Aalto University
School of Business

EXPLORING THE SIGNIFICANCE OF DIGITAL DISRUPTION ON THE FINNISH GROCERY INDUSTRY

A case study on the current attitudes of Finnish grocery suppliers, retailers and consumers towards online grocery retail.

Master's Thesis
Maria Kupila
Aalto University School of Business
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Aalto University
School of Business

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi

Abstract of master's thesis

Author Maria Kupila

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Abstract

Since its inception, digitalization has been disrupting numerous industries around the world. This also includes the grocery trade: Online channels have given consumers more flexibility in regard to how and when they purchase the products that fuel their every-day lives. This transformation has challenged grocery suppliers and retailers to adapt their internal tools and processes, while reevaluating their strategic interpretation of the future of their industry.

Although online commerce is often referred to as the superior retail channel of today, the share of online grocery – also referred to as e-grocery – has grown relatively slowly in Finland. The reasons for this are still fairly unknown: some suggest it may be due to the local oligopolistic parties not wanting to deter consumer cashflow from their brick-and-mortars, while others believe it may be due to a wary approach from Finnish consumers. Nevertheless, in the recent years the growth rate of Finnish e-grocery has increased notably. This sparks an interesting question: Has the era of e-grocery shopping finally arrived?

Through a qualitative intense single-case analysis, this study complements existing research by exploring the significance of digital disruption on the unique setting of Finnish grocery through 20 interviews with suppliers, retailers and consumers. The aim of this study is to explore the current e-grocery related attitudes of key players in the grocery supply chain to better understand the factors behind digital grocery's slow progression, as well as how large a role online channels may have in Finland's traditionally concentrated grocery market in the future.

The study's findings agree as well as add to existing research in regard to the plethora of digitalization related benefits and potential challenges felt by grocery suppliers, retailers and their consumers. The gathered insights suggest that the progress of Finnish e-grocery has been limited by both supply and demand related factors. However, through the offered practical implications centred around corporate agility, shopper data -led collaboration as well the improving of service design in digital channels, this study implies that Finnish suppliers and retailers have the opportunity to maximize the potential of their digital channels, thus being able to better serve the modern as well as impending demands of Finnish grocery shoppers.

Keywords Online grocery, Fast moving consumer goods, Digitalization, Finnish grocery

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1 INTRODUCTION

This qualitative study explores the impact of digitalization on the Finnish grocery industry through the investigation of existing relevant research as well as the application of an intensive single-case study, aiming to understand the current relevant attitudes of central stakeholders in the Finnish grocery supply chain.

The initial interest towards this topic arose from three factors: firstly, grocery items are the most sold commodity in the entire world (Boyer & Hult, 2005); secondly, there has been increasing academic discourse on how slowly consumers have adopted the internet as a channel for grocery retail, especially in comparison to other product categories such as apparel (i.e. Ramus & Nielsen, 2005); and thirdly, recent media discussion on large international retailers investing into e-grocery business' has sparked the question of how this will impact smaller traditional grocery players (i.e. Sharma, 2019).

The specific interest towards the Finnish market is due to its traditional as well as highly concentrated grocery market structure: geographically as well as competitively. Finland's grocery is small in market size compared to other nations globally. The reason why this is interesting is because existing research has mainly covered the impact of the shift from traditional to e-grocery on either large fragmented grocery markets or third world countries, however there is little available research on how the digitalization of grocery can impact a smaller traditional highly concentrated market such as the one in Finland. Therefore, Finnish grocery offers a valid probationary case to fill the existing research gap on how the large digital shifts in the grocery industry may have on smaller oligopolies.

1.1 Background

Electronic commerce - also referred to as e-commerce - has been growing with inevitable force since its creation, making it the fastest growing practice of trade today (Lacka et al., 2014). Consumer adoption of the internet as a purchasing channel has varied greatly according to i.e. what industry or country is in question (Ramus & Nielsen, 2005). Nonetheless, the internet shopping trend has shaped all retail industries, and continues doing so.

One of the industries disrupted by e-commerce is food and convenience retail, which is considered to be shifting from traditional brick-and-mortar stores towards so called online grocery shopping – in this study referred to as e-grocery (Morganosky & Cude, 2000). Considering that groceries are the most common commodity worldwide (Boyer & Hult, 2005), this shift has a large impact on nations: The grocery industry in the United States alone is currently worth a whopping 800 Billion

US dollars (Sharma, 2019). According to existing research, this shift from offline to online is mainly driven by the convenience that e-grocery services offer, being a faster and more seamless shopping experience at whatever place you choose (i.e. Morganosky & Cude, 2000; Anckar et al., 2002; Chintagunta et al., 2012). Nevertheless, consumer as well as retailer adoption of new technologies in the grocery industry has been a lot slower in comparison to other goods, such as apparel (Ramus & Nielsen, 2005). For consumers, this reluctancy has mainly been explained through the fear of receiving secondary quality goods (Chintagunta et al., 2012), while retailers have had difficulties optimizing their logistics in such a way that especially perishable foods would retain the necessary quality when shipped to consumers (Boyer & Hult, 2005). However, in the recent years, with the increased know-how in online commerce procurement and supply chain management, international third-party retailers such as Amazon and Alibaba have been getting involved in the e-grocery business. Analysts estimate that 20% of grocery shopping will be conducted online by 2020. (Sharma, 2019). This sparks an interesting question: Has the era of e-grocery shopping finally arrived? (Anckar et al., 2002).

1.2 Research objectives and questions

The aim of this study is to explore the attitudes of Finnish grocery suppliers, retailers as well as consumers on the e-grocery trend to better understand how large of an impact it may have on the future of Finland’s traditionally concentrated market structure. The objective is for the results to help Finnish grocery players better prepare and potentially even excel in the future onset of digitalization in their market. Thus, in this study, the following research questions will be investigated:

1) *What are the current attitudes of Finnish grocery suppliers, retailers and consumers towards e-grocery?*

2) *What could explain the slow progression of e-grocery in Finland so far?*

3) *How can Finnish grocery players best prepare for the future of grocery?*

Although this study mainly concentrates on mapping cultural and subjective sentiments of individuals involved in the Finnish grocery industry, it can be considered a valid approach to understanding the larger impacts of digitalization in grocery, as it shows how the e-grocery trend has been interpreted by these core players so far. In addition to this, considering how the direction of retail is mainly driven by consumers - as they are the ones who through their subjective preferences make the decision of how, when and where they purchase (Aylott & Mitchell, 1998) - mapping current Finnish consumer attitudes towards the e-grocery trend will bring great value to understanding how important the internet is and may become as a channel for grocery purchasing in Finland.

1.3 Structure of the study

This study is structured as follows: First, there will be a deep-dive into existing research on the grocery shopping industry, and how its shift from brick-and-mortar to online is posing various possibilities as well as threats to all players in the grocery shopping B2B2C[1] value chain: suppliers, retailers as well as end consumers. Then the perspective will be shifted from global to local by executing a similar analysis of the Finnish grocery shopping industry – specifically what the Finnish grocery market looks like today, and how adaptable it is to the globally occurring digital disruption. Next the topic will be further explored through a qualitative single-case study in the context of Finland, where relevant insights from real consumers and industry professionals from all levels of the supply chain will be gathered. The aim is to find any possible similarities as well as discrepancies between existing literature and the interviews. The study will be finalized through suggestions for future research and concluding remarks. The complete structure of this paper is visualized in the below Figure 1.

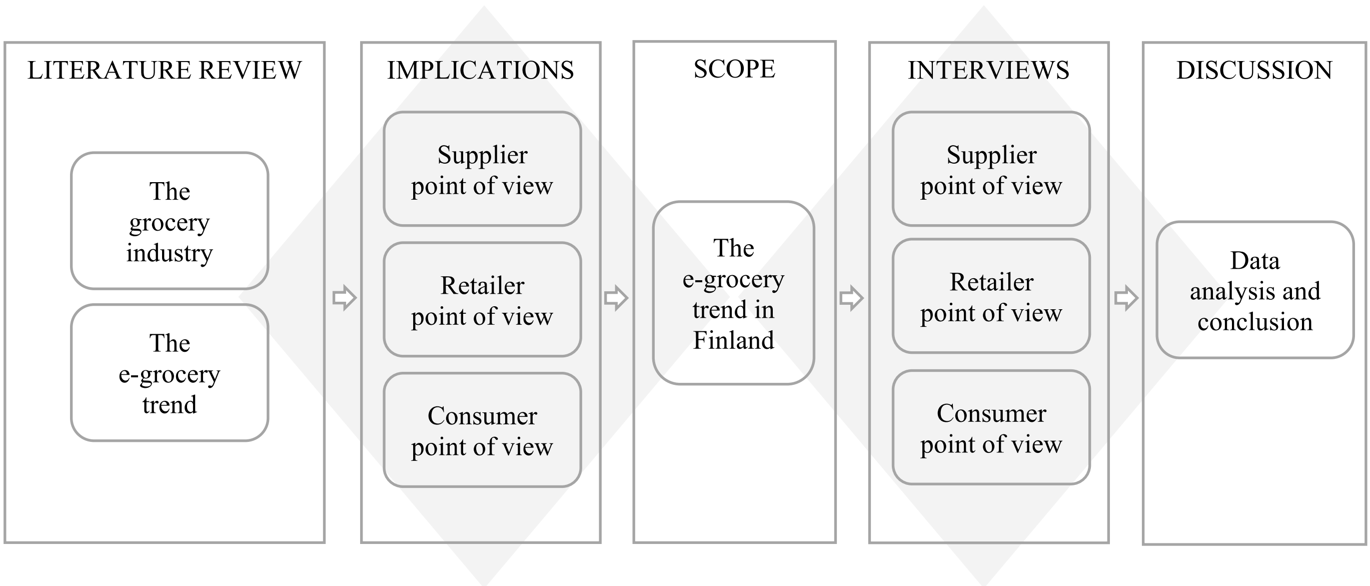

Figure 1 Structure of the study

[1] B2b2c is an abbreviation for business-to-business-to-consumer: a three-dimensional business model, where a business first supplies a product to another business before it is offered to the consumer.

