How can self-service technology business models be competitive in the café industry in Finland?

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Abstract

The competition among companies in the restaurant and café industry is fierce. Yet however, the industry is currently suffering from issues hampering the growth of businesses, such as worker deficit and high costs. Additionally, it seems that the industry is losing its appeal among workers and students in Finland. In present-day competing markets the need to remain competitive is ever increasing. The need to cut costs and achieve higher efficiency has also modified the direction of services to become more customer interactive. Self-service technology (SST) currently provides companies in different sectors of the hospitality field with the possibility to lower costs and optimize service processes. However, it seems that SST is rarely utilized in the café industry in Finland.

To study the topic, qualitative research was conducted aiming to analyze how could SST business model be competitive in the café industry in Finland. The data collection was conducted with semi-structured interviews of entrepreneurs from the industry as well as potential customers of SST utilizing cafés. Additionally, the author's observations as a customer of an SST utilizing café were utilized.

The findings indicated that when utilized as a tool to complement the customer service process SST can provide a company with the potential to increase competitiveness by lowering costs, increasing the ability to serve different customer needs, and reaching new customers. Additionally, it seems that of the different forms of SST, a self-service kiosk or a mobile application are the most likely to provide the most important qualities for a pleasant user experience.

Keywords/tags (subjects)

Competitiveness, competitive advantage, self-service technology, café industry

Miscellaneous (Confidential information)

Markkanen Armi

Miten itsepalveluteknologiaa hyödyntävät yritysmuodot voisivat olla kilpailukykyisiä kahvila-alalla Suomessa?

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Tiivistelmä

Kilpailu ravintola- ja kahvila-alan yritysten kesken on kovaa. Lisäksi ala kärsii yritysten kasvua hidastavista tekijöistä kuten työntekijävajeesta, sekä korkeista kuluista. Tilastojen mukaan, Suomessa ala näyttää menettävän vetovoimaansa työntekijöiden, sekä opiskelijoiden keskuudessa. Tämän päivän kilpailevilla markkinoilla yritysten tarve säilyä kilpailukykyisenä on alati kasvava. Tarve laskea kuluja ja kasvattaa yrityksen tehokkuutta ajaa asiakaspalvelualan prosesseja interaktiivisempaan suuntaan. Itsepalveluteknologia (IPT) tarjoaa hotelli- ja ravintola-alan yrityksille mahdollisuuden laskea kuluja ja tehostaa asiakaspalveluprosesseja. Silti IPT:aa hyödynnetään Suomessa kahvila-alalla harvoin.

Aiheen tutkimiseksi toteutettiin laadullinen tutkimus tavoitteena analysoida miten IPT-yritysmuodot voisivat olla kilpailukykyisiä Suomessa kahvila-alalla. Tutkimuksen data kerättiin haastattelemalla kahvila-alan yrittäjiä, sekä IPT:aa hyödyntävien kahviloiden potentiaalisia asiakkaita. Lisäksi kirjoittajan havainnot IPT-kahvilassa asiakkaana toimineena hyödynnettiin.

Tutkimustulokset osoittivat, että avustavana työkaluna asiakaspalveluprosessissa hyödynnettynä IPT voi tarjota kahvilayritykselle mahdollisuuden kasvattaa kilpailukykyä laskemalla yrityksen kuluja, kasvattamalla mahdollisuuksia palvella erilaisia asiakastarpeita sekä tavoittamalla uusia asiakkaita. Lisäksi tulokset osoittavat, että IPT:an eri muodoista etenkin itsepalvelukioskit, sekä puhelin applikaatiot tarjoavat mahdollisuuksia sisällyttää tärkeitä ominaisuuksia positiivisen asiakaskokemuksen takaamiseksi.

Avainsanat (asiasanat)

Kilpailukyky, kilpailuetu, itsepalveluteknologia, kahvila-ala

Muut tiedot (salassa pidettävät liitteet)

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1 Introduction

1.1 Background

The economy is continuously turning more and more competing which is why companies are constantly on the hunt for competitive advantages and lower costs to remain competitive. Increasingly, these advantages can be pursued with the aid of self-service technology (SST). Technology is developing at a rapid pace and simultaneously providing companies with opportunities to develop their efficiency (Bitner et al., 2002). The need to cut costs and achieve higher efficiency has also modified the direction of services to become more customer interactive. For instance, a self-service kiosk in the airport, grocery store or fast-food restaurant is no longer a rare sight. However, in the café industry, SST seems to be yet a less utilized concept in Finland. As well as increasing the importance of companies' ability to compete against rivals, the highly competitive economy increases the value of an efficient and competitive business model.

In this thesis, a self-service technology business model is referred to the business models of companies that are utilizing SST. There are different forms of SST companies can exploit, from which kiosks, web-based applications and vending have gained the most popularity (Kasavana, 2008). Increasing the use of customer interactive technology in companies' services provides the companies with the possibility to cut costs. Furthermore, with the help of lower costs, companies can provide more efficient service for their customers (Bitner et al., 2002). Therefore, when utilized correctly, the SST can provide the potential ingredients for a competitive advantage.

One of the fiercely competing industries is the restaurant and café industry. The hospitality industry is a large employer, providing work for over 140 000 people in Finland (MaRa, n.d.). According to statistics, the vacancies in the industry have been vastly increasing since the year 2012. Furthermore, there were 10138 restaurant businesses in Finland in the year 2019 (MaRa, 2021). Shifting demand resulting from the Corona pandemic has caused a lot of uncertainty in the industry. However, despite the difficult times, the industry has been facing due to the pandemic, Confederation of Finnish Industries (EK) (2021) describes the forecast of sales as rising. Additionally, EK states that the largest barrier in the industry hampering the growth of companies is the lack of a workforce. An insufficient number of workers leads to less efficient business and significantly hinders the growth of sales.

Collin (2019) states, that the restaurant and café industry has gained a negative reputation, which is one of the causes of decreasing number of restaurant workers that burdens all of Finland. One of the major reasons impacting the decreasing attraction of the industry is a low level of wages, especially since the work is perceived as hard work, he continues. Additionally, the commonness of part-time working contracts is a negatively perceived trait of the restaurant business.

Another crucial issue causing the deficit in the workforce seems to be that the restaurant and café industry is no longer perceived as an appealing option from the perspective of students who are applying for vocational examinations or universities of applied sciences. According to statistics, the number of applicants for both has been constantly decreasing in the industry (Lith, 2021). The lack of workers undermines the whole service sector. Since it seems that Finns are decreasingly willing to work in the sector, the workforce deficit needs to be patched with foreign workers. However, compensating for the lack of workers with a foreign workforce is not always an easy solution due to language issues (Ylitalo, 2021). According to MaRa (n.d.), another issue concerning the hospitality industry is low profitability. The industry, especially the restaurant sector, faces large costs due to the high cost of labour and high taxation. This has a large limiting impact on the wage levels of the industry.

To further burden the already struggling restaurant and café industry, the corona pandemic has made the situation even worse. Uusitalo (2021) describes that because of the restaurant restrictions during the pandemic, a large number of workers have been shifting to work in other industries, this includes as much as approximately 20 % of the workforce in the industry. Additionally, When the number of workers is too little to begin with it is getting harder and harder to retain the existing workers as the pace of working gets even more intense.

Concerning the café sector rather than the whole restaurant and café sector, it seems that in Finland SST in the café industry is mostly utilized in campuses and museums in small-scale cafes with snack style products and vending machines. However, concerning cafes with high-quality confectionery products, where the expenses are evidently higher and thus the benefit of cutting costs higher, SST is not commonly utilized. Furthermore, in the restaurant sector, it seems that both the technology is more commonly utilized, and more research about the topic has been committed. Therefore, due to limitations of previous research and utilization of the technology, the café sector

was chosen as a research area. However, due to difficulties in finding information and previous research from merely the café sector, as well as the commonality towards the restaurant sector, both the introduction and literature review chapter is including sources from the whole restaurant and café industry. This thesis aims to find out if the self-service technology model could be competitive in Finland in the café industry and thus relieve the difficulties the industry is facing. Therefore, the research is pondering, what are the features customers would value in an SST café and therefore how could such businesses be competitive and further provide a potential for better profitability.

1.2 Motivation for the research

The issues in the restaurant and café industry have escalated to the point that some businesses have been forced to close due to a lack of workers (Uusitalo, 2021). The difficulties are becoming more evident due to stories in the news. For instance, a large café business chain Espresso house ended up closing its central kitchen followed by a negative scandal about working conditions in the media (Ikävalko, 2022). The increasing number of businesses under the menace of closing as well as increasing content in the media from restaurant workers are strong indicators that actions, new procedures, and innovations are necessary in order to support the growth of businesses and improve the perception of the industry.

This thesis aims to find the solution to the worker deficit of the industry with the aid of SST and the benefits it has the potential to provide. According to research, the main benefits of using SST are the ability to reduce expenses, reach new customers and develop customer satisfaction (Bitner et al., 2002). These are factors that can significantly benefit the café industry. Especially as issues with shortage of workers can severely damage customer satisfaction which can further lead to profitability issues for a company.

My personal interest in researching SST business models was evoked when travelling abroad and encountering innovative, fun, and novel business using SST, as well as through articles about SST businesses in the restaurant industry I have seen in the news. This led me to the realization of how rarely this business model is utilized in Finland in the restaurant, excluding fast-food restaurants, and the café industry, and led me to wonder if this could be a viable business model here. The café industry was chosen, instead of the restaurant industry, due to my personal interest in the field.

Establishing my own café, utilizing SST is an idea I have been pondering from time to time. Conducting research about the viability of cafés using SST in Finland is, therefore, a great opportunity for me to examine the potential of this business idea. Furthermore, I have worked in companies in café and restaurant field and recognized the issues in the industry such as decreasing attractiveness of restaurant and café work in the working markets as well as large costs in the industry. These observations further set a societal motivation for the research.

1.3 Research question

This subchapter presents the research question, problem and objectives as well as describes the research design in brief. As elaborated in the background- and motivation for the research- sub-chapters, the café industry is facing issues appearing as a lack of workforce, which has set the research problem. This thesis aims to find solutions to how could the café industry's competitiveness be developed with the aid of self-service technology. Based on the research problem and objective, the following research question was formulated:

- ❖ *How can self-service technology business models be competitive in the café industry in Finland?*

This research is qualitative in nature to gain profound insights for answering the research question. The data collection is implemented by conducting semi-structured interviews with professionals in the café sector, such as café entrepreneurs, as well as with potential customers of SST cafés. The decision to collect data from both professionals and customers was made to gain insights from both perspectives and thus examine the prerequisites of competitiveness more profoundly. Additionally, data has been collected based on my observations as a customer that has used an SST café. The data analysis of the interviews is committed using Nvivo 12 software.