2 THEORETICAL BACKGROUND

Through the examination of the theoretical background of relevant themes, this chapter aims to build a solid foundation for the forthcoming methodology and interviews. All reviewed literature is summarized in Table 6 (a more in-depth summary can be found in appendix A). First the concept of grocery will be demarcated, after which there will be a dive into the evolution of the grocery industry from where it started to what it is today. Then, the e-grocery trend will be defined and its advantages as well as disadvantages investigated from the perspective of all three identified stakeholders in the supply chain: suppliers, retailers and consumers. Consequently, the potential future of grocery will be touched upon. Finally, the perspective will shift from global to local as the Finnish grocery industry and its current e-grocery will be examined. The chapter will end with a discussion on the gathered insights and how they led to the research design implemented in this study, which is further described in the ensuing chapter.

2.1 Defining grocery

In the context of this study, grocery is defined as the distribution of regularly re-consumed products that fuel the every-day life of a household, ranging from food to hygiene products. This is made possible through the grocery supply chain. A supply chain is the network of entities that are needed in bringing the product from manufacturing all the way to the end consumer (Vlachos et al., 2014). These supply chains can look very different within grocery, as there can be such a large variety of products which all demand different entities. Nevertheless, the following three players are always at the core of these: suppliers, who manufacture the products; retailers, who procure these products and offer them for sale in their store; and consumers, who ultimately purchase and consume these products. This simplified sequence is depicted in Figure 2.

***Figure* 2** The simplified retail supply chain according to Vlachos et al. (2014)

As the grocery supply chain demands the input and most of all collaboration of these several different players, a core aspect of the grocery supply chain is logistics. Logistics can be defined as:

"The process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfilment of orders." (Christophe 2011, pp. 2)

In other words, logistics enables the orchestration of all the processes and resources throughout the supply chain, from start to finish. Therefore, for a product to successfully move from manufacturing all the way to a consumer's basket, there is not only a need for the output of the three core entities but also the management of the logistical processes that tie these together. This is often referred to as supply chain management or value chain management, depicted in Figure 3. According to Christopher (2011), this is the process of managing all material as well as information flow within a supply chain.

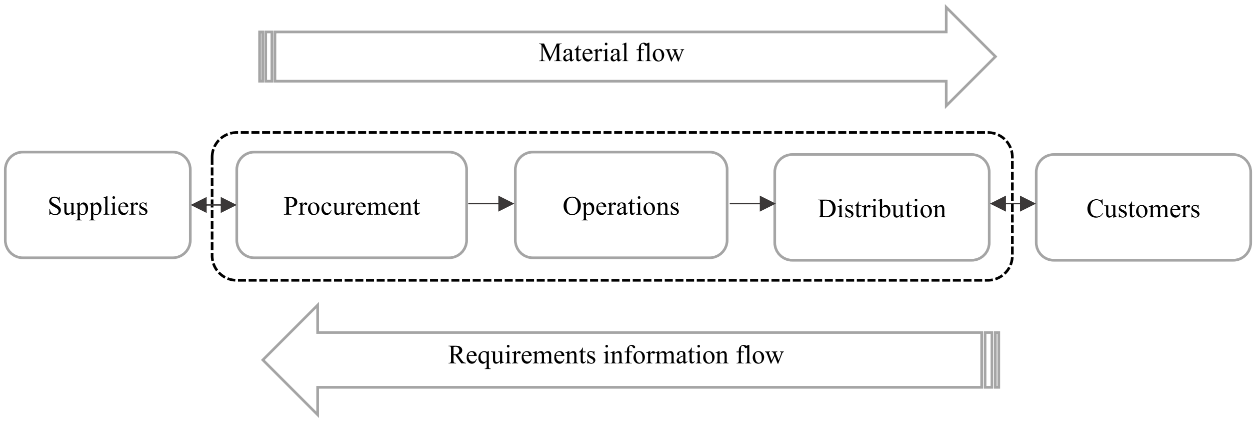

***Figure* 3** Supply chain logistics management process (Christopher, 2011)

Due to the requirement of this logistical management process as well as the wide product portfolios of many grocery retailers today, their supply chains are usually not linear such as the above, however a wider complex network consisting of several types of suppliers, warehouses, distribution service providers, etc., as depicted in Figure 4. This proves how important the grocery industry is, as it does not only provide households with every-day necessities, but also provides a wide array of business and employment opportunities requiring different know-how.

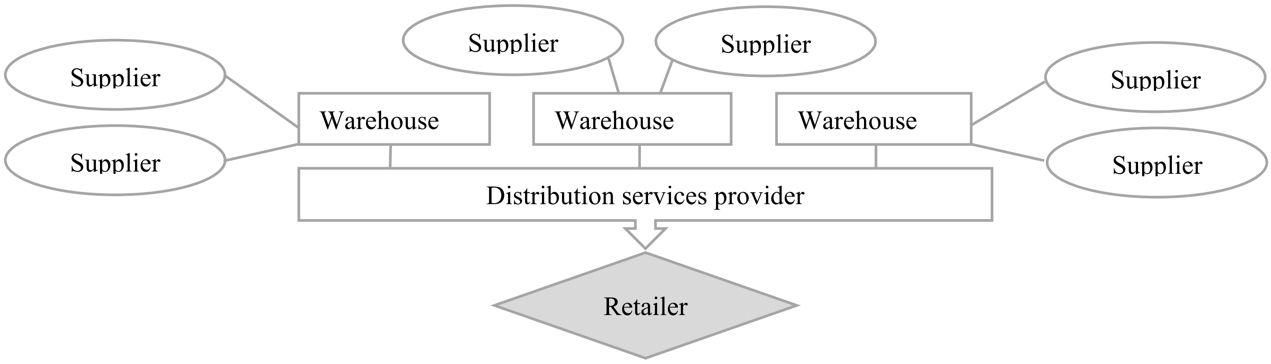

Figure 4 Example of a supply chain network

2.2 The evolution of grocery

During the last century, food and convenience retail has been under constant evolution. This was first seen in developed richer countries such as the United States and Western Europe, however eventually this transformation reached all corners of the globe. According to Lu and Reardon (2018), the evolution of the grocery industry can be broken down into two main shifts: from small local shops to supermarkets, and eventually from brick-and-mortar supermarkets to e-grocery stores. Within the next two subchapters, both waves will be presented in more depth.

2.2.1 Small local shops to supermarkets

The first form of grocery, mainly existing prior to the 1900s, was small local shops that catered to those who lived in proximity. These offered dry goods for daily living which were attained from farms and suppliers close by. The stores had limited assortments and stored little, offering low transactions costs to their customers due to the convenience and proximity they offered. There was no self-service in these stores; the store owner would hand the purchased item to their customer behind a counter. During this era, many products were still sold in separate stores: butchers sold meat, fishermen traded fish and bakeries offered baked goods. (Desai et al., 2017).

Once the 20th century arrived, the grocery industry started to change, as the first mixed specialized stores started to operate. These were referred to as general stores and are largely considered the predecessors of today's supermarkets. These stores started offering self-service, so rather than having the shop clerk pick out your items, the customer picked them themselves and paid at a cashier counter. These general stores started mixing products, ranging from dry foods to non-food household products. The vast array and number of products enabled these general stores to take advantage of economies of scale, while also offering even higher convenience for their customers as they no longer needed to visit several stores to do their grocery shopping. Due to this, slowly but surely smaller traditional shops started to be pushed out while the larger general stores gained momentum in their markets. At first, the stores that specialized in fresh perishable products were still able to compete, as the larger general stores needed to resolve storage and procurement related challenges. However, eventually these hurdles were overcome, and the general stores grew to the vast supermarkets we know today. By the halfway mark of the 20th century, supermarket chains owned the vast majority of the grocery market in developed countries, while quickly eating up market share in developing countries too. (Lu & Reardon, 2018).

2.2.2 Brick-and-mortar supermarkets to e-grocery stores

The reign of brick-and-mortar supermarkets only lasted for some decades, as they were suddenly challenged by a new force: e-commerce. Already in 1997, a young company called Amazon was selling bulky products such as books online, and generating $15 million in revenue (Desai et al., 2017). As the concept of electronic commerce spread, it was becoming a buzzword, and many other players were following the footsteps of Amazon. Grocery was not disrupted by e-commerce as fast as other product categories such as apparel and CD's due to issues around the shelf-life of perishable products, however only a decade after the initial launch of Amazon the Amazon Fresh e-grocery service was piloted in Seattle, USA. Consequently, there has been an uprising of a vast mix of e-grocery players, ranging from traditional brick-and-mortar companies such as Tesco as well as young start-ups that birthed from the new trend. Giants such as Amazon and Alibaba were able to further extend the advantages of economies of scale that brick-and-mortar supermarkets were already taking advantage of, however were able to take it further with even more reduced transaction costs, as consumers no longer had to leave the house to get their daily groceries. (Lu & Reardon, 2018). According to Nielsen (2018), 26% of online consumers purchased perishable groceries in 2018, which is a staggering 15% increase from 2016, and a one billion US dollar increase in online FMCG overall.