1.4 Structure of the thesis

The thesis includes five chapters: introduction, literature review, methodology, results, and discussion. The first chapter, the introduction, provides a background relevant to the research topic as well as a motivation to justify both the societal need for the research and the authors' personal interest in the subject. Furthermore, the purpose of the introduction chapter is also to provide an

architecture of the research by describing the research problem, the research question developed to research the issue and the objective of the research. Secondly, the next chapter the literature review provides a profound overview of the key concepts relevant to this thesis. This has been done by viewing prior research and theoretical knowledge from relevant sources. The next chapter, methodology, describes in a detailed manner the context of the research as well as what kind of methodology is used in the data collection and analysis. Additionally, the methodology chapter discusses the verification of the data's reliability and validity.

The results of the empirical study are presented next in the results chapter aiming to provide an answer to the research question. Finally, the discussion chapter provides concrete practical implications derived from the results as well as the core findings of the research. Suggestions for further research of the topic and limitations of this research are included in the discussion chapter as well.

2 Literature review

In this literature review chapter, the key concepts of the thesis are reviewed from the perspective of relevant literature from the field. These concepts include competitiveness and competitive advantage, business model, value proposition and self-service technology model. Providing a comprehensive overview of these concepts will aid the reader to understand the topic of the thesis more profoundly. The criterion of selection for the literature reviewed was according to the relevance of the article from the perspective of the research question: how can self-service technology business models be competitive in the café industry in Finland? Additionally, publishing date and therefore timeliness was another criterion of selection. This is an especially important sorting criterion in this thesis, because self-service technology like technology in general these days, is a rapidly developing field not only of its technical features but also concerning consumers' familiarization and confidence with technology.

2.1 Competitiveness and competitive advantage

Competitiveness

Competitiveness is a broad and complex concept that has a long history of research and various school of thought. According to Srivastava et al. (2006), competitiveness can be seen as an economic success of an entity measured. The concept can be viewed on both macroeconomic levels, concerning a nation and region competitiveness; and on microeconomic levels including industry, firm or even a product competitiveness point of view (Bhawsar & Chattopadhyay, 2015). As stated by Garelli (2012), competitiveness can be defined as for firms, the capability of creating wealth utilizing its competencies and therefore creating higher value to meet the customer needs than its competitors, and for nations the capability of providing conditions for companies to do so and thus create prosperity. Therefore, a connection between the competitiveness of firms and nations is evident as they enable and accumulate each other.

Next, different levels of competitiveness are defined and reviewed. Firstly, competitiveness on a national level can be, according to Chikán (2008), defined as:

“National competitiveness is a capability of a national economy to operate ensuring an increasing welfare of its citizens at its factor productivity sustainably growing. This capability is realized through maintaining an environment for its companies and other institutions to create, utilize and sell goods and services meeting the requirements of global competition and changing social norms.” (p.25)

Therefore, it can be seen that competitiveness can provide welfare for a country. Individual features of each country, such as culture; values; economic structures and history, have a significant impact on a nation’s competitiveness and into which fields the nation can be competitive (Porter, 1990).

In the context of this thesis, it is more important to concentrate on industry and firm competitiveness, since the topic concentrates on the café industry and the companies included. Concerning industry-level competitiveness, as described by Asmild et al. (2019), the most important features affecting are firstly the external factors influencing the operations of companies (production con-

ditions), such as regulations and the economic environment of a country, and secondly the industry's companies' capability to beneficially use the product conditions for their benefit in daily operations. Since the production conditions and utilization of them are dependent on different facets, it is necessary to consider them separately. When defining industry-level competitiveness by these features, it can be argued that governmental decision-makers can enhance industry-level competitiveness significantly by providing fruitful conditions concerning industry and economic regulations. The companies themselves can affect in utilizing the production conditions by efficient allocations of resources, such as the labour force, and thereby it can be argued that the management of companies plays a large role in creating competitiveness. Defined by Momaya (1998), the industry's competitiveness depends on the value created to meet the customer needs benefiting other stakeholders as well. This can for instance mean providing sufficient working conditions for workers or providing returns on shareholders' investments.

Next, competitiveness is viewed on a company level. This concept can be described as the company's ability to respond to customer needs in a profitable manner by providing superior offerings compared to ones of competitors (Chikán, 2008). When coming down to the micro-level of competitiveness it is evident that responding to customer needs and demands is increasing its importance. Furthermore, to be able to provide higher value than competitors, the firm needs to be able to provide options better suited to customers' needs or provide them more efficiently. Considering the context of this thesis and notifying definitions of other researchers, competitiveness at the company level can be described as the company's capability of creating an adequate number of profits with its assets in relation to its rivals, simplifying - the capability of creating profits.

Competitiveness can be enhanced with competitive advantages, such as innovation or lower costs of production. Porter (2008) argues that competitive advantage is a concept that needs to be examined from the perspective of the whole company concerning every field from production to marketing and finance. Additionally, these days competitive advantage is severely growing its significance. He describes that since the markets are maturing and competitors appear both globally and nationally, without competitive advantages it is inevitable that companies' growth is slowing down. Therefore, searching for new sources of competitive advantage can be seen as an essential factor in the development of companies.

Depending on the level of competitiveness is measured, different tools are used to analyse it. As mentioned by Bhawsar & Chattopadhyay (2015), indicators used to measure the performance of a company in general, have been utilized in research when analysing competitiveness. These indicators include for instance profitability, market share, productivity, trade balance and quality. Additionally, several theoretical frameworks have been developed to measure competitiveness on different levels, such as perhaps most known Michael Porter's diamond model. Another framework according to Bhawsar & Chattopadhyay (2015), presented by Buckley, Christopher and Prescott (1988) is the 3P framework, which categorizes tools of measuring into groups including competitive performance, competitive potential and competitive process. To measure countries' competitiveness World Economic Forum publishes Global Competitiveness Report on yearly basis.

Competitive advantage and competitive strategy

There are several definitions and schools of thought when it comes to the term competitive advantage, which have a similar base idea – increased value is created – but there are differences on how the value is created and to which party. For instance, Barney (2002) defines a business as obtaining a competitive advantage when it creates value with actions that are not operated by multiple competing companies as well. He further continues that a firm with a competitive advantage performs better than expected in creating value. Another view is that the additional value created by competitive advantage is the additional value gained by shareowners. According to Rumelt (2003), Porter (1980) describes competitive advantage as a firm's performance in implementing competitive strategies in the markets.

Porter (2008) defines competitive strategy as: "Competitive strategy is the search for a favourable competitive position in an industry, the fundamental arena in which competition occurs. The competitive strategy aims to establish a profitable and sustainable position against the forces that determine industry competition." (The Core Concepts section.) He emphasizes, that when considering a competitive strategy for a firm, industry-specific traits need to be notified. Additionally, the company should aim for profitability in long term. Concerning the target industry of the thesis, the author believes it is important to consider whether an SST model can bring competitive advantage in café industry conditions as they differ rather a lot from industries currently using the SST model

successfully, such as fast-food restaurants, which service concept usually differs significantly from that of cafes.

Wang et al. (2011) describe that there are three generally recognized competitive strategies for a firm. Firstly, a company can aim for differentiation. They state this strategy is about providing consumers with specified products or services which accomplish certain customer needs. By offering products that differ from those of competitors, the aim is to create added value for the consumer, which additionally justifies a higher price of the product or service. Secondly, a firm can pursue a cost leadership strategy. They describe this strategy involves the aim to have the lowest production costs among competing companies in the industry. Companies adapting to a cost-leadership strategy are usually producing mass products for large target markets. Often this kind of firm obtains the economics of scale in their production. Thirdly, a competitive strategy option is a differentiation focus strategy. The focus strategy aims to provide differentiated offerings for small target markets with specialized needs that are not fulfilled with the products or services of competing companies. To summarize, with the aid of competitive strategies, the company is aiming to differentiate from its competitors and thus provide higher value to its customers. Considering the correlation between competitive advantage and the SST model, the author hypothesises that the SST model might be a potential asset to implementing the differentiation strategy by providing consumers with a café experience differentiated from traditional customer service café. Another potential trait in this model is achieving lower costs in the long term with decreased fixed costs.

When concerning potentially valuable features providing competitive advantage these days, firstly innovation should be notified. Wang, Lin & Chu (2011) note that innovation can not only create new products and services and thus add knowledge and therefore competitiveness to a country, but it can also increase productivity when innovation is part of inventing new ways for performing different operations. Increased productivity means better-allocated resources. Another valuable source of competitive advantage can contain effective HRM strategy, talented personnel, and an efficient organizational structure, they stress further. This implies that a competitive advantage can be created at different levels of the company.

Furthermore, as notified by Christensen (2001) it is important to consider that factors creating competitive advantages change over time. Additionally, similar factors providing competitive advantage do not necessarily provide similar value in every industry, product condition or time. For this reason, the author believes, that carefully considering the competitive strategy and positioning is vital for every company. This requires a profound understanding of customer needs and wants in certain industries. According to Christensen (2001), long-term thinking is needed to concern whether the advantage pursued will bring value long enough to be worth investing. Considering rather why certain factors create competitive advantage than what these factors are, improves finding out what kind of features are likely to create competitive value in the future as well.

D'aveni et al. (2010), highlight that in the present day's quickly changing world it is important to note that competitive advantages are becoming temporary rather than continuous. Since the markets are changing rapidly due to reasons firms cannot impact, such as globalization; development of technology; changes in regulations; other countries' development and crisis such as terrorism and natural disasters, it is becoming more and more difficult to maintain a continuous competitive advantage. Therefore, they stress that achieving competitive advantage requires a company to regularly revise its competitive strategy and resources. Additionally, this requires the ability to renew the previously effective resources when they become obsolete. Maintaining a sustainable competitive advantage has even been described as merely resulting from good fortune.

As opposed to temporary advantage, Barney (1991) presents in his theory of resource-based competitive advantage, that a firm can obtain a sustained competitive advantage if it is: "implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy" (p.102). According to Barney, in order to gain a sustained competitive advantage according to this theory, the resources of firms are presumed to be heterogeneously distributed and immobile. Additionally, to obtain a resource-based sustained competitive advantage, the resource needs to be valuable, rare, imperfectly imitable and incapable to substitute in a way that they become equal for rivals to produce a similar advantage.

2.2 Business model and value proposition

Business model

In this subchapter, a concept of a business model is reviewed. Teece (2010), describes the concept of a business model in the following way:

“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. It thus reflects management’s hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so and make a profit.” (p.172)

Therefore, to put it shortly the purpose of a business model concept is to describe the function of a company’s value creation system from an organizational and financial perspective. Additionally, Teece (2010) describes that an evaluation of expenses in the field, competitor analysis and true needs and perceptions of customers in the future are the core building blocks in business model design. Surprisingly, concerning the relevance of the concept for firms, there seems to be little theoretical knowledge established about business models. An efficient business model that is novel for customers and difficult to copy for rivals has the potential of providing a competitive advantage for a company, he stresses.

According to Shafer et al. (2005), a business model can be defined as: "The representation of a firm’s underlying core logic and strategic choices for creating and capturing value within a value network" (p.204). Additionally, they highlight that a business model concept should not be mixed with strategy, even though the concepts might seem similar. Strategy can be described as a vision of how the company produces and gains value, whereas a business model describes how this is implemented in practice. Therefore, the business model is a strategic tool of the company but not the strategy itself. However, strategy analysis is needed in addition to business model analysis in order to achieve a competitive advantage with the aid of a competitive business model design (Teece, 2010).

McGrath (2010) presents, that a unit of business and key metrics are the essence of establishing a business model. The unit of business describes the products or services the company is offering to the customers. Whereas key metrics refer to the operations the business is involved in to deliver

the unit of business to a customer. These are useful tools for evaluating firms' performance and defining potential weaknesses in a company's value chain, especially when compared with companies of similar business models.

When concerning the building blocks of an innovative business model, McGrath (2010) stresses, that novelty in both the unit of business and key metrics is not needed. If the unit of business is a new product or a service, it has the potential to gain an advantage against rivals even though delivered to the consumer in a similar manner as rivals and vice versa the unit of business can be similar to rivals but delivered to customers in a different manner and therefore involve innovative key metrics.

Teece (2010) argues, that new innovative business models often benefit the company even if not by providing a competitive advantage, especially in the early phases when the model has not yet been exercised by rivals. Innovating or refining a business model can for instance decrease expenses or provide added value to the company's offering. According to Teece, new offerings such as new products or services should be concerned with the business model and update the model accordingly. Therefore, it is also worth noting that technological innovation does not automatically lead to more successful companies. If the innovation is not aligned with the business model planning and implementation, the result is often not a more profitable company.

According to Baden-Fuller and Morgan (2010), describing the general value creating, profit seeking processes of a company is one of the main acts of a business model. Additionally, they describe that business models can be categorized from different perspectives. Firstly, business models can be classified into taxonomies and typologies according to scale models - descriptions of what is the functioning of the company like in a nutshell, and role models – the optimal examples to be pursued. These features are often combined in business models. When classified from this perspective, it is common that the name of an example company is associated with the business model. Secondly, business models can be recognized from a scientific approach. This resembles a way in which species are recognized in biology. A certain business practising a certain business model can function as a representative of similar functioning businesses. Business models can be categorized from a theoretical basis, from fictional model behaviour (schema) as well, in a similar way as math-

emathical or economic models. Thirdly, business models can be perceived in a similar way as recipes- the model consists of certain elements, which are handled according to some general rules. These “recipes” can be further modified, in other words, the business models can be innovated into new ones from the basis of the recipe.

McGrath (2010) describes that due to the difficult predictability of the success of new business models, superior models are often developed through experimentation among different companies in an industry. Once a new business model witnesses its efficiency or profitability, other business models to come in the industry often follow similar guidelines. New business models potential increases once the older business models are no longer attractive to customers or become obsolete. Teece (2010) notifies, that generally, business models are rather easy to imitate by competitors. However, there are a few matters which can complicate copying the business model. For instance, the rarity of resources, lack of knowledge about the functionality of a model in particular, or if applying the model causes negative effects on business relationships.

A theoretical framework used to evaluate a business model is the business model canvas created by Osterwalder and Pigneur (2011) designed to evaluate the competitiveness and potential of a business idea – it describes in a detailed way how the business creates value. With the aid of a business model canvas, solutions to issues such as which customer segments to serve, what kind of value propositions the company proposes, which channels it uses, which customer relationships are involved, how are revenue streams formed, what are the key resources, -key activities, -key partnerships and what kind of cost structure does the company have, are being answered. By critically evaluating a business idea in a detailed manner with the aid of a business model canvas it is straightforward to target the potential weaknesses and strengths of a company.

Value proposition

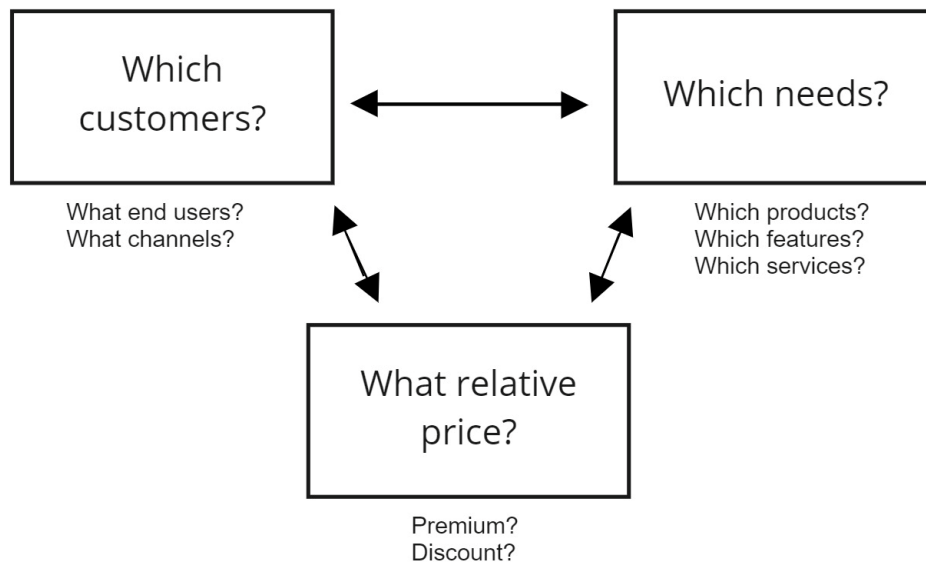
A value proposition is at the heart of the business model canvas: all the other attributes are describing how can the company’s value proposition be implemented and more specifically how and to whom is the value created and in return how is the value gained. Osterwalder and Pigneur (2011), describe the following benefits as elements that can be involved in formatting customer value through the value proposition: newness, performance, customization, “getting the job done”

in other words having the service or product do a certain task for you, design, brand or status, price, cost reduction, risk reduction, accessibility and convenience or usability.

The value proposition is a concept derived from the field of marketing. It seems that the concept has several definitions used in customer value creation. Simplifying, the value proposition can be described as benefits that create value for the customer and evoke purchase intentions in addition to differentiating the company's product or service in the markets, which can be used in the company's strategy of creating and gaining value (Lindič & Marques da Silva, 2011; Payne & Frow, 2014). Rintamaki et al. (2007) have defined a value proposition as "an encapsulation of a strategic management decision on what the company believes its customers value the most and what it is able to deliver that gives it a competitive advantage" (p.624).

According to Payne & Frow (2014), Lannings & Michaels, (1988) argue that it is essential for the company to comprehend which values the target group of the company really appreciate. Based on this the company develops its pledge to customers of providing certain benefits at a certain cost. Considering definitions and features of the value proposition concept, it is fair to say that it is a vital part of companies' strategy. To gain a long-lasting competitive advantage from the value proposition, the value chain of the company, in other words, the operations involved in creating the firm's offering, need to be customized to deliver the value proposition (Margetta, 2011).

Next, I will further explain the different elements of the value proposition concept with the aid of the figure below (See figure 1). This figure represents the three most significant questions the value proposition aims to answer according to Michael Porter's model (2011). This model provides a better understanding of the elements the value proposition is composed of and what is the core purpose of the value proposition for companies.



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Figure 1. Value proposition model

(Margetta, 2011, p.96)

The figure above (Figure 1) describes the core elements of how value propositions are formed - to who is the company is creating value, what kind of value and at what cost. According to Margetta (2011), the value proposition is the external part of the company's strategy, representing how to create and respond to customer demand. Whereas the value chain describes the internal operations of a product or service creation. Furthermore, the target audience of the value proposition can be certain segments or the overall potential customer base. Additionally, she states that the needs the value proposition aims to serve are often derived from the product or service itself and its qualities which are providing the benefits to serve the need in question. The third part of the figure, the relative price, is formatted based on the target customer segments, targeted customers' solvency, the quality of the offering, the relation of demand and supply and the costs of production to best meet the value and needs to be targeted. Each part of the figure, target customers; needs and price, can vary to their extent.

Additionally, an important feature of the value proposition is that it needs to differ from the ones of competitors to be individual and unique. By targeting to provide customers either with fulfilling

different needs, serving different customers or providing the offering at a different price, the company is able to distinguish itself from the competition and therefore increase its competitive advantage in addition to increasing the possibility of growing its market share. (Margetta, 2011).

When assessing a company's value proposition, the customer is not only evaluating the benefits provided by the product or service the company is offering, but also the costs of gaining these benefits (Barnes et al., 2009). When the benefits are higher in relation to the costs, usually the higher is the perceived value as well from the perspective of the customer (Lindič & Marques da Silva, 2011).

Despite the strategic advantage that developing an exceptional value proposition provides to a company, according to Payne & Frow (2014), only a small share of companies creates and use a value proposition. Additionally, Lanning (2020) argues that a common issue concerning companies is to efficiently communicate their value propositions and even more disturbingly to fail to provide the value described in the value proposition, which further leads to decreased customer retention. Therefore, when developing a firm's value proposition, it is essential to consider what are the value attributes the company is aiming to provide and what are the ways to efficiently implement the value proposition in order to in return gain value. Proceeding so, rather than merely considering what is the company's value proposition, the company is more likely able to implement its strategy successfully.

According to research conducted by Leroi-Werelds et al. (2017), when the value proposition includes the customers' efforts needed in order to gain the benefits, the customer value creation process of the product or service is more realistic. She describes that including the interactivity required from the customer in a value proposition might increase the consumers' expectation of the increased effort of using the offering. However, this seems to increase customers' perceptions of benefits increased as well. Furthermore, consumers tend to pay less attention to perceived costs of products and services in relation to the benefits they are able to gain (Cronin et al., 2000). Including the customer's resource integrating role in the company's value proposition is an important notion in the context of this thesis, as self-service business models tend to require a higher amount of customer involvement and skills than visiting a traditional customer service model café.

Concerning the value proposition concept from the perspective of this thesis, it is an important tool for self-service technology using cafés to aid in perceiving the right target groups and to define the significant values this kind of business model is providing to the customers. Furthermore, it is relevant to consider the perceived efforts required from the customers using SST and whether they exceed the perceived benefits.

2.3 Self-service technology model

To fully understand the topic of this thesis it is important to define the concept of the self-service technology model. This business model is becoming more and more popular research topic, as it is increasing its commonness. However prior research on the perspective of the café industry seems to be a less occupied research area so far. For this reason, research on the hospitality industry and self-service technology (SST) in general, mostly concentrating on utilization in the restaurant industry, will be reviewed in this section. As these industries are closely related to the topic of the café industry and its potential to utilize SST technology, it is relevant to consider these perspectives.

The first steps to adapt customer-centric technology in the restaurant business were taken nearly ten years ago, when electronic menus, such as iPads, were adapted in many restaurants (Jee & Soobin, 2018). Before, technology used in restaurant business usually concerned merely technologies used to aid the work in the kitchen or technologies used in payment processes. However, these days it seems that the development of customer-centric and user interactive technology is increasing.

As restaurant and café industries' service concepts have traditionally been rather customer service oriented in the past, customer service strategy including the involvement of the customer in the service procedure is a novelty (Vargo & Lusch, 2008). Since the restaurant business has to deal with issues concerning notable costs of production (Mun. & Jang., 2018) and decreasing worker retention, the author believes that SST has the potential to provide relief to these issues and therefore develop the industry. According to Restaurant Industry Forecast 2016, restaurant customers' willingness to apply SST, especially interactive restaurant self-service technology, was significantly increased (Jee & Soobin, 2018). This indicates that SST is increasingly expected and accepted by customers of the restaurant industry as well.