However, the players who were solely relying on e-commerce channels have been hit by the harsh reality that consumers are still yearning for a physical touchpoint in their shopping experience. Thus, the e-grocery trend has been elevated to a new level in the form of multi-channel strategies. Traditional supermarkets have been able to identify this weakness of Amazon and other pure digital players, and therefore brick-and-mortar players such as Tesco have started to launch their own methods of e-grocery services in the form of i.e. pre-picked shopping baskets, so consumers do not need to do it themselves. In parallel, online players are also acquiring physical touchpoints. For example, Amazon acquired Whole Foods in 2017. (Lu & Reardon, 2018). This suggests that grocery has not reached its finite configuration but continues to evolve as technology, channel and service portfolios as well as consequently consumer demand continues to shift.

2.3 The implications of digitalization in grocery

The offline to online shift faced by grocery is having an impact on the entire supply chain. This means that not only the way consumers shop is changing, but also the way retailers as well as their suppliers conduct their business. Therefore, to be able to evaluate the impact of the e-grocery trend on the grocery industry, each level of the supply chain must be taken into consideration. (Lacka et al., 2014). Thus, within the next subchapters, the potential advantages as well as disadvantages related to online grocery retail will be examined from the perspectives of all identified relevant stakeholders: suppliers, retailers and consumers.

2.3.1 Supplier point of view

In the context of this subchapter, suppliers are defined as the manufacturers of the products sold at grocery stores. As grocery stores sell such a large array of different products - extending from fresh foods to personal hygiene products - these manufacturers can range all the way from smaller independent players concentrated on producing a single product, to larger wholesalers with a wide array of different types of products and sometimes even brands. Although suppliers are at the first level of the supply chain, and the contrast of online-to-offline channels steps in more notably at the retailer level, there are certain advantages and disadvantages related to online grocery that can be detected at the supplier stage as well. These are summarized in Table 1.

From the perspective of suppliers, one of the great advantages of the digitalization of the grocery industry is that it offers a completely new array of technological benefits. E-supplier relationship management, also referred to as E-SRM, conveys the online procurement process between suppliers and retailers. This does not only encompass buying but also includes technologies that support other important practices, such as inventory planning and contract management. Since data allows better accuracy and faster accessibility (Vlachos et al., 2014), these technologies help suppliers to stay more up-to-date in all aspects of their business, thus enabling the streamlining and optimization of processes. This does not only save time but also money (Boyer & Hult, 2005). Another noteworthy benefit of e-grocery in contrast to traditional brick-and-mortar retail is the fact that online channels are able to serve a larger array of end-consumers, as these are not restricted by the same geographical limitations as physical stores are. This means that the suppliers of these online channel retailers are also able to reach a larger range of consumers, thus potentially leading to larger revenue and more consumer awareness of their products and brands. Therefore, suppliers do not necessarily have to build and maintain supply chains for customers with several physical stores; they can reach the same amount of markets through a smaller number of online players, enabling the opportunity to optimize and save costs. In addition to this, Schlesinger et al. (2020) suggest that digitalization has given suppliers the tools to offer their products directly to their consumers via online channels. These direct-to-consumer or D2C business models offer suppliers the opportunity to improve their margins and interaction with their consumers by potentially completely cutting second party retailers from their value chain. This also offers suppliers the unique opportunity to increase their market coverage through customizing their products for specific customer segments according to the channels they most prefer to shop through, in turn growing their revenue streams overall. Nevertheless, it is important to note that this crossing over to retailers' turf can cause friction between suppliers and their customers, meaning these advantages do not come without possible risks. (Rhee et al., 2000).

The e-grocery trend does also come with its challenges for suppliers. First of all, suppliers may not always have the necessary resources to adapt their business models to the new demands of online retailers, as relevant technologies may be very slow or expensive to implement (White et al., 2014). It can also be difficult for a supplier to figure out how a product can be produced, packaged and delivered to retailers in the e-commerce realm, as these often have a completely different transportation and storage system than physical brick-and-mortar retailers (Boyer & Hult, 2005). Another noteworthy challenge are the price wars that have been instigated by e-commerce: As the operating costs of retailers decrease and consumers are able to compare prices more, many retailers aim to counteract this through the dropping of prices. This has a direct impact on suppliers too, as retailers still aim to keep their margins as high as possible, placing pressure on procurement costs in return. (Anckar et al., 2002). This inevitably leads to greater competition and market pressures among suppliers as well. Another challenge faced by suppliers as the grocery market is disrupted through technological evolution is knowing which retailers to do business and build strategic relationships with. Verhoef et al. (2015) state that digitalization has enabled so called omni-channel retailing; this means that retailers can integrate a wider arrangement of different online and offline channels to serve consumers at and through different touchpoints. Consequently, consumers have an increasing number of channels to choose from. According to Chintagunta et al. (2012), understanding how end consumers make this channel choice is vital in retail. Therefore, as the grocery market becomes increasingly diversified by different types of channels – offline, online, and partly both – suppliers are challenged to comprehend completely new consumer attitudes towards grocery shopping. As suppliers notice this shift in their customers' strategies and end consumers' behavior, they need to rethink with what customers they should collaborate with to perform best in their increasingly fractured market.

Table 1 Summary of supplier point of view

	Advantages of e-grocery	Disadvantages of e-grocery
Supplier point of view	○ An array of technological benefits, especially in the form of e-supplier relationship management (E-SRM) tools ○ Can reach a larger range of consumers through e-retailers ○ Improved ability to sell directly to consumers	○ The adaptation of new technologies demands a lot of resources ○ Logistical challenges ○ Instigates price wars in procurement as well as more competition overall ○ Decision making around what strategic retailer partnerships to build becomes more complex

2.3.2 Retailer point of view

According to Betancourt (2005), a retailer is defined as the party that sells and therefore distributes the products procured from suppliers to end consumers. In the context of this study, retailers are the grocery stores from which consumers purchase their daily items from. Examining the implications of online grocery through the point of view of retailers provokes the question of how the benefits and drawbacks of running an e-grocery business compare to running a traditional physical store. The results from this examination are summarized in Table 2.

One of the larger benefits of running an e-commerce platform is the already mentioned advantage of technology; as an e-retailer, you too receive more data at a faster rate and greater accuracy, helping with all processes related to your business (Vlachos et al., 2014). In physical stores, measuring factors such as inventory tends to be a lot more tedious and prone to inaccuracies, as processes are not as automated and are therefore more susceptible to human mistakes. According to existing literature (i.e. Anckar et al., 2002; Boyer & Hult, 2005), these technologies enable the optimization of a business model on several levels, by integrating the entire supply chain through the linkage of all aspects of the business: marketing, sales operations as well as logistics. For example, data from inventory as well as consumer purchasing behavior aids in procurement optimization which increases inventory turnover, thus decreasing the need for large warehouses which come with great costs and risks such as products passing their due date. In addition to this, Anckar et al. (2002) mention how the internet has lower barriers of entry, as you do not require the large initial investment needed to acquire and set up a physical store. Digitalization has also given retailers who traditionally rely solely on brick-and-mortar stores the opportunity to add additional channels, thus widening their service portfolio to fit more shoppers. The internet also allows the notable advantage that geographical location becomes less relevant: as already mentioned in the previous section, e-grocery players are able to reach a much wider range of consumers, rather than only being able to cater to the ones who live closest. In addition to this, digitalization and technological advancements have helped grocery retailers improve the quality as well as visibility of their private label brands (Ward et al., 2002) – meaning the brands they produce and market themselves – thus offering them the opportunity to not only increase their revenue streams on product-category level, but also further strengthen the loyalty of their shoppers (Richardson et al, 1996; Tarzijan, 2004; Ailawadi et al., 2008).

Even though there are clear benefits to digitalization for grocery retailers, there are also several noteworthy challenges to be taken into consideration. The first and largest difficulty, as already mentioned in the previous subchapter, highly impacts retailers too, and that would be the logistical challenges related to running an e-grocery business. The home delivery of grocery products can be very complicated, especially as these products can range from detergents to fresh foods, all being products which need to be handled in different ways and at a different pace. According to Boyer and Hult (2005), this is actually the very reason why many online grocers have failed; they have been unable to bridge the gap of a marketing strategy where low prices are the focal point with an operational strategy that is actually able to achieve this in the long run. Another significant downside to owning an e-commerce platform over a brick-and-mortar one is the fact that you no longer have a physical space for your consumers to experience products. According to Lu & Reardon (2018), this is an issue because it decreases ad hoc purchasing, which is a large driver of profits for wholesalers. Finally, crossing from the physical marketplace to the online world also means that retailers need to be prepared for a larger array of competitors (Anckar et al., 2002). The issue here is not only that there is more competition but understanding the nature of this competition becomes more difficult too. According to Chintagunta et al. (2012), competitor orientation – meaning understanding the weaknesses and strengths of competition in reference to consumers' wishes – is one of the most important factors in succeeding in the highly competitive grocery industry. Competitor orientation gets substantially more difficult as there are not only more competitors to consider, but these competitors also run completely different types of business models. This constant emergence of more choice for consumers leads to faster fluctuations in their preferences and behavior, meaning retailers must be a lot more alert when it comes to understanding their consumers and markets. (Boyer & Hult, 2005).