According to Meuter et al. (2000), SST can be defined as “technological interfaces that enable customers to produce a service independent of direct service employee involvement” (p.1). As explained by Kasavana (2008), there are different forms of SST, the most used and known of kiosks, vending, and Web applications. As the internet provides consumers with the possibility to search product selections of firms, prices, and additional product information, it can be considered an SST as well. According to a study in the US, consumers are likely to utilize the internet in their buying decisions by searching for information about products in advance even if they are planning to buy the product from a non-SST provider. Rather a different approach to SST is onsite restaurant interactive self-service technology (ORISST). Based on definitions by Ahn and Seo, 2018; Meuter et al., 2000 and Varadarajan et al. (2010), Jeong et al. (2020) define ORISST as “technological interfaces inside a restaurant that provide consumers with the ability to engage in mediated communication to plan, produce and complete services without the help of restaurant employees” (pp. 1-2). This kind of SST can commonly be seen provided for instance by fast-food restaurants.

According to literature reviewed from the field, it seems that from the variety of SSTs especially self-service kiosks (SSK) have been an attractive research topic in the context of the hospitality industry. Rowley and Slack (2007) define an SSK in the following way: “a self-service technology station; with interactive information processing capacity; and located in a public concourse” (p. 879). This includes for instance self-checkout stations in libraries and ATMs (Vakulenko et al. 2013).

There are numerous potential benefits the SST model can provide for the restaurant industry. Concerning industry with various stages in its service concept, it is a relevant advantage to improve efficiency if some of these stages can be aided with SST instead of the human workforce. Looking into prior research in the field, it seems that there is a rather uniform view about the benefits provided by SST among researchers. The benefits most mentioned in numerous studies were improved customer satisfaction, reduced waiting times and reduced costs (See, for instance, Bitner et al., 2002 and Kasavana, 2008).

There are various other beneficial factors about SST as well. Firstly, the convenience and easiness of use of SST in addition to stable service quality (Jee & Soobin, 2018; Considine & Cormican, 2017; Vakulenko et al, 2019). Secondly, the possibility to approach new customer segments (Bitner et al., 2002). Thirdly, customers’ perception of a different kind of service experience as a value-adding

factor and the perception of empowerment when using SST (Beldona et al., 2014). Fourthly, SST can provide possibilities to cooperate with other companies, for instance, a restaurant providing ORISST can provide transportation possibilities for consumers by cooperating with a transportation company (Jee & Soobin, 2018). Finally, using SST will minimize the possibility of human errors of workers, such as errors in customer orders, as well as possibilities of unskilled workers (Kasavana, 2008; Yang et al., 2021). Considering these factors SST model can provide numerous advantages for companies in the restaurant industry. As the restaurant industry is very closely related to the café business, in the author's opinion, these advantages can be generalized to the café industry as well.

Nonetheless, SST is providing opportunities, but not all views about SST are positive. Research committed by Leung et al. (2021), reveals that while customers had more positive perceptions about self-service kiosks, the profits generated by kiosks were lesser than those of cashiers. Furthermore, the study shows that the difficulty of ordering that customers might perceive when ordering from a crowded restaurant was not eased when using SST. Concerning this, it is well to notify the cashiers' ability to guide and recommend products to consumers individually. To increase customers' confidence in using self-service technology, sufficient instructions to use the technology needs to be provided. Furthermore, the possibility to reach a human employee in case of assistance is needed can increase customers' confidence in using SST.

Furthermore, there are negative views about reducing the human interaction of the service experience with SST. According to Leung (2021), Johnson (2018) presents some studies that have found that customers tended to prefer restaurants with no SST. Similar observations have been made in the hotel industry. The author believes, that both positive and negative perceptions towards SST are subjective and are likely to vary among different customer segments. Therefore, attitudes of different kinds of customers, such as customers from different age groups, would be an important area to research to overcome negative perceptions of SST. Especially limitations to merely younger customer segments should be avoided as this age group is likely to have more technical confidence and knowledge than older age groups. As the ageing population is an ever-growing concern in many developed countries, it is important to examine the perceptions of older age groups towards self-service technology. Especially considering the target country examined in this thesis, Finland, where the ageing population is a large concern.

There are different factors affecting customers' attitudes and customer value creation towards SST. Firstly, as there is a variety of different forms of SST, not all research findings are applicable to all kinds of SST (Vakulenko et al., 2019). For instance, findings concerning SSK might not concern vending SST. Secondly, customers' experience in using similar technology has an effect on using intention of SST. Consumers familiar with SST are likely to use such technology (Kim et al., 2013). These kinds of consumers value that they save time when using SST. Concerning consumers unfamiliar with SST, this customer segment values the easiness of user experience i.e. easy functionality of the machine. Another feature that might increase the likeliness of usage of SST is a willingness to control the budget. (Yang et al., 2021.) Considering SST versus customer service sales situation, in SST customer does not have a similar social pressure when it comes to additional sales.

Vakulenko et al (2018), describe that reviewing customer value creation of SST can be divided into three parts each generating different customer value elements. These stages are pre-experience, SSK usage (which contains the most elements) and post-experience stages. SSK interaction stage has gained the most research, which indicates that the pre-experience and post-experience stages might possess research gaps. According to Vakulenko et al. (2018), Woodruff (1997) presents that product attributes, attribute performances and consequences are three key factors based on which customer creates his/her evaluation of the product or service. This is a linear model for customer value creation. Another model for measuring customer value creation is a circular model, which suggests that the value creation continues after the service interaction and thus does not limit to one service experience. (Vakulenko et al., 2018).

According to Wei et al. (2016), Pine and Gilmore (1998) present a concept of an experience economy, which highlights the consumer experience, it is important to examine the subjective feelings the customers have towards SST. In this sense, it is essential to adopt the SST in a way which is enhancing the customer experience and not only consider the expenses and returns. If the SST is modified merely according to external features at the expense of the customer experience, the outcome may be even decreased customer experience and therefore decreased customer satisfaction. (Wei et al., 2016). For instance, utilizing SST for the ability to provide more customized services has been leading to higher contentment of customers (Ding & Keh, 2016). Innovation in SST design has a great potential of evoking customers' curiosity and creating experience economy,

since one of the traits of SST users is to seek new experiences, in addition to users seeking convenience (Wei et al., 2016).

3 Methodology

To conduct valid empirical research and gain accurate answers to the presented research question, the appropriate methodology needs to be chosen. The collected data needs to be analyzed appropriately and treated ethically. This chapter provides an overview of the methodology used to implement the empirical research to answer the research questions and achieve the research objectives.

3.1 Research approach

A research method is an essential guideline which defines the nature of the research. Generally, the research method is selected between two options – quantitative and qualitative, or a mixture of these. According to Saldana et al. (2011), qualitative research is used when the objective of the research is to find profound answers to the research question through non-numerical data, which is based on peoples' insights. This kind of data includes written materials, for instance, interview transcripts as in this research, or visual materials. Corbin & Strauss (2008), argue that a qualitative approach is an appropriate approach for data collection when the researcher is interested to study the humane and subjective perceptions of the examinees. Concerning this thesis, the qualitative method was chosen to find in-depth insights into the different aspects that influence the competitiveness of SST café business models in Finland. Whereas if a quantitative approach were chosen, it would have more likely provided rather an overview of the phenomena than profound insights. Furthermore, subjective experiences of both potential customers about visiting a café as well as professionals about the industry-specific traits were a necessity for this research.

Because the phenomena of SST cafés in Finland is rather new in this context which is researched - a confectionery quality products serving cafés - the purpose of the research is exploratory. Exploratory research is an appropriate direction when a certain phenomena's current state is researched to evoke new realizations and to clarify issues of the researched topic, as well as what needs to be researched further. For these reasons as well as because of the researcher's time limitations, the

time horizon of the research is cross-sectional. This refers to research conducted at specified timing of the researched topic. (Saunders et al., 2009.)

3.2 Research context

In this subchapter, the context of this research is presented, which in this thesis is the café industry in Finland. Salokanto (2018) describes, when the first cafés were founded in Finland, visiting a café used to be a privilege for wealthy citizens. The time went on and little by little through foreign influences, the café culture in Finland started to develop. Once the price of the café products got lower, visiting a café became easily accessible for everyone and became a more and more common way for people to spend time. Ever since the number of cafés has been ever increasing. There are numerous cafés of private entrepreneurs as well as many chain café companies in Finland.

It seems that accurate statistical information about the café industry in Finland is difficult to find as the sector is generally connected with the restaurant sector. However, in 2014 the café sector included a little under thousand enterprises (ELY Centre, 2016). Since the number has been increasing significantly. Kempas (2018) states that for instance the large café chain Espresso House's landing in Finland in the year 2015 has been increasing the number of cafés. The increase in the number of café businesses has been forecasted to continue growing. Especially the number of chain cafés is increasing as several café chain companies have been announcing their plans to expand inside Finland, Kempas explains. The increasing number of café businesses indicates the customer demand in the sector and the continuing development of the café industry in Finland.

There are many features influencing the popularity of a café business in Finland. One of the rising impacts is the visuality of the café due to the vast popularity of social media and people's tendency to post food content (Ahonen, 2019). The rapid spread of visual content, for instance in Instagram, has also increased the spreading of café trends. It seems that present-day café customers seek cafés that provide something more than merely a possibility of purchasing regular café products, such as a visually pleasing interior, trendy or differentiated products as well as novel experiences (Ahonen, 2019). In practice, based on the author's observations, this has been seen in the development of Finland's café culture for instance in the increasing variety of specialized coffees in cafés selections as well as an increased number of differentiated café businesses.

The context of this thesis is the café sector in Finland. Finland was chosen as the target area, because of the emerged issues such as lack of workers, which were indicators of the research problem, emerged particularly in Finland. However, the issues in the industry are not generalizable, because similar issues might not apply in other countries as in Finland.

3.3 Data collection

The collection of data is a vital part of any empirical research. Therefore, choosing appropriate data collection methods is an important feature of the research that impacts the accuracy of the results. The data can consist of information that is acquired solely for the purpose of the research in question, referred to as primary data, as well as data whose initial purpose was to serve some other research but is suitable to use in the research in question as well, referred as secondary data (Saunders et al., 2009). For this research, the main source of primary data consisted of semi-structured interviews. In addition to interviews, the data is supplemented with data collected through observations by the author. Observations were made as a customer of an SST café abroad.

A semi-structured interview was chosen as an interview type for this research to get the most out of interviewees' insights and therefore to gain rich data. A predefined set of questions was made, but as typical for semi-structured interviews, the course of the interview took shape according to the progress of the communication between the interviewee and interviewer (Hesse-Biber & Leavy, 2011). The semi-structured interview is a typical way of collecting primary data in qualitative research as its flexibility is a beneficial trait in this kind of study (Saunders et al., 2009.) Concerning the uncertainty of interviewees' prior knowledge about SST, an option to present additional questions or to omit questions was a favourable approach.