Table 2 Summary of retailer point of view

	Advantages of e-grocery	**Disadvantages of e-grocery**
Retailer point of view	o An array of technological benefits, especially in the form of e-supplier relationship management (E-SRM) tools o Can reach a larger range of consumers o Improved quality and visibility of private label brands	o Consumers have no physical touch-point to experience products o Logistical challenges related to grocery home delivery o Increased competition and price wars among retailers o Understanding end consumer channel choice becomes more difficult

2.3.3 Consumer point of view

In context of the offline vs. online juxtaposition in any retail, the consumer point of view is perhaps the most important, as they have the power to decide what channel they purchase their products from. This choice is mainly influenced by weighing the transaction costs that are forfeited with each possible choice. According to Chintagunta et al. (2012), transaction costs are any cost that a consumer endures in addition to the product's monetary price when making an economic transaction, e.g. the time that is spent on the purchase. Betancourt (2005) synthesized the transaction costs inflicted on consumers when purchasing groceries into five broad distribution categories. These have been outlined further in Table 3. As consumers have the choice of shopping via a traditional brick-and-mortar grocery store or an online channel, the transaction costs related to choosing the latter will be investigated by using Betancourt (2005) as a framework, and summarized in Table 4.

Table 3 Betancourt's (2005) five distribution categories

Distribution category	Description
Time costs	Any time spent on the purchasing process, i.e. time spent traveling to and back from the store or waiting in line.
Transportation costs	Includes any transportation related costs, such as the fare for public transport or driving a car.
Psychic costs	Emotions awakened by the purchasing process, i.e. stress or disappointment.
Adjustment costs	Costs that are caused by the unavailability of a desired product at a certain time. This can include e.g. the extra effort a consumer has to make to search for an alternative.
Search costs	This implies any costs related to researching information on a store or a product, e.g. the time spent on the research.

1) Time costs

According to existing literature (i.e. Aylott & Mitchell, 1998; Anckar et al., 2002; Chintagunta et al., 2012), one of the most appreciated advantages of purchasing groceries via an online channel rather than a physical store is the reduced time costs, as online stores can be accessed from anywhere, while traditional brick-and-mortar grocery expect consumers to use their time to travel to them and back home. In addition to this, the time needed for the shopping process in-store is considered much shorter in online channels – you simply search for the products you want, add them to your cart and place your order. The shopping process in physical grocery stores is not as straight-forward, as there are many potential bottlenecks that can cost a shopper a lot of time: time may be spent on fetching a shopping cart; walking around the store to fetch all the products; waiting in-line for the cashier; and also packing as well as carrying products home. (Morganosky & Cude, 2000). According to

Chintagunta et al. (2012), especially larger households consider the time cost of offline grocery shopping very tedious, as they generally purchase a larger basket of goods at a more frequent pace. It is also important to consider that online stores are always open, meaning consumers can choose when they shop without having to respect restrictive opening hours, which most physical grocery stores have (Ramus & Nielsen, 2005). However, something in regard to time costs that physical stores do beat online stores in is the amount of time a consumer needs to wait to receive their products: When shopping at a physical stores you get your products immediately, while e-grocery stores usually need at least one day to pack and ship the groceries to you (Anckar et al., 2002).

2) Transportation costs

Transportation costs are all costs related to a consumer's ability to access grocery products and thus the retailers which they need to interact with to purchase them (Chintagunta et al., 2012). The previous subchapter mentioned the noteworthy time cost that a consumer must endure when they travel to a brick-and-mortar store and back, however this is not the only type of time cost to be considered. Another transportation cost incurred when purchasing from a traditional physical grocery store is the actual monetary cost that goes into the means of traveling: this may be for example the expense related to driving a car, such as gasoline or insurance, or the ticket fare a consumer pays for using public transport. According to Forman et al. (2009), these transportation costs are also a notable reason why households rather opt for online channels than offline channels, especially if they do not own or have access to a car. Forman et al. (2009) also note the potential transportation costs endured when a consumer travels to a store and finds that the product they wanted to purchase or set out to look for is not in stock. Traditionally, this means a consumer would have to either give up or keep on searching by going out of their way to travel to different stores. However, it is worth noting that there are also transportation costs related to purchasing grocery products via online channels too. Although a consumer does not need to physically move to access an e-grocer's online store, they generally do need to pay extra for their products to be delivered to them. Delivery costs vary in size, and related consumer sensitivity differs too. However, existing literature (i.e. Boyer & Hult, 2005; Forman et al., 2009) does state that even though home delivery eliminates the several transaction costs of having to travel to a store oneself, consumers still consider having to pay for their products to be delivered to them incongruous – especially since e-grocers often also make you wait for quite a long time before you even receive your products.

3) Psychic costs

In this context, psychic costs are defined as all the negative emotions that consumers may have to endure when purchasing their groceries. Existing research agrees heavily on the notion that consumers do not generally enjoy grocery shopping in traditional brick-and-mortar stores (i.e. Aylott & Michell, 1998; Morganosky & Cude, 2000). Grocery shopping is considered stressful, tedious and aggravating. According to Chintagunta et al. (2012), the larger the household the more uncomfortable the whole purchasing experience is considered. Therefore, many want to be able to complete this chore as fast as possible. E-grocery shopping is therefore favorable to many, as it saves on time that would normally be spent on this tedious chore (Anckar et al., 2002). Nonetheless, there are psychic costs to be considered regarding e-grocery as well. First of all, some consumers may not be comfortable with using online platforms and may find navigating an e-grocer's platform overwhelming as well as confusing, especially if they are not used to using online channels (Ramus & Nielsen, 2005). In addition to this, Boyer and Hult (2005) suggest that some consumers have difficulty trusting online grocers in choosing the correct items for their order. According to Chintagunta et al. (2012), this is especially an issue with perishable products: consumers fear that they will be delivered products that are not fresh anymore, especially as they have had to endure the home delivery journey. In addition to this, White et al. (2014) mention consumer uncertainty related to personal information security in online shopping, as consumers are required to share a lot of private data to online retailers when purchasing from them, such as credit card information and their home address. According to Lacka (2014), this mistrust in e-grocery has a linkage to not only personal individual beliefs but also cultural factors, as some cultures are more prone to risk-aversion than others. In addition to this, it must be considered that although most consumers may not enjoy the shopping experience in a physical grocery store, some may still see value in it (Ramus & Nielsen, 2005). For some consumers, grocery shopping is a tradition during which they get to find new products to try as well as socialize with other shoppers or store personnel. Online grocers do not offer these social dimensions of traditional grocery shopping, which may be a large drawback to some consumers.

4) Adjustment costs

According to Betancourt (2015), adjustment costs are the transaction costs that a consumer endures when he or she needs to adjust to an unexpected event or change when purchasing groceries. In retail, the most common adjustment cost is when there is a hiccup in the shopping process which a consumer is not expecting. Forman et al. (2009) note that the unavailability of a product is one of the greatest adjustment costs. This is especially so in grocery, as a consumer expects to find whatever item they need in stock whenever they go to a retailer: due to this the business model of many grocers is built upon convenience and swiftness. This is an especially notable adjustment cost when it occurs as a consumer visits a physical retailer, as they have had to endure so many other transaction costs just to get there (Anckar et al, 2002). Therefore, even though the unavailability of a product can occur at a physical as well as an online store, the actual adjustment cost is larger when it occurs in the former. This highlights the importance of flexibility in grocery shopping – according to Sharma (2019), this is one of the most important factors for consumers, as grocery shopping is such a necessary and common part of everyday life. Although adjustment costs are more prone when purchasing from a physical store, there are still some risks related to e-grocery shopping too. Boyer and Hult (2005) mention the risk of having products delivered to consumers after purchasing. Many things can go wrong: items may break, or a logistical issue may occur which pushes the delivery date back. According to Ramus and Nielsen (2005), especially when a delivered product does not meet the expectations of a consumer, the process of having to find a way to complain as well as return the item is a lot more complicated than at a physical grocer – there you can simply walk to a member of staff.

5) Search costs

Search costs are the transaction costs that a consumer may have to endure when they acquire information related to a product's attributes, such as price and performance. According to Chintagunta et al. (2012), this cost can subsist in many forms: it can be the gasoline money a consumer spends on traveling from a physical store to another to research what product options are available in their vicinity, or the time a consumer spends on researching product attributes online through consumer reviews. In other words, search costs concentrate on the effort needed from a consumer to educate themselves before purchasing. In this aspect, the great advantage of e-grocery is that product pages can fit a much larger amount of information than what a consumer can find on a small tag on the shelf of a traditional brick-and-mortar store. In addition to this, the internet has allowed easier price comparison and research for products overall, as a consumer no longer needs to physically visit different stores to scope available options. According to Forman et al. (2009), this is a particularly important difference between online and offline shopping as price is a factor that impacts consumer channel choice the most. Morganosky and Crude (2000) also mention how easy e-grocers make managing shopping lists, as consumer profiles usually keep track of former shopping carts and can therefore make it a lot faster for a consumer to stock up on their groceries. Nonetheless, this abundance of information can be a two-sided sword: it may be overwhelming to consumers, as it makes it harder to know which sources of information to trust. This is especially so when it comes to customer reviews and other subjective information on products. (Lacka, 2014). Ramus and Nielsen (2005) also note that some consumers prefer to have the option to talk to an actual human being when they have any questions related to the products, thus preferring brick-and-mortar stores over online platforms.

Table 4 Summary of consumer point of view

Distribution category	Advantages of e-grocery	Disadvantages of e-grocery
Time costs	○ Retailers can be accessed from anywhere at anytime ○ No physical moving to, in or from a store is needed	○ Products are not received immediately at check-out
Transportation costs	○ No requirement to use money or time on accessing the store	○ Delivery costs related to online purchasing
Psychic costs	○ No need to endure possible stressful emotions related to shopping at a crowded store	○ Uncertainty over platform navigation, product quality or security. ○ No physical or social touchpoint
Adjustment costs	○ Potential hiccups in the shopping experience (i.e. out of stock items) are informed faster	○ Potential risks related to home delivery, such as damaged products or extensions in delivery time
Search costs	○ More product information enables easier comparison ○ Consumer profiles remember previously shopped carts, making it is easier to stock up	○ The abundance of information online may be overwhelming to consumers ○ Difficult to know what source to trust

2.4 The Finnish grocery industry

Now that the meaning and history of grocery as well as the implications of its digital transformation have been explored, it is time to bring into focus the specific scope of this study: the Finnish grocery industry. In this chapter there will first be an overview of the market structure of the grocery industry in Finland during the time this study was written (Autumn 2020). Lastly, there will be a discussion on what the e-grocery trend in Finland looks like currently, and why examining it is important.

2.4.1 Current market overview

In 2018, the value of grocery retail sales in Finland was around 18.2 billion euros. The Finnish grocery market is highly concentrated. As depicted in Figure 5, Kesko and S Group have a combined market share of 82.5%, while German competitor Lidl comes third at 9.6% (PTY, 2019).

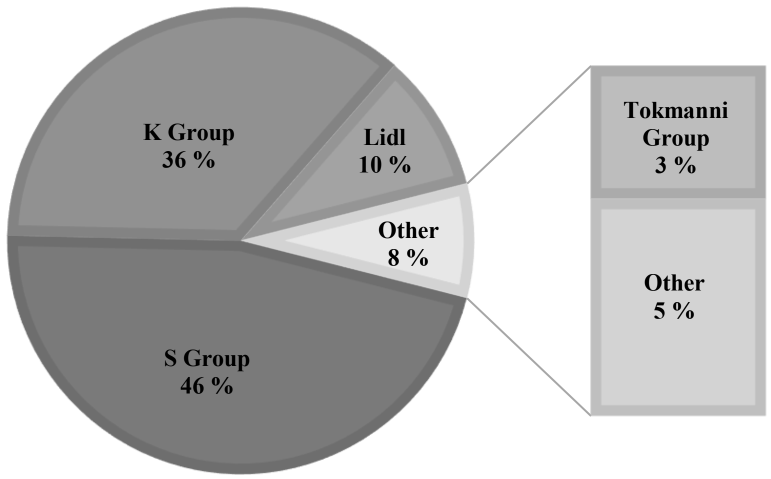

Figure 5 Market structure of Finnish grocery trade in 2018

The Finnish grocery industry is very important to Finland's GDP, as it employs over 80 thousand individuals, which is significant for a population of 5.5 million. Logistics and procurement are also very centralized in the Finnish grocery market, as large volumes and high cost-efficiency are necessary in controlling pricing and providing sufficient product portfolios as well as accessibility in a country as large and sparsely populated as Finland. (PTY, 2019). According to the Finnish Grocery Trade association's 2019 annual publication, the four most notable trends recently impacting the grocery market in Finland are:

1. **Migration to growth areas**: Within the last 50 years, an increasing percentage of the population has moved to larger cities in search for jobs and better service networks. This has decreased the number of market-size stores from approximately 10,000 to 3,000 in two decades, as larger stores tend to be more cost-efficient than smaller ones.
2. **Increase in car ownership**: Cars allow consumers increased mobility, which reflects on the grocery industry by for example allowing consumers to choose from a larger variety of stores rather than having to go solely to the one that is closest in proximity.
3. **Technological development**: A plethora of technological improvements have allowed increased efficiency, cost- and timewise, within the entire grocery supply chain.
4. **A wider assortment of products**: Within 20 years, the selection of goods that consumers can choose from has tripled. According to Kesko (2018), this is mainly because consumers are increasingly interested in healthy eating and sustainable sourcing as well as rich experiences in grocery shopping and consumption.

Due to their cost-efficiency and ability to serve a greater number of consumers, larger supermarkets have had an important role in the Finnish grocery market. These larger stores, which have made up about a third of all shops, have accounted for over 80% of all sales. However, as consumers move into more densely populated cities where car ownership is not as necessary or may even be burdensome, smaller stores have increased in importance in maintaining the supply of grocery products in Finland. According to Kesko (2018), consumers are also expecting more flexibility and personalization in regard to their grocery shopping experience, meaning grocery retailers have started to offer more differentiated services to shoppers to obtain a larger share in sales in an increasingly competitive market. This includes ready-to-go meal options and additional in-store experiences.

2.4.2 The e-grocery trend in Finland

The e-grocery trend has disrupted grocery markets at different rates around the world. Figure 6 depicts the vast differences between selected countries in Europe: according to Statista (2018), the e-grocery market size of Spain was 900 million US Dollars in 2018, while it was already worth a whopping 14.6 billion US dollars in the United Kingdom and 11,6 billion US dollars in France. Finland's e-grocery has one of the smallest shares in the grocery market in Europe at 0.7%, around 142 million US dollars (PTY, 2018).

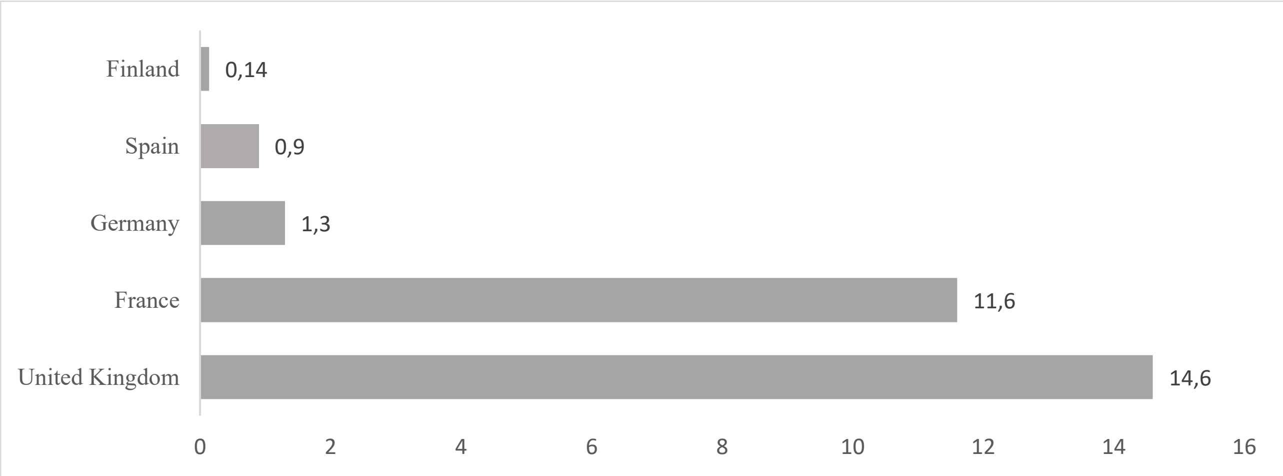

Figure 6 E-grocery market size in billion USD in 2018 (Statista, 2018)

Due to Finland's relatively small online grocery retail market size, e-grocery has not been considered a notable trend in the Finnish market. There is no certain information on why Finnish consumers – who are often considered the most digital savvy in Europe – have been so slow at adopting internet retailing in grocery. PTY (2018) speculates that this could relate to Finnish consumers' tendency to be very specific about the quality of the products they order as well as their sensitivity to delivery costs, which can be sizeable in a large and sparsely populated country such as Finland.

However, recent publications and media discussions state that Finnish consumers' interest towards e-grocery is increasing rapidly. Apparently Finnish grocery purchasing increased at a rate of 90% between 2017-2018 (Juvonen, 2018), and Kesko has stated it is expecting its share of online grocery to grow five-fold in just the next few years (Mäntylä, 2018). This suggests that the role of e-grocery may grow substantially in Finland in the years to come.

2.5 The future of Finnish grocery

By looking at the most substantial shifts in the past decade as well as the relevant trends which are currently gaining momentum, the following prevailing topics within grocery retail can be identified:

1. ***Digitalization***: It is showing no signs of slowing down - technologies continue to increase efficiency while offering new ways of automating daily tasks. According to Bandoim (2018), innovations such as electronic labels within brick-and-mortar stores are helping traditional retailers respond to the competition from e-grocers as they enable them to find their own ways

to hone digitalization to better serve their consumers. The aforementioned technologies will not only stay in stores but are reaching into our homes as well: smart self-refilling fridges may end up automizing grocery shopping into a chore which no longer needs a consumer's interference. The plethora of existing and upcoming technological opportunities suggests that grocery business models will continue to digitalize to take advantage of further automatization and optimization. (Bandoim, 2018).

2. ***Sustainability***: According to Chintagunta et al. (2012), global warming and ethical business are topics which will continue to reform all retail markets. In grocery, this may not only mean legislative pressures regarding the origin of foods and recyclability of materials, but also how consumers do their shopping. E-grocery stores can help consumers to i.e. optimize their baskets in such a way that they are less prone to shop too much and cause waste. This can also potentially cut down the environmental cost of the heavy logistical network of brick-and-mortar retailers, as a product is not shipped until the purchasing decision has been made.
3. ***Loyalty via personalization***: Sharma (2019) states that as competition intensifies and information-overflow increases through the "always online" world we live in today, consumer loyalty will only be attainable through building genuine emotional connections. This means that the future winners of grocery will be the players who openly communicate as well as reflect their consumers' values to offer genuine personalized flexible shopping experiences.
4. ***Increase in private labels***: According to Valtanen (2019), in 2019 a fourth of all grocery products sold in Finland are private labels. The share of these products will most likely only continue increasing as the oligopolistic powers continue taking advantage of their ability to control their shelf-spaces and scalable production to further strengthen their presence in their shoppers' baskets (Tammilehto, 2019).