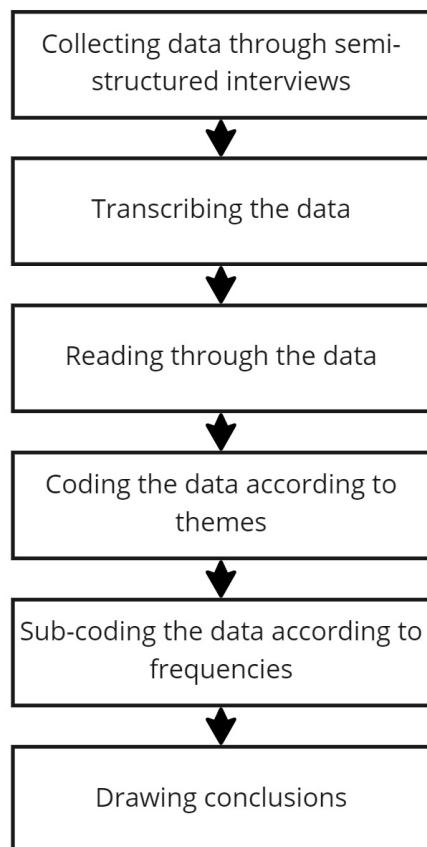
To evaluate the competitiveness of the SST business model in the café industry from multiple perspectives, the interviews were conducted in two phases. Firstly, potential customers of SST utilizing cafés were interviewed. The selection criterion of the interviewees was that the interviewee is a consumer who regularly uses café services and, notifying the target area of the research, a Finn living in Finland. Five people were interviewed in the first phase. Some of the interviews were conducted as person-to-person interviews and the rest remotely in Zoom. The length of the interviews was an averagely of 30 minutes. The personal data of the customer interviewees were anonymized as it was not necessary to provide personal data in this research.

In the second phase, professionals in the café industry were interviewed. The choice of interviewees is based on certain requirements – the interviewee needs to be an experienced professional in the café sector such as an entrepreneur in the industry, and the company of the interviewee is in Finland. The average length of the interviews was 30 minutes. Some of the interviews were conducted remotely in Zoom and some as person-to-person interviews. Four entrepreneurs from the café industry from three different companies were interviewed. The interview questions are provided in an appendix (see Appendix 1 and 2). Since most interviewees' native language was Finnish, all the interviews from both phases were conducted in Finnish to increase the interviewees' ability to provide profound answers. All interviews were audio-recorded and afterwards transcribed manually.

As the data was collected from individuals through interviews, an important part of the data collection was to notify the ethicality of the process. Saunders et al. (2009), stress this is a crucial matter in any research, that needs to be addressed in several phases of the research. This includes matters such as comprehensively informing the participants about how the data collected is used, informing the participants about their rights, ethically handling the data and appropriate behaviour in general. To address these issues, all the interviewees were informed about the use of the data, the purpose of the research and the publication of the research. Interviewees' consent to use their name, or the company name was requested, as well as the permission to record the interviews for deeper analysis. All interviewees from both phases gave their consent to record the interview. Additionally, all entrepreneur interviewees provided their consent to use the company name and the name of the interviewee.

3.4 Data analysis

Due to the data-driven instead of theory-driven approach of the study, thematic analysis can be considered a valid choice for the data analysis strategy for this research. By utilizing thematic analysis, the entirety of data can be condensed into the most significant themes which can further be categorized in different levels (Attride-Stirling, 2001). In the figure below (see Figure 2), the data analysis process is described more specifically.



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Figure 2. The data analysis process

(Adapted from Saunders et al., 2009)

As described in the figure above (Figure 2), after the primary data were collected through interviews and transcribed in a textual form, the data was transferred into the Nvivo 12 data analysis software. After reading through the interviews enough times to gain a larger picture of the data, it was coded into different nodes. First, the data was coded according to larger themes derived from the interview questions, such as advantages, disadvantages, and price level. Next, the data was coded more specifically into sub-nodes under the larger themes according to recurring traits in interviewees' answers. The codes used in the data analysis process are presented more specifically in the appendix (See appendix 3). After the organization and analysis process in Nvivo, the conclusions to answer the research question were starting to develop by drawing correlations between interviewees' insights, the author's observations and different ingredients of competitiveness learned from the literature review.

3.5 Verification of findings

Validity

The concept of validity can be seen as the accuracy of the results – are the conclusions drawn from the data valid correlations or has the data been misinterpreted (Saunders et al., 2009). To increase the validity of the empirical study, pilot interviews were conducted for both the interviews of potential customers of an SST café and the professionals of the industry. The pilot interviews were conducted to evaluate whether the questions are formulated correctly and understandably to avoid any misinterpretations. Additionally, the ability to provide insights to answer the research question was evaluated. Modifications to the questions were made accordingly.

In the formulation of the interview questions (See Appendix 1 and 2), the business model canvas of Osterwalder and Pigneur (2010) a theoretical framework developed to evaluate business models, was utilized as well as basic principles of competitiveness. Different sections of the business model canvas were applied to the interview questions to produce valuable data to evaluate the SST business model.

Considering internal validity, the results of the study can be seen as accurate as they make sense and provide answers to the research question. The empirical study has covered several perspectives that can be correlated with competitiveness and features providing potential for gaining competitive advantage. However, the results might not be generalizable to multiple other contexts due to similar characteristics of the sample and the specific research context used in the study. All the customer interviewees were from a similar age group, age between 24-33 years, therefore the results might not be generalizable to other age groups. Additionally, the context of the research was to study the adaptation of SST in Finland, for which a large majority of the interviewees were Finns. Therefore, the results might not apply in the context of other countries. However, the results can likely be generalized to the café industry, as well as to some extent the restaurant industry, with similar age groups.

Reliability

When evaluating the reliability of research, the appropriateness and correct use of data collection and analysis techniques, as well as whether the results of the research can be achieved by other researchers need to be examined (Saunders et al., 2009). Because the findings of the research were consistent, other researchers would be able to produce similar results as the author of this research by using similar methods.

For the empirical research data was collected through semi-structured interviews with potential SST café customers and professionals in the café sector. The data collection method was used correctly and ethically appropriately. The professionals interviewed were entrepreneurs of café businesses with several years of experience in the sector. Therefore, they can be considered reliable sources to provide perceptions about the adaptation of SST in the café sector based on their experience. Customer interviewees can be seen as reliable sources to provide information about customer behaviour and therefore the customer demand for SST technology in the café business because all the interviewees were suitable for the potential customer target group. The features of the most likely target group of an SST utilizing café, based on the author's hypotheses, are consumers who use café services from the age group 20-35 since the author believes young people are most likely to adopt new technology in their consumer behaviour. According to Kasavana (2008), young people are more willing to adopt technology in their purchase behaviour, since technology has been around throughout their life. He states that this can be seen as their preference for using cashless transactions. Kasavana's statement further supports the author's perception.

Primary data was collected through the author's observations as a customer of an SST café. This can be considered a reliable source of data since the author has personally gained insights based on these observations. However, this also leaves room for subjectivity based on the author's personal perceptions.

Concerning the literature review, information was searched from multiple sources of high credibility. The newness and relevance, measured by the number of citations and publication date, were considered when choosing the sources. However, the prior research and information about the

adaptation of SST in the café industry were non-existent for which the information had to be searched from the whole restaurant industry. This may lower the reliability of the sources in the literature review's SST model section.

Objectivity

To achieve accurate findings on the research topic, the researcher aimed to minimize subjectivity in her research. Since the researcher has personal experiences from the researched field and personal perceptions about SST there are, however, possibilities of subjectivity. Therefore, these possibilities were aimed to minimize by conducting a thorough literature review about the key concepts, using valid data collection techniques and the correct use of appropriate data analysis techniques. Additionally, since the researcher acknowledged the chance of subjectivity, she was able to consciously avoid it. Saunders et al. (2009), state that a crucial matter concerning the validity and reliability of research is the ability to remain objective in the data collection stage. To avoid such issues, the interviews were transcribed accurately to avoid the possibility of selective data analysis as well as the researcher aimed to remain objective in the interview situation and thus not express her own opinions. Concerning these matters, similar findings to the ones that the researcher found can be achieved by other researchers as well.

4 Results

In this chapter, the results of the empirical study are presented in a detailed and organized manner. The objective of the results chapter is to provide answers to the research question: How can self-service technology business models be competitive in the café industry in Finland? Since the data analysis strategy of the research was thematic analysis, the results will be presented according to larger themes also used in the data analysis process. These themes are derived from the interview questions presented to interviewees. Since the interviews were conducted using different question lists for potential customers of SST cafés and professionals of the café industry, one theme may contain insights from multiple interview questions.

4.1 Perceptions of self-service technology

At the beginning of the interviews, the interviewees were explained the meaning of self-service technology (SST) in the context of this research and provided with examples of commonly known forms of SST such as kiosks (with an example of self-service kiosks in fast-food restaurants), applications (such as applications from the restaurant field, for instance, Hesburger- or Pinchonation restaurant chains applications) as well as fully automated units (for instance a cupcake automaton Sprinkles used by the author or Fizza – pizza automaton chain). After explaining the concept, the first question inquired from the interviewees was about their familiarity with SST. All the interviewees, both entrepreneurs and customers, were familiar with SST to some extent. The most familiar form of SST to the interviewees was self-service kiosks (SSK) from fast-food restaurants. The next most common forms were mobile applications as well as self-service checkouts in stores. Additionally, some of the customer interviewees stated preferring using SST instead of traditional customer service when it was available. However, one of the customer interviewees preferred traditional customer service and would only prefer SST in hurry. Additionally, one interviewee stated he would use SST only in case the usage of the technology would include clear guidance and therefore make the user experience as easy as operating with traditional customer service.

Next, the customer interviewees were questioned about their subjective perceptions of an SST utilizing cafés. Additionally, the participants evaluated the differences between cafés with regular customer service and SST utilizing cafés. The data of potential customers' perceptions can be considered valuable when considering factors affecting SST business models' competitiveness since it enlightens the potential direction in how to utilize SST in a café company.

It seems that the interviewees associated the concept of an SST utilizing café as similar to a concept generally adopted in fast-food restaurants in Finland. Such a concept includes the possibility of both conducting the order using SSK or with a customer servant at a traditional counter according to the customer's preference. Additionally, the concept of conducting an order utilizing a mobile application seemed to be another strong association with the SST service concept. Furthermore, SST in a service concept was mostly recognized as a tool to conduct an order, however, the concept was imagined utilizing additionally traditional customer service by employees serving the orders to the table as a part of the service process. Most of the interviewees imagined such a café as a location to spend one's leisure rather than as a fully automatized takeaway model. However,

some interviewees mentioned the aforementioned model as well. They recognized this type of concept as useful for busy locations and serving customers in a hurry.

Overall, many of the interviewees considered the SST business model as an easy and quick option. Two of the interviewees stated particularly preferring STT due to its convenience and therefore compared it as an easy and quick option to a traditional café. However, one of the interviewees did not perceive STT cafés as a choice for a consumer willing to enjoy their café experience with time but rather as a choice for a busy customer. She associated STT utilizing café as less comfortable as cafés with customer servants.

Both interviewees were inquired about their willingness to adapt SST – potential customers about their willingness to act as a customer in an SST utilizing café and the entrepreneurs about their willingness to utilize SST in their businesses. When inquired about the café entrepreneurs' willingness to adapt SST to their company's service concept all the entrepreneurs stated that their company's mainly focus on the service concept is on traditional customer service. Due to the fact that all the entrepreneurs interviewed considered traditional customer service to be necessary to their company's service concept, all of them stated being unwilling to shift to a fully automated service concept. However, a majority were willing to adapt SST as an additional option for the customer and as an aid for enhancing the use of worker resources to be more efficient. Two of the interviewees stated that they were planning to utilize SST in the future in their companies, most likely in the form of mobile applications and self-service checkout. Additionally, Laitinen from Miriam's and Saarelainen from Caffitella described that one form of SST, E-commerce, had already been adapted to their companies' service concepts.

The potential customers of SST utilizing cafés were inquired about their willingness to use the services of such companies if possible. Overall, the stance toward SST was welcoming from customers. Only one of the interviewees particularly preferred traditional customer service over SST. However, all the interviewees responded affirmatively when inquired about their willingness to visit an SST utilizing café. Two reasons for being willing to use SST arose distinctively. Firstly, half of the interviewees described the product selection process in a line of a regular café as a difficult situation. Therefore, they perceived the possibility of choosing products and conducting the order using SST as a less distressing process and considered an order process with SST providing more

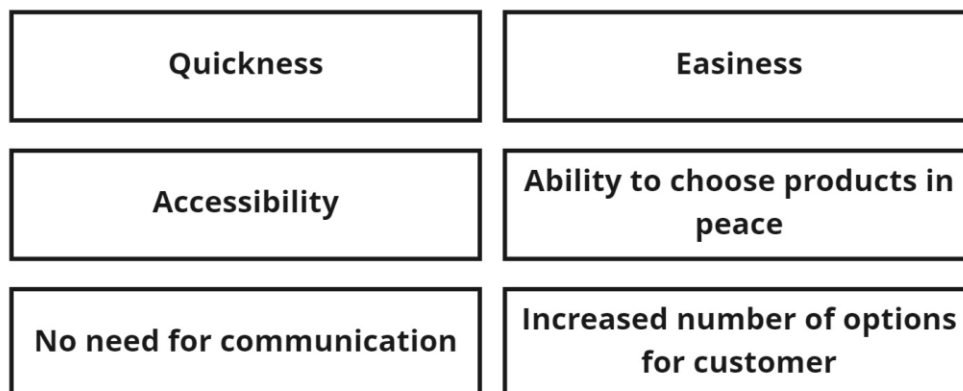
time to select preferred products. Secondly, many of the participants perceived SST as a quicker option to conduct an order. Additionally, they described avoiding or reducing the time spent standing in a queue as a valuable benefit.

4.2 Qualities of SST

This sub-chapter presents the different qualities of SST, starting with the advantages and disadvantages of SST based on the collected interviews. These features are considered from two perspectives. Firstly, what kind of advantages and disadvantages can a café business gain by adapting SST in its service concept according to the café entrepreneurs interviewed. Secondly, the customer interviewees were questioned what kind of advantages and disadvantages they perceive of visiting an SST café as a customer.

Advantages

SST can provide several beneficial qualities for customers and respond to different customer needs. The figure below presents the most prominent benefits of SST based on the data collected (see figure 3). Additionally, all the advantages mentioned in figure 3 are described in a more detailed manner below.



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Figure 3. The most mentioned advantages of SST

One of the most prominent benefits of using SST seems to be the ability to quicken the service process and avoid queues. This feature can be seen as clearly significant as it was mentioned by all the interviewees both customers and entrepreneurs. However, as mentioned in the previous subchapter, most of the customer interviewees mentioned the perception of having more time to choose which products to order as a valuable feature. Concerning the contradiction that many of the customers value both quickness of the service process as well as increased time to choose products, one possible way to interpret the value in both features is that customers rather feel the pressure of deciding on products while standing in line. Therefore, conducting the order by using for instance an SSK or an application might be seen as a preferable option in the eyes of customers.

As presented in figure 3, another often important advantage was the easiness of use. The author evaluates, that this is a value perceived due to the quicker service process. According to Liiri from Caffitella, the adaptation of SST had been considered by the company because it would be a convenient option for customers who knew what to order in advance. Based on the author's observations as a former worker of a café, she also believes that adapting SST could significantly ease and quicken the service process of certain customer groups such as regular customers who are familiar with the product selection or prefer ordering similar products. Additionally, the possibility to see the product selection and features of different products was perceived to be convenient with SST by some interviewees.

Accessibility and the possibility to serve different kinds of customers turned out to be a valuable benefit based on the empirical research. This feature was mentioned from multiple perspectives by half of the customer interviewees. Firstly, the possibility to cross language barriers. Existing SST such as self-service checkouts in stores often contain the possibility of choosing a language of service. Therefore, it is fair to presume that SST utilized in cafés would likely enable service for customers of different languages easily without having to experience language issues. The possibility to tackle language issues was noted from the entrepreneur's perspective as well. Laitinen notifies that utilizing SST instead of traditional customer service in a café would ease workers with lacking language skills. Secondly, the possibility of contactless interaction was brought up as a value-add-

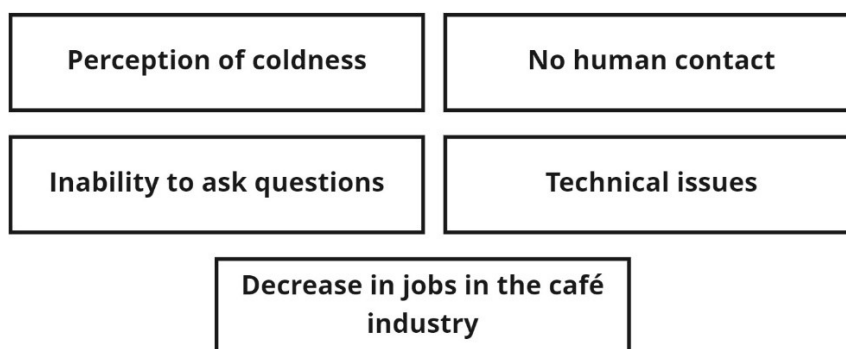
ing feature, which has surely increased its significance during the corona pandemic. Finally, customers with difficulties in speaking interaction, in general, were notified by one of the customer interviewees:

“From the perspective of accessibility, for instance, deaf or mute customers or other customers for whom communicating with customer servants is not easy, for them, SST could ease visiting a café. Therefore, from the accessibility perspective, it would be great. And overall, for customers who are not keen to communicate with other people.” (2022)

Additionally, some customer interviewees considered the lack of human interaction and not having to communicate as a benefit. Similarly, an entrepreneur interviewee notified differences in customers’ willingness to communicate with a customer servant when needed. Therefore, the possibility to view product selection and information with SST might be a preferable way to gain product information for such customers. Concerning the company side benefits, the majority of the entrepreneur interviewees mentioned the possibility of providing versatile service and payment options to different customers with different needs as an advantage.

Disadvantages

Similarly, concerning the disadvantages of using STT, certain similarities appeared in the interviewees’ perceptions. The figure below (Figure 4) presents the most prominent disadvantages according to the empirical study. Additionally, each of the mentioned disbenefits are described below the figure 4 in more detail.



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Figure 4. The most prominent disadvantages of SST

The most notified disadvantage amongst a majority of both the entrepreneur- and some of the customer interviewees was the perception of coldness caused by the lack of face-to-face customer service. For instance, Jasmin from Robert's coffee described warm customer service as an important quality of a café with a concept including customers enjoying the products inside the café's premises instead of a takeaway concept. Concerning using STT instead of traditional customer service would fully exclude the personality of the service, he continued. Additionally, some of the customer interviewees mentioned the decrease in the warmth of the atmosphere concerning STT. Replacing the traditional customer service with SST could result in the colder and faceless ambience they described. Furthermore, having human contact and the ability to communicate with another person can be recognized as some customers' needs were notified by both a customer interviewee as well as an entrepreneur interviewee. Although lack of human contact was mentioned as a benefit by some participants it was also considered a disadvantage of STT by some.

Since all the entrepreneur interviewees' businesses concepts included customers' possibility to enjoy the company's offerings on the company's premises itself and highlighted the importance of customer service in their concept, the general stance among them seemed to be that adapting STT fully instead of traditional customer service would not be a suitable option for companies of such concept. According to Laitinen:

"If the SST is not the only option for the customer, it would not probably cause any disbenefits for a café business. However, if it is the only option, it will limit the customer base quite a lot since there are surely lots of customers who are not willing to use it. But if it is an additional option, it can be seen only as a benefit for customers." (2022)

Therefore, limiting certain customer segments can be seen as a significant possible disadvantage of fully utilizing STT in a café business's service concept. However, noting the potential of utilizing STT as a complementary tool aiding the customer service processes.

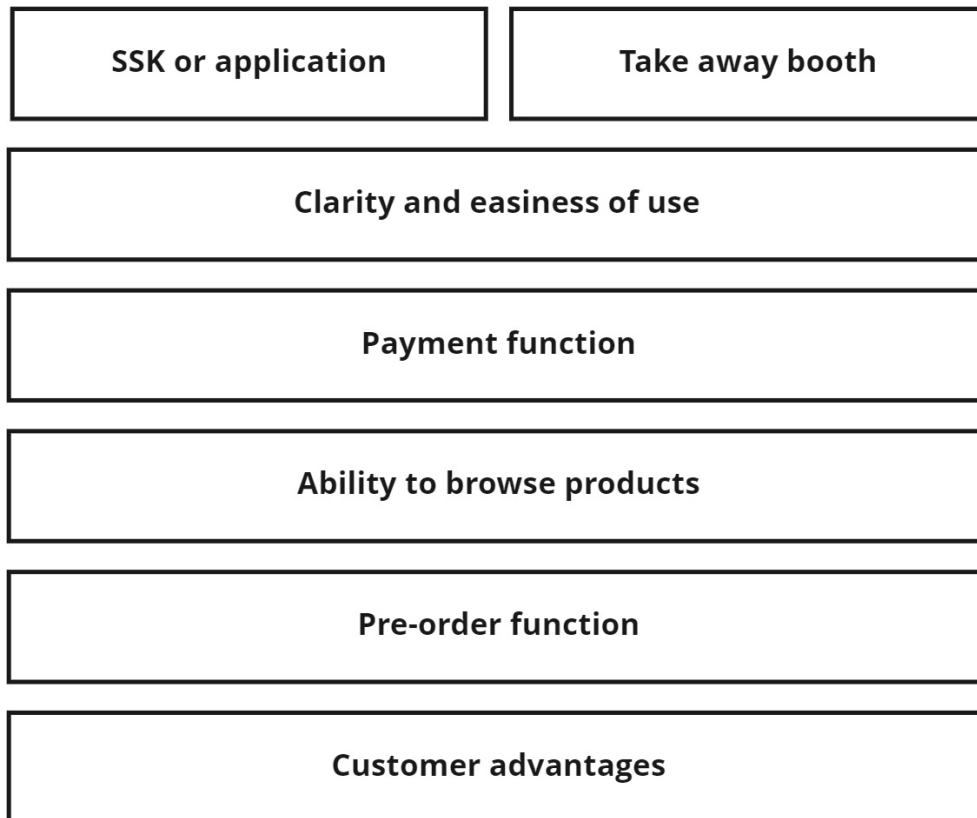
One significant disadvantage described by over half of the customer interviewees was the inability to ask questions for instance about the products, as it would be possible when conducting an order with a customer servant. Especially in the case of special dietary requirements the customers perceived the possibility of asking questions of high value. Additionally, in case of technical difficulties when using the technology would require a possibility of asking questions according to

them. Furthermore, the prospect of technical difficulties was seen as a disadvantage with technology-driven customer service. Such cases might occur due to issues with an internet connection, difficulties with electronic payment methods or malfunctions of the technologies used, which could harm the user experience.