Considering that digital retail business models can leverage these trends easier than traditional brick-and-mortar ones, it can be suggested that e-grocery retailers are likely to become more common and adopt larger market share in the future. Especially considering that consumers are becoming increasingly demanding in regard to the products and services they purchase, the grocery market will continue to fragment as suppliers and retailers keep on adopting online channels and methods at different levels in their businesses. The rate of this fragmentation in the grocery market will most likely increase furthermore through the rise in so-called hybrid marketing systems (Moriarty & Moran, 1990) – which is the widening of a company's channel portfolio through i.e. direct to consumer sales – as this will make both suppliers and retailers more innovative at defending their turf, possibly even making them competitors to each other. Overall, this as well as the earlier listed topics prove that it is important for all relevant stakeholders in grocery markets to invest their resources in understanding and preparing for the future of their industries.

2.6 Synthesis

After investigating the advantages as well as disadvantages of the shift from traditional brick-and-mortar grocery stores to e-grocery from the perspective of the entire supply chain, it is clear that one cannot be claimed superior to the other. The main identified benefits and challenge related to digital grocery have been summarized in Table 5. Existing research suggests that for retailers and suppliers, digitalization's implications depend greatly on i.e. the structure of their existing business models as well as the technical resources they have at hand. According to Chintagunta et al. (2012), both online and offline channels imply varying levels of transaction costs on consumers too. It is not an either-or scenario: a busy family short on time which consumes a lot of groceries may likely prefer to purchase their groceries online during the working week to save time, while on the weekend they may enjoy visiting the local grocery store as it allows them to get inspiration for next week's meals and do some impulse shopping; a passionate cook who wants to carefully pick their vegetables and discuss their meals with store staff may want to visit their brick-and-mortar grocer every day; and a person with restricted mobility may have no other choice but to shop all their groceries online. Although these are only some hypothetical scenarios, they demonstrate that a consumer's channel choice for purchasing groceries continues to depend on their unique preferences and needs, which can vary greatly (i.e. Aylott & Mitchell, 1998; Anckar et al., 2002). This reflects on retailers and their suppliers as a variety of business possibilities, as there continues to be demand for both traditional brick-and-mortar stores and online services, meaning the internet cannot be deemed a predominantly better passage of business for grocery suppliers and retailers either. This suggests once again that what consumers want is the main driver in how the market transforms – as suppliers and retailers are forced to adapt accordingly. Therefore, in the scope of this study, customer perceptions are considered the most important variable of interest, while the perceptions of suppliers and retailers will be mainly investigated to determine how in-sync they are with their consumers today.

As existing literature is unable to fully determine that online channels are superior in grocery, it proposes a different approach. Rather than wanting to answer the question of which is better – traditional brick-and-mortar or e-grocery stores – It may be more reasonable to explore the question of what attributes in consumers define what grocery channel they prefer. According to Bawa and Ghosh (1999), consumer preferences regarding grocery seem to shift strongly in relevance to their grocery spend, which in turn is most impacted by the variables of household size and income. However, existing literature has also identified more complex variables such as how recreational a household may consider the activity of grocery shopping. Through exploring these questions, the study can help Finnish grocery suppliers and retailers understand what their consumers might care about the most in their grocery shopping experience today as well as in the future.

Table 5 Summary of the identified implications of digitalization in grocery

	Advantages of e-grocery	**Disadvantages of e-grocery**
Supplier and Retailer point of view	○ A large range of data benefits ○ Wider consumer reach ○ Increased opportunities in D2C and private labels	○ The adaptation costs related to different technologies ○ Logistical challenges ○ Increased competition
Consumer point of view	○ A faster shopping experience ○ Product information is more easily accessible ○ Improved personalization	○ Delivery time and costs ○ A loss of physical touchpoint ○ Potential difficulties when navigating online platforms

Table 6 Summary of reviewed literature in chapter 2

#	Research goal	Relevant findings	Author(s)	Title
1.	To identify transaction costs that impact choice between offline and online channels.	Finds that transactions costs have a great impact on the retail channel choice of online vs. offline.	Pradeep K. Chintagunta, Junhong Chu, Javier Cebollada	*Quantifying transaction costs in online/off-line grocery channel choice.*
2.	Investigates the ability of E-SRM technologies to increasing sales and market share.	Concludes that there are great opportunities related to e-business tools but also threats.	Ilias P. Vlachos, Dimitra Skoumpopoulou, Sandra Gutnik	*Electronic supply chain management tools in international business: Evidence from Austrian food clusters.*
3.	Examines the advantages and challenges related to e-commerce platform adoption.	Interesting discussion around the nature and implementation of electronic supply chain management and related security threats.	Ewelina Lacka, Hing Kai Chan, Nick Yip	*E-commerce Platform Acceptance: Suppliers, Retailers, and Consumers.*
4.	Explores consumers beliefs regarding online grocery shopping.	Positive as well as negative beliefs on internet shopping were surprisingly homogenous among seven groups of different consumers.	Kim Ramus, Niels Asger Nielsen,	*Online grocery retailing: what do consumers think?*
5.	Profiles as well as assesses consumer response to e-grocery retail through online surveys.	Main incentives to purchase groceries online were saving time and convenience.	Michelle A. Morganosky, Brenda J. Cude.	*Consumer response to online grocery shopping.*
6.	Assesses the competitiveness of a Finnish online grocery store.	Customer value is created though price, assortment, convenience and customer service.	Bill Anckar, Pirkko Walden, Tawfik Jelassi	*Creating customer value in online grocery shopping.*
7.	Discusses Amazon's threat to other grocery retailers.	Most shoppers are not loyal to a single store or chain in the e-grocery business.	Amit Sharma (Former executive at Apple and Walmart)	*What the Grocery Stores Holding Their Own Against Amazon Are Doing Right.*
8.	Assesses the role of marketing and operations on consumer behavior in e-grocery.	Concludes that the consumers reacted greater to different variables according to which grocer was in question.	Kenneth K. Boyer, G. Tomas M. Hult	*Extending the supply chain: Integrating operations and marketing in the online grocery industry.*
9.	Analyzes the evolution of food retail by inspecting what factors impacted consumers choice of store at different times of the evolution.	Identified two factors which impact the patterns in retail at any given time: Consumer characteristics as well as the store cost structure.	Liang Lu, Thomas Reardon	*An Economic Model of the Evolution of Food Retail and Supply Chains from Traditional Shops to Supermarkets to e-Commerce.*
10.	Discusses the future of food retail, especially from the point of view of future digital trends.	Discusses seven main digital grocery trends through examples.	Parag Desai, Ali Potia, Brian Salsberg	*Retail 4.0: The Future of Retail Grocery in a Digital World.*

11.	Discusses the determinants of success in retail exchanges between all relevant parties.	Includes Betancourt's framework of five broad distribution categories.	Roger R. Betancourt	*The Economics of Retailing and Distribution.*
12.	Looks into challenges and benefits of adopting e-business technologies in developing nations.	E-business technologies have enabled SME's in developing countries to advance faster.	Gareth R. T. White, Ademola Afolayan, Eoin Plant	*Challenges to the Adoption of E-commerce Technology for Supply Chain Management in a Developing Economy.*
13.	Explores what parameters impact consumer channel choice between online and offline platforms.	Parameters were price comparison, offline travel cost and perceived online disutility costs.	Chris Forman, Anindya Ghose, Avi Goldfarb	*Competition Between Local and Electronic Markets: How the Benefit of Buying Online Depends on Where You Live.*
14.	Considers the potential cultural influence on consumer willingness to choose online channels over offline ones.	Finds that cultural factors such as risk aversion do have a great impact on an individual's perception of online purchasing.	Ewelina Lacka	*Culture Dependent Benefits of E-commerce: A Consumer Perspective.*
15.	An exploratory research on stress factors linked to grocery shopping.	Finds that grocery shopping is indeed one of the most stressful chores for many households.	Russell Aylott, Vincent-Wayne Mitchell	*An exploratory study of grocery shopping stressors.*
16.	Looks into the status of grocery retail around the world.	Identified several factors that are most important for modern grocers to grow in new markets	Peter Child, Thomas Kilroy, James Naylor	*Modern grocery and the emerging-market consumer: A complicated courtship.*
17.	Looks into logistics and retail supply chain management on an in-depth level.	Added value was in understanding the set-up as well as role of logistics and supply chain in grocery retail.	Martin Christopher	*Logistics and Supply Chain Management.*
18.	An article on modern and upcoming grocery technologies	Mentions electronic labels, Personalization, RFID and IoT Sensors.	Lana Bandoim	*How smart shelf technology will change the supermarket.*
19.	Annual publication on the status of the Finnish grocery industry.	Offers statistics and insights into the market structure of Finnish grocery and relevant topics.	PTY - Finnish Grocery Trade association	*PTY - Finnish Grocery Trade association (2019) Annual publication.*
20.	Annual publication on the current food related trends in Finland.	Includes insights food sale fluctuations and relevant social trends.	Kesko	*Ruokailmiöt 2018 (Translated: Food phenomenon 2018)*
21.	An online article on the global growth of online FMCG in 2018.	Gives statistics on online FMCG around the world.	Nielsen	*Global Online Grocery Purchasing Is Up 15% in Last Two Years.*
22.	A forecast regarding the e-grocery market sizes.	A graph depicting the predicted market sizes of several countries	Statista	*Forecasted online grocery market size in selected European nations from 2018 to 2023.*
23.	Annual publication on the status of the Finnish grocery industry.	Offers statistics and insights into the market structure of Finnish grocery and relevant topics.	PTY - Finnish Grocery Trade association	*PTY – Finnish Trade Association (2018) Annual publication.*