Finally, according to Saarelainen, the ability to provide work for employees is one of the biggest perks of being an entrepreneur. Therefore, she considered the decreasing need for human resources due to SST a disadvantage. One of the customer interviewees stated the decreasing number of jobs as a possible disadvantage as well, however she perceived this as a possible advantage as well, considering the decreasing interest in the industry.

Functions

In interactive technology, the different functionalities and features have a significant impact on the user experience. Therefore, the qualities of customers' preferences were examined during the data collection from both the customer interviewees perspective, as well as entrepreneur interviewees' thoughts about the matter. Based on the data analysis it seemed that several of the most preferred qualities had a connection with easing the ordering process. Based on the most preferred functions, a potential form of STT to utilize in the café industry could be an SSK. Additionally, it was directly mentioned by some of the customer interviewees. Based on the author's experiences of using STT, a mobile application would likely be another alternative to cover the most mentioned functions as well. The figure below describes the most prominent functions according to the empirical study (See figure 5). These qualities are described more in-depth below figure 5.



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Figure 5. Most preferred functions of SST

One of the most distinctive preferences was user-friendliness, more specifically easy usability, and a visually clear platform. These qualities were mentioned by most of the customer interviewees. Additionally, Jasmin from the entrepreneur interviewees believed this to be an important feature for customers. Clear instructions for use and a distinct layout would increase the ease of the user experience. This indicates that the users would rather prefer simply functioning STT rather than several functionalities.

Secondly, a payment function was a significantly prominent function described by both the customer and entrepreneur interviewees. Naturally, the prospect to pay via STT is likely to expedite the ordering process. Without the payment function, the benefits of using STT would likely be significantly lower as the process would inquire queuing at a regular counter. Therefore, as stated by the interviewees, at least a different counter should be assigned to STT customers in order to avoid queues. Additionally, a variety of different methods of payment were requested by some of

the interviewees. Furthermore, a possibility to gain advantages such as discounts and possibly the use of a customer loyalty programme could be used as a means to increase customer engagement when attached to SST.

Thirdly, the ability to browse the product selection and view the product information appears to be an important function, which could furthermore increase the clarity of the user experience. Especially the information about different allergens and ingredients of the products was considered an essential function. Additionally, elaborate product descriptions along with proper images of the products were considered important. These qualities were notified by both customer and entrepreneur interviewees. From the customers' perspective, the ability to browse product selection via STT will provide an opportunity to gain information about the products without the pressure of decelerating the queue to the counter when ordering, which as mentioned seems to be valuable matter for a customer.

Fourthly, a pre-ordering function was mentioned by some of the interviewees. This is a function mostly connected to mobile applications. With the aid of such a function, the customer could bypass the ordering process in the café altogether and conduct the order, for instance, from home with the application. Such function would again serve as a quality to ease and quicken the order process. Therefore, the function would serve both customers with the need for rapid service as well customers with the need to minimize communication in the ordering process.

Finally, the potential of an automated takeaway booth was noted by the interviewees. Especially, the possibility to purchase high quality, hand-made specialized coffees, such as different types of lattes or cappuccino, quickly from an automaton was seen as a potential concept by some interviewees both customers and entrepreneurs. Additionally, Laitinen believes that an automated takeaway booth would gain customer demand by serving breakfast-, snack- and lunch products. Such products are often consumed by consumers who need the products quickly. An automated takeaway booth would serve this need well by offering a quick way of purchasing the products.

Products

In addition to functions, the customer interviewees were requested to describe what kind of products would they be willing to see in the product selection of SST cafés. The overall stance amongst interviewees was a willingness to see similar products in the product selection as in any other cafés, containing diversely sweet and savoury products. More specifically, some interviewees described being willing to see confectionery quality products, such as high-quality cakes as in many other cafés in the interviewees' hometown. However, some of the interviewees did not see a connection between products and the service concept. This could be seen as an indicator that customers might not have strong perceptions of SST utilizing cafés correlating with lower quality, as opposed to some of the entrepreneur interviewees who seemed to correlate SST with lower quality to some extent. According to one of the interviewees:

"I think it depends on what you want. You go to a type of café according to which type of products you prefer. The utilization of SST should not affect product selection. It could be a café serving cheaper lower quality products or a café serving high-quality confectionery products. In my opinion, whether the service concept is SST or traditional customer service should not have an effect." (2022).

Price level

As a favourable price level is often considered a valuable criterion of a business in the eyes of a customer, customer interviewees were inquired about their perceptions on what kind of price level should an SST café have in their opinion. Because price level can be seen as one of the assets to win over customers in the competing markets, entrepreneur interviewees were inquired about the effect of SST on the ability to compete with prices against other businesses.

Of the entrepreneur interviewees, most of the participants agreed that utilizing SST would enable a café business to improve its ability to compete with prices. As described by these interviewees, using STT would decrease the expenses and would therefore enable the company to lower the prices of its products. Jasmin described the cost structure in the café industry as substantial, for which the sales margin of the products needs to be high. However, he believed that the more important indicator in a price level of a café should be the product quality rather than the service concept. Based on his experience, he stated that consumers are willing to pay a higher price for a

high-quality product. One of the interviewees did not believe an SST would enable decreasing the prices of the products due to the manufacturing expenses of handmade products. Therefore, he described that lowering the prices would rather require automation of the product manufacturing processes which would as well modify the nature of the products.

The customer interviewees were questioned about their perception of a suitable price level for an SST café. Overall, the stance amongst interviewees was that the price level of SST utilizing cafés could be similar to other cafes' averagely, despite the lack of customer service. Expenses of the SST, expenses of the work conducted by the human workforce such as manufacturing the products and cleaning as well as quickness of the service process with SST were considered as valid reasoning to maintain similar price-level in technology-driven cafés. One of the interviewees considered the price level should be lower in an SST café. However, she also stated that on the other hand the quicker service process enabled by SST can also be seen as an advantage. Additionally, the interviewee stated: "some customers might even be willing to pay for the quickness." (Customer interviewee, 2022). Considering the insights provided by the data analysis, SST can provide opportunities to lower prices and thus the ability to compete against other companies in this area. However, it seems that it is not a necessary factor for a business to win over customers, and thus be competitive.

Customer relationship

To what extent is traditional customer service needed in an SST café was evaluated in the data collection process. Of all interviewees, some stated the amount of customer service needed depends on the concept of the business. Concerning for instance SST-driven takeaway booths, traditional customer service was not seen as a necessity by some interviewees. However, concerning a café where customers spend time enjoying the products inside the premises of the café, traditional customer service was seen as a necessity to some extent by most of the interviewees. Such café would most likely include for instance cafés utilizing SSK. The most significant reasons why customer service was perceived necessary were to provide customers with the possibility to ask questions about the products or the use of the SST, to provide cash payment possibility and in case difficulties or malfunctions with the technology appear. Additionally, some interviewees

acknowledged the importance of serving different customer needs. According to them, both SST and traditional customer service concept cafés have their own markets.

4.3 Resources and competitive advantage

An important part of evaluating competitiveness is the company's ability to allocate and utilize resources efficiently. Therefore, the entrepreneur interviewees were requested to evaluate their perceptions of the effects of utilizing SST on a café company's costs and resources. Firstly, all interviewees agreed SST could improve the efficient use of human resources. Adapting SST would enable replacing some of the needed human resources or enable allocating the human resources to other duties, such as serving customers with questions or other processes SST cannot operate. According to the interviewees, especially cashier work could be made more efficient by allocating these duties from human resources to SST. Additionally, Laitinen described that SST could be utilized for acquiring data on customer purchasing behaviour since for instance ordering via application could be connected to customer registration. The data could enable tracking of the popularity of each product as well as enable to conduct of targeted marketing to customers. Therefore, adapting SST could optimize the use of marketing resources as well.

Considering the aforementioned factors, most of the interviewees perceived that adapting SST could reduce the costs of a café business, especially the personnel costs. Additionally, Laitinen notified that depending on the concept of the café, adapting SST could reduce other costs as well, for instance, premises costs in case of SST-driven takeaway booths. Therefore, the majority perceived SST as a possibility to ease difficulties in the industry such as worker deficit and high costs. However, one of the interviewees did not perceive adapting SST as a possibility to decrease costs. When concerned with the concept of his business, adapting SST would not reduce the need for human resources the interviewee stated.

Competitive advantage

The entrepreneur interviewees were directly inquired if they believed SST could provide a competitive advantage to a café business. The interviewees had different evaluations of the matter. A majority stated perceiving a high-quality traditional customer service and high-quality products as an

important competitive advantage for a café business. However, the majority additionally acknowledged SST providing a competitive advantage as an additional aid in the service concept by providing customers with different options to choose a preferred alternative of conducting an order. One of the interviewees had experienced a competitive advantage with the aid of SST. Saarelainen believed that E-commerce had provided the company with a competitive advantage during the corona pandemic, since many of the competitors did not have an online store at the time. The author evaluates, based on her experiences as a customer in an SST café, that the novelty of the business model can serve as a temporary competitive advantage due to the novel experience it can provide to customers. However, maintaining the competitive advantage would require superior customer experience. The figure below presents the effects of the SST business model that have the potential to increase the company's competitiveness (See figure 6).