24.	News article discussing the vast growth of e-grocery in Finland.	E-grocery grew 90 percent from 2017-2018	Anna Juvonen	*Päivittäistavaroiden verkkokauppa kasvoi 90 prosenttia (Translated: FMCG e-commerce grew 90%)*
25.	News article on Amazon's potential entry to Finland.	Finnish grocery retailers should no longer see online as a potential channel, but as a necessary one.	Juha-Matti Mäntylä	*Amazon mullistamaan Suomen ruokakauppaa? Kauppias: "2-4 vuoden kuluttua he ovat täällä"*
26.	Article which explores the correlation of household characteristics and shopping behavior in grocery.	Identified definite variables such as household size and grocery spend.	Kapil Bawa, Avijit Ghosh	*A model of household grocery shopping behavior.*
27.	Explores the penetration of private labels using supermarket scanner data.	Product categories have a role in the rate of penetration of private label brands.	Michael B. Ward, Jay P. Shimshack, Jeffrey M. Perloff, J. Michael Harris.	*Effects of the private-label invasion in food industries.*
28.	Investigates what makes a household prone to purchasing store owned brands.	Found several factors which influence private label purchasing, i.e. familiarity of the brand and perceived quality variation.	Paul S. Richardson, Arun K. Jain, Alan Dick	*Household store brand proneness: a framework.*
29.	Looks into the impact of private labels on horizontal supply chain competition.	Identified that private labels increase the negotiation power of retailers in their markets.	Jorge Tarziján	*Strategic effects of private labels and horizontal integration.*
30.	Explores the correlation between private labels and retailer loyalty in the Netherlands.	Finds for example that private label purchasers are usually very price driven, and therefore not very loyal to a particular label.	Kusum L. Ailawadi Koen Pauwels Jan-Benedict E.M. Steenkamp	*Private-label use and store loyalty.*
31.	Investigates the advantages and disadvantages of hybrid channel systems.	Suggests the hybrid channel systems can increase market coverage but also conflict between suppliers and their customers.	Byong-Duk Rhee, Seong-Yong Park	*Online store as a new direct channel and emerging hybrid channel system.*
32.	Discusses what it takes for modern D2C models to succeed.	Mentions a few ways to improve D2C success, i.e. omnichannel offering and consumer differentiation through segmentation.	Len Schlesinger, Matt Higgins, Shaye Roseman	*Reinventing the Direct-to-Consumer Business Model.*
33.	An article on recent increases in private label related legislation in Finland.	Finds that private labels most likely keep on growing due to economies of scale.	Teijo Valtanen.	*Miten käy Pirkka- ja Rainbow-tuotteiden? Kaupan alalla ihmetellään, aikooko hallitus puuttua tuttujen halpamerkkien myyntiin*
34.	An article on the Europe-wide discussions regarding increased private label penetration in grocery.	Suggests that the greed of international suppliers is a major reason for the onset and growth of private labels in grocery.	Pirkko Tammilehto,	*Järjestö: Kaupan merkit hiertävät isoja brändivalmistajia – hakevat tukea tuottajista.*

3 METHODOLOGY

Within this chapter, the research conducted in this study will be outlined. First, I will explain my use of systematic combining throughout this study. Second, I will share my personal motivation for this research and perspective on epistemology. Third, the reasoning that led to the chosen research design will be presented. Finally, the rationale behind the process of data collection and analysis will be outlined. This chapter will conclude with a reflection on the reliability of this study.

3.1 Systematic combining

Existing literature was unable to absolutely determine the advantages and disadvantages of digitalization for the entire grocery supply chain. Predominant estimations were identified, but also incongruities. In addition to this, I was able to find only very little research on this topic in the context of the Finnish grocery supply chain. Therefore, I consider it likely that I may identify something in my interviews which I have not yet covered in my preliminary analytical framework. Due to this, rather than adopting a classic linear standardized research approach divided into subsequent phases, I have decided to use a systematic combining approach in this study (depicted in figure 7). According to Dubois and Gadde (2002), this is a non-linear case study process that allows the constant interplay between theoretical framework and empirics as well as the analytical framework and the case at hand. This will allow me to match new insights I receive from my case interviews with the content of my theoretical framework to make sure the conclusions of my study are not impacted by theoretical gaps.

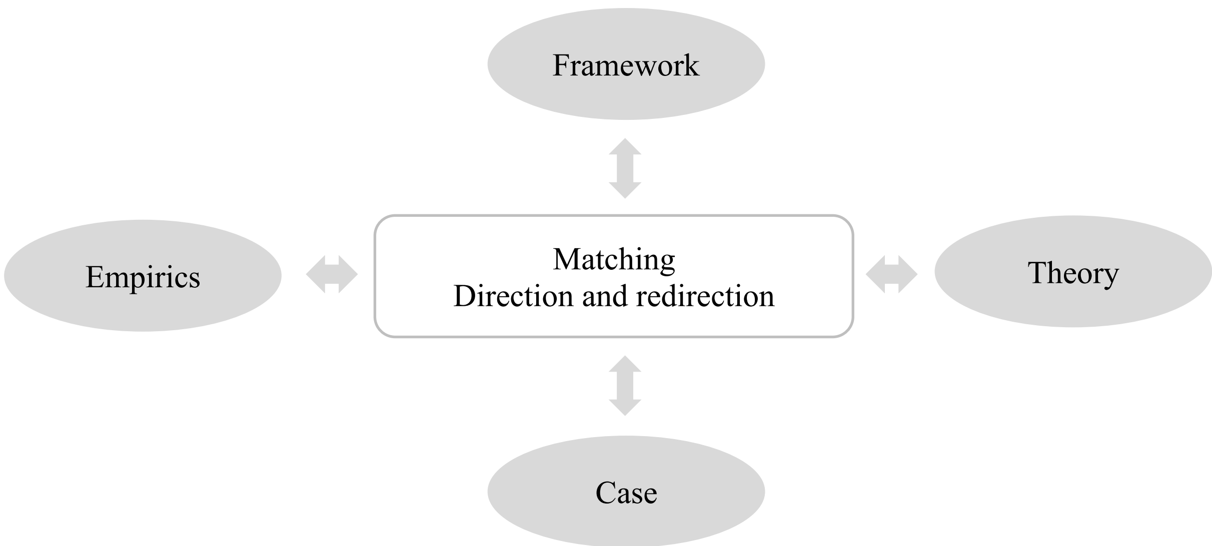

***Figure** 7* Systematic combining

3.2 Personal motivation

Any research always starts at the personal motivation of the researcher. In the time of conducting this study, I was working for a global fast-moving consumer goods company in Finland. Within my field of work, I have come to see that there has been reoccurring discussion around the future of grocery in the digital era on a global as well as local scale. This discussion has particularly been motivated by the notable differences in consumer perception and acceptance of e-grocery worldwide, which in turn has made it difficult for grocery suppliers and retailers (as well as other stakeholders) to know what the consumers in their specific markets are thinking, as well as how they can best prepare to meet their needs and preferences in the future. Considering the very fast and competitive nature of consumer goods, this is a topic discussed throughout the supply chain, and even among different players themselves. I myself noticed this topic coming up in discussion with customers and other industry colleagues in various areas of the business.

Considering my little experience however major interest in the consumer goods industry, I therefore wanted to take advantage of my University Master's thesis to test and leverage this topic through a qualitative intense single-case study – not because I aim to generalize its findings, but because I personally find it so interesting. This spans from the aim to not only help me better understand the industry I work in through the lenses of all central players, but to contribute by potentially helping my colleagues, customers as well as other stakeholders understand what the Finnish grocery market in the digital age may look like in the future. Therefore, my main purpose is to bring a new perspective to a topic important to me and my relevant professional industry.

3.3 Views on epistemology

Before deciding on my research design, I first chose to reflect on my personal views on the contribution of research and its role in understanding any phenomenon in the world. This made me return to the question that has been under active debate in all sciences since their beginning: What *is* truth?

The discussion around truth is known to mainly move between two extremes: Positivism, which is the belief that there is a reality which exists separate to humans, and social constructionism, which believes that human perception is the very thing that determines reality (Campanario & Yost, 2017). More simply put, positivism believes in the existence of an objective truth whereas social constructionism believes that only individually made subjective observations exist. The constant shift between these two extremes has led to philosophical adaptations that have built upon these classic views. For example, critical realism sides with classical positivism in the way that it believes that there are definite truths independent of us humans. However, it states that our perceptive tools will never be sufficient enough to observe and understand these truths. In other words, critical realism believes that when an experiment is conducted, its results can only be deemed observable in context of the set conditions, because there will always be underlying mechanisms which stay unobservable and thus not recognized. In despite of the belief that our perceptions are always fallible for different reasons such as social constructions, we constantly move closer to absolute truths within all existing unique contexts. (Kilpinen et al., 1999; Groff, 2004; Campanario & Yost, 2017). Post-positivism on the other hand, which is another noteworthy paradigm, is more relative than critical realism, as it believes in the role of subjective perception or "framing" – indicating that how we experience a certain event and react to it has a direct implication on how we see and therefore come to know it, thus not being interested in chasing absolute truths at all. However, some framings can still be deemed more justifiable than others, as the observability of different contexts vary (Teigen & Nikolaisen, 2009).

After considering these existing views in the science of epistemology, I came to the following conclusion: First of all, social constructionism is inconsistent, since believing that truth does not exist and can therefore never be known is a truth claim in itself. On the other hand, I deter the positivist extreme that reality is completely separate to us – I rather believe we, as humans, are in constant juxtaposition with it. Therefore, I would state that the role of research and its consequent knowledge claims are best defined through pragmatism. This philosophy focuses not on chasing absolute truths but on the practical value that is gained through the exploration of them (Groff, 2004). This means that another researcher may have found different practical implications in this study. Nonetheless, this is in my opinion acceptable, since the practical value accumulated from constant exploration through different constructions brings us ever closer to understanding how the world around us works – if we will ever catch up with it is another conversation in itself. I would go as far as saying that this is the very role of research in society: for it to motivate us to explore the world so we gain practical knowledge on how to develop a desired impact, rather than aiming to ever fully understand it.