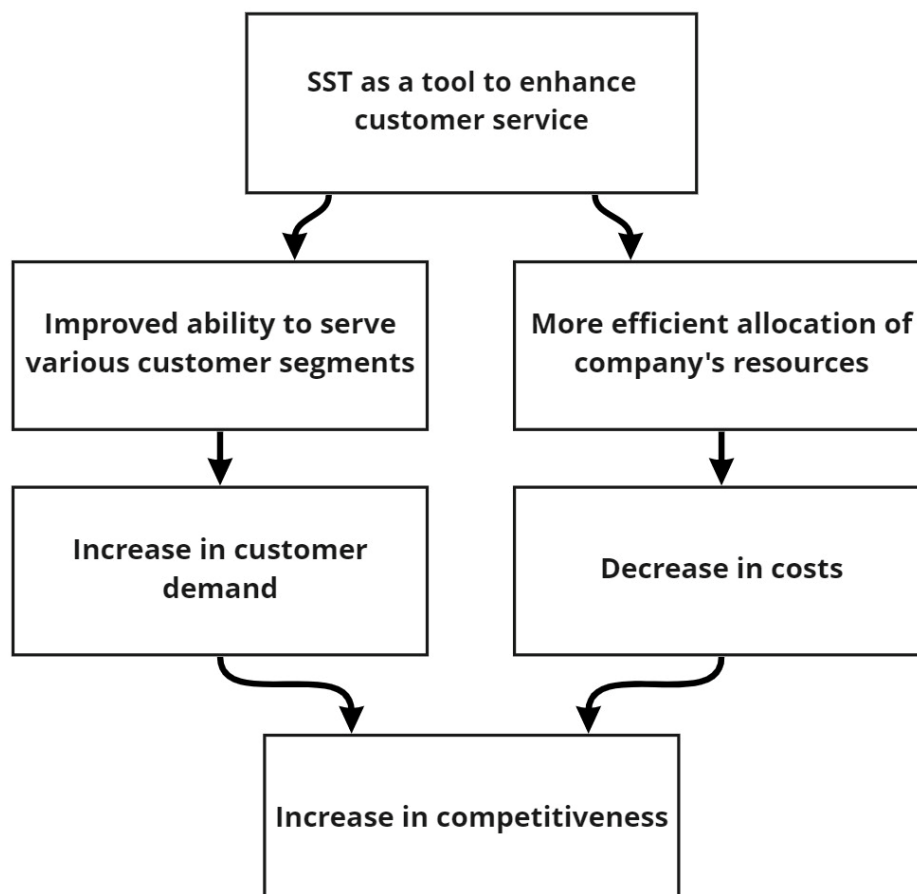


Figure 6. How can SST increase competitiveness

As described in figure 6, the SST business model has the potential to increase competitiveness for two reasons when utilized as a tool in the service concept instead of as a fully automated business model. Firstly, it provides an opportunity to reach new customers due to the ability to increase options for customers and thus serve different needs. Secondly, adapting SST enhances the business's ability to allocate its resources more efficiently which can further lead to decreased costs. Both features can provide a business with an advantage compared to competing businesses.

Since the ability to grow the business can be seen as a part of competitiveness, the interviewees were questioned to evaluate the effect of SST to improve the growth of a business. A majority notified that establishing SST driven takeaway booths in addition to a brick-and-mortar store café is a possibility to expand the business. Additionally, SST could be an effective way to reach younger customer segments as they are likely more engaged with technology, described Liiri and Saarelainen.

5 Discussion

The objective of this study was to analyse how could SST be utilized in the café industry in Finland to increase competitiveness. Additionally, by analysing the potential of adapting SST the research aimed to study if issues hampering the growth of businesses in the café industry, such as worker deficit and high costs, could be relieved with the aid of the SST business model. To study the phenomenon, qualitative research was conducted to answer the following research question: "How can self-service technology business models be competitive in the café industry in Finland?". The data for the empirical research was collected with semi-structured interviews of entrepreneurs from the café industry as well as potential customers of SST utilizing cafés. Additionally, observations of the author as a customer of an SST adapting café were utilized. The collected data was analysed thematically utilizing Nvivo 12 software.

5.1 Summary of the main findings

To be competitive in the café industry, the qualities that can most likely cause customer demand for an SST café business need to be evaluated as well as the effects on the use of resources. The results of this study show that from the different forms of SST an SSK or a mobile application are

forms that could most likely meet the most important qualities, such as easiness and quickness, for a pleasant user experience and therefore lead to customer demand.

The second major finding was that when utilized as a complementary tool to aid the customer service process an SST can provide possibilities to use the business's resources more efficiently. Additionally, it enables reaching multiple customer segments due to its accessibility, such as people with communication disabilities or language barriers. Furthermore, when a café provides the option to choose SST or the traditional customer service, the company is more prepared to respond to different customer needs, such as the need for a quick service process as well as the preference for human contact. Therefore, this study has found that as a complementary tool for the customer service process SST can increase the competitiveness of a café business by providing the potential to expand clientele and lower costs. Additionally, the SST business model has the potential to increase competitiveness by expanding the business with additional automated takeaway spots. However, due to the limitations in the potential clientele, this concept is not likely to remain competitive as an individual business model.

5.2 Practical implications

The most prominent outcome of the research considering practical implications is the utilization of the information when designing SST suitable for a café business as well as evaluation of the investment in SST. Therefore, this information can be used to develop SST solutions to optimize the service processes of a café business. Additionally, as the research studied multiple features of SST, such as preferred functions; products and qualities, it provides information on which features to invest in the design process, as well as the perceived issues of SST. Thereby, these issues, such as the perceived impersonality of SST, can be notified. In order to lower these perceptions, the author believes that the interior of the premises, the layout of the SST and a distinctive brand personality are important qualities with which the company can create more a personal, warm and homely company image. Therefore, she suggests these matters be invested in.

The findings of the study can be used by entrepreneurs planning a new business utilizing SST. A new business could utilize the data when planning a favourable competitive positioning in the markets by considering the different advantages and disadvantages presented and choosing a

competitive strategy accordingly. Furthermore, the data can be notified in both operational planning as well as brand development in a new SST utilizing café business. By acknowledging the presented perceptions of SST according to the study, a brand of a new café business can more easily be developed in a favourable direction. Additionally, the results can be notified in operational planning, for instance when planning the use and need of human resources.

5.3 Assessment of the results in the light of literature

The study has several findings in line with prior research. However, since the availability of prior research from the café industry seemed to be very limited, the prior research referenced is from the restaurant sector. Firstly, similarly to the findings in this research, prior studies (Considine & Cormican, 2017; Jee & Soobin, 2018; Vakulenko et al., 2019) have discovered that easiness and convenience are perceived as a value-adding factor by customers when using SST. Other similar beneficial factors have been discovered as well. Findings by Bitner et al. (2002) about the ability to reach new customer segments and reduce a company's costs are compatible with this study. Especially, they stress the possibility of reducing labour costs as stressed in the current study as well.

However, a study by Leung et al. (2021) has discovered that the stress of conducting an order and choosing preferred products experienced by customers was not relieved when using SST. This finding is not in line with this study as multiple interviewees of this empirical study perceived conducting an order using SST as less stressful than ordering at a regular counter. Nonetheless, Leung et al. (2021), found that the availability of a human worker supports customers' confidence in using SST. This finding is compatible with the current study as the ability to reach customer servants in case of difficulties and ask questions was perceived as important by the customer interviewees of this study. The author believes that these matters further highlight the importance of a well-designed user interface and comprehensive product descriptions in SST as well as thoughtful labour resource allocation in the service process to decrease the experienced stress in order.

5.4 Limitations of the research

Certain limitations were experienced while conducting the research which is often the case in any study. To gain a profound understanding of the topic and therefore a readiness to conduct the research, a thorough literature review of the key topics of the research was conducted. However,

the first limitations experienced in the study were the poor availability of prior research on SST in the café sector as well as statistical information on the café sector in Finland in general. For this reason, the knowledge needed to be drawn largely from the restaurant sector. Furthermore, to minimize possible limitations, the credibility and appropriateness of the sources and research methods were thoroughly evaluated.

Additionally, some limitations need to be notified concerning the data collection stage. Due to limitations in café businesses' availability for an interview, all the companies of the interviewees were adapting rather similar service concepts. This may have limited the versatility of the answers as cafés of more varying service concepts might have provided different insights on the research questions. Additionally, the interviewees seemed to connect the questions heavily to their own businesses which may have caused biases as the research topic concerned the café industry in general.

Even though the study aimed to adopt appropriate research methods to increase the validity and reliability of the results, some limitations were experienced. The findings of the research are appropriate and provide answers to the research question which increases the internal validity of the study. As described, the credibility of sources was evaluated, data collection techniques were utilized correctly and the findings could be found by another researcher, for which the study can be considered reliable. However, due to the similar age group of the sample of the customer interviewees the generalizability of the results for other age groups might be limited. Additionally, since the research was targeted to concern merely Finnish markets, the results might not be applicable in other countries. For these reasons, limitations in the external validity of the research appeared. Finally, even though the research was aimed to conduct as objectively as possible, the author acknowledges the possibilities of objectivity since she has experience being a customer of an SST utilizing café as well as a worker of a café with a traditional customer service concept.

5.5 Recommendations for future research

As described in the limitations of the research – section, this study's sample of customer interviewees consisted merely of one age group, adults aged between 24 and 33. Therefore, the author suggests a similar study to be conducted with different age groups. Since the customer demand and perceptions are a large factor affecting the competitiveness and potential of the SST business

model in the café business, quantitative research could be conducted to further research the topic and to gain a larger sample. Additionally, to evaluate the investment versus returns of an SST utilizing café and therefore the profitability of the business model, research utilizing a case study method could be a favourable way to increase the understanding of the topic.

Based on the interviewees' experiences of SST, it seems that the SST business model is often correlated with the fast-food sector. However, high-quality cafés could benefit from SST considering the high costs such businesses have. Therefore, research on the correlation between SST and brand image could be a fruitful research topic to gain an understanding of how to develop a brand image fitting for a high-quality café utilizing SST.

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Appendices

Appendix 1. Interview questions of the potential SST café customers

- 1.) Have you used self-service technology? Which? Why?
- 2.) How do you perceive a self-service technology café?
- 3.) Would you be willing to be a customer of a self-service technology café? Why? Why not?
- 4.) How would you compare a self-service technology café to a regular café?
- 5.) What kind of features would you like to see in a self-service café?
- 6.) What kind of perks would using a self-service technology café offer in your opinion?
- 7.) What kind of disadvantages would using a self-service café have in your opinion?
- 8.) What kind of price-level do you think a self-service café should have? Why?
- 9.) What kind of products would you like to see in a self-service café?
- 10.) What kind of customer relationship do you think that a self-service café should have with its customers? Do you think that the traditional customer service could be fully removed, or should regular customer service be available as well? Why?

Appendix 2. Interview questions of the professionals in the café industry

- 1.) Are you familiar with self-service technology such as kiosks or mobile applications?
- 2.) Would you be willing to add self-service technology in your company's service concept? Why? Why not?
- 3.) Would self-service technology bring advantages or disadvantages to a café business in your opinion?
- 4.) How could self-service technology bring added value to the customers of a café?
- 5.) What kind of features do you think customers would like to see in a self-service café?
- 6.) Do you think self-service technology could ease the difficulties in the café industry such as the lack of workers or high costs?
- 7.) Do you think that self-service technology could lower the costs of a café business? If yes, how? If not, why?
- 8.) Do you think self-service technology could provide a competitive advantage for a café business? If yes, how? If not, why?
- 9.) Do you think that self-service technology could aid to grow a café business? If yes, how? If not, why?
- 10.) Could self-service technology in a café improve the ability to compete with prices against other businesses? If yes, how? If not, why?
- 11.) Could self-service technology improve an efficient use of resources in a café company? If yes, how? If not, why?

Appendix 3. Codes used in data analysis process