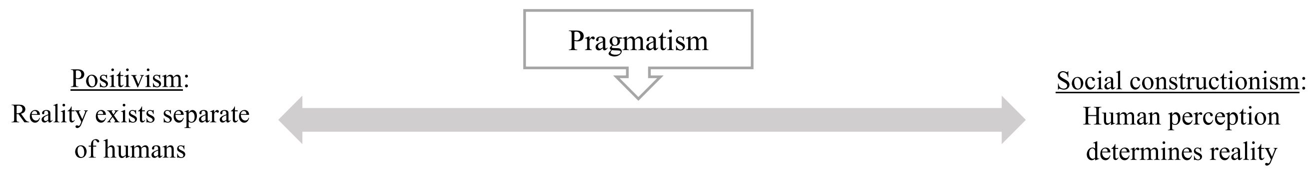

Figure 8 Pragmatism on the scale of epistemology

3.4 Research design

This research has been conducted as a unique exploratory inquiry aiming to contribute to the ongoing debate on the perception as well as future role of the e-grocery trend. By choosing Finland as the specific scope of this study, the impact of digitalization in grocery will be explored from the unique perspective of a smaller highly modern oligopoly, introducing a new stance to the existing discussion. Specifically, this study investigates the perceptions of suppliers, retailers and consumers in the Finnish grocery chain to better understand the current attitudes of these principal actors, how these perceptions compare to each other and how they may change in the future.

When deciding on if I should conduct a qualitative or quantitative study, I first decided to research their most dominant differences. Generally, qualitative research aims to understand how specific contexts spark certain business-related phenomena (Yin, 2009), while quantitative research aims to directly test specific statistical data or hypotheses (Eriksson & Kovalainen, 2011). Qualitative research can also be described as more inductive than quantitative research, since it aims to use gathered data to build a theory rather than test a pre-existing one (Cooper & Schindler, 2008; Bryman & Bell, 2011). Therefore, as my study aims to understand how the phenomenon of e-grocery is perceived in different contexts in Finland, and also how grocery players could potentially prepare and prevail in the onset of digitalization in comparable markets, I have decided that a qualitative research approach will be most fitting for my study. The methodology I have chosen is an intensive single-case study. Single-case studies aim to help understand a very particular context within a wider phenomenon. This can for example be one specific individual or country. According to Donmoyer in Gomm et al. (2000), single-case studies are particularly fitting for studying unique phenomena in the context of social sciences, as wider multiple-case studies might not be capable of noticing delicate humane variations which are of interest to me in this study (Price et al., 2015).

My case will be the Finnish grocery market and its identified three central stakeholders: suppliers, retailers and consumers. According to Gibbert and Ruigrock (2010), a case study is most suitable for researching current real-life phenomena where the boundaries between context and phenomenon are hard to distinguish, which is very much the case in my study. The purpose of a case study is also to understand a particular setting through providing a description or testing a theory, which is best done through employing multiple levels of analysis (Eisenhardt, 1989). As I am incorporating three different points of view to understand the same real-life phenomenon, this approach fits my study very well. It is important to note that the data received from a singular case study cannot be generalized or applied to different contexts, as it is interpretive in nature (Eriksson & Kovalainen, 2011). For example, my study is only aiming to understand an ever-changing phenomenon in the singular context of Finland, which has a unique stance in i.e. technological adaptivity and culture. However, by combining comprehensive existing literature with my case study findings, it has the potential of contributing to a completely new singular phenomenon which is yet to be explored further (Yin, 2009).

The specific research approach I have chosen is the constructive research approach (Lukka, 2014), which is common in the field of business administration. This is a research procedure where I aim to produce a new innovative construction to contribute to the existing theory around a real-world phenomenon – in this case, the digitalization of Finnish grocery. The key idea of this approach is that anything departed from humans is a construction which changes characteristics constantly, therefore being able to develop into an infinite amount of directions. Therefore, a constructive research approach is experimental in nature: It is based on the pragmatist belief that by developing my own construction through the analyzing of prior theory and then applying it back to the context of research in test-purposes, I will be able to make a meaningful contribution to relevant theory (Lukka, 2003).

3.5 Data collection

My informants involved twenty interviewees. All individuals were recruited through theoretical sampling. This means that rather than sampling particular individuals, I concentrated on sampling the key setting of my study: Finnish grocery. Through theoretical sampling I was able to collect, code as well as process my data simultaneously rather than in a traditionally linear manner, allowing me to adjust my focus according to the questions and concepts that emerged during analysis. According to Corbin & Strauss (2014), this offers a certain flexibility which is especially suitable for studying new concepts, therefore being a natural choice for my study. All three central players in the Finnish grocery supply chain were included in the recruitment: four professionals within the supply sector, four professionals within the retail sector, and twelve consumers.

Interviewee selection criteria

The professionals working for Finnish grocery suppliers and retailers were chosen according to the following criteria: Each individual had to have a minimum of 3 years of relevant experience in the grocery industry; each supplier was from a different industry (Hygiene and health, Beverages and Food); and each professional working for grocery retailers was from a different company and/or from a different layer of the organization (i.e. corporate vs. entrepreneur). Through this I aimed to conjure a sample which covered the grocery industry in regard to its broad product portfolio and business functions. Given that this study is particularly interested in the trend of e-grocery and the future of grocery, only individuals who were in roles that demanded knowledge and interest towards these topics were chosen for recruitment.

The interviewees recruited to give insights on Finnish consumers were chosen as follows: In line with the prior literature review's stance that age and household size have a great impact on a consumer preferences in regards to grocery, the twelve consumers were recruited to make sure that they covered all three groups according to these factors:

- ***Group A***: Four consumers below the age of 35 in a 1-2 person household
- ***Group B***: Four consumers between the ages of 35-55 in a household including children
- ***Group C***: Four consumers over the age of 55 who live in a 1-2 person household and whose children have moved out.

This grouping is based on the logical assumption that household size and grocery intake mainly fluctuate when a family first grows and then when children move out of the household – thus the research sample aims to cover all of these three simplified stages in an average consumer's lifecycle.

Interview process and guidelines

The data was gathered through semi-structured interviews. This allowed the gathering of comprehensive data while also permitting a conversational tone, ensuring that the interviewees set the pace rather than I, the researcher (Bryman & Bell, 2011; Eriksson & Kovalainen, 2011). All twenty interviews were conducted during Spring 2020 in Finnish – the mother tongue of each interviewee - and lasted an average of 45 minutes. Sixteen interviews were conducted in person and four were conducted via telephone. Each interview is described in Table 7. The interview guidelines were drafted separately for suppliers and retailers as well as consumers – however, they were the same for all interviewees within the same group. Each guideline (found in appendix B) included 10 interview questions divided under three main topics. The research questions in this study are characterized by the juxtaposition of the present and the future, therefore this theme was also applied to the interview guidelines. For retailers and suppliers this meant asking about short- and long-term strategical priorities, while consumers were challenged to compare today's realities with hypothetical future scenarios. The questions themselves were drafted in such a way that they were as open-ended as possible, to make sure that any of my possible personal predilections were not communicated throughout the interviews. It is important to note that due to the impact of subjective perceptions, this can never be fully ensured – however I did do my best to govern my personal views as best as possible throughout the interviews. The order as well as outlining of questions were occasionally slightly altered to allow the interviewees control over the discussions organically and authentically. As I was unable to find an existing interview framework that would suit my study, I decided to construct on of my own. The content and structure of the interviews were drafted as follows.

The individuals working for grocery ***suppliers and retailers*** were first asked to introduce themselves, their company and how much experience they had in their industry. This allowed me to determine what type of role and organization they portrayed within the grocery supply chain, as well as how much they knew about past changes within the industry. The second and third topics were chosen to be in line with the three research questions. Firstly, the interviewees were asked questions regarding their opinion on the current state of the Finnish grocery market from the standpoint of their specific company and its position in the industry, and especially the recent impact of digitalization and the e-grocery trend. Secondly, they were asked to give their thoughts on the potential future of the market as well as the challenges and opportunities they expect to face in their industry in the years to come.

The interviews with ***consumers*** were also started by asking opening questions. These were in line with what the preliminary literature review considered the most determining factors in consumer grocery preferences: their age, the number of individuals in their household as well as their average weekly grocery expenditure. The second topic included questions that helped me identify the interviewees current grocery preferences as well as perceptions of traditional grocers and e-grocers, while the third topic invited the interviewees to discuss if and how they could see their grocery preferences changing in the future. This structure enabled the covering of all research questions from the point of view of the interviewed consumers as well.

Table 7 Description of conducted interviews

Suppliers	***Job role***	***Industry experience***	***Industry***	***Organizational size (global)***	***Date***
1.	Key account manager	5-10 years	Consumer goods	100,000-200,000	06.02.2020
2.	Project manager	10-15 years	Hygiene & Health	25,000-50,000	28.02.2020
3.	Head of customer marketing	20-25 years	Beverages	<1,000	25.03.2020
4.	Head of sales	10-15 years	Food	1000-25,000	06.04.2020
Retailers	***Job role***	***Industry experience***	***Industry***	***Organizational size (global)***	***Date***
1.	Grocery entrepreneur	5-10 years	Omnichannel Grocery	<1000	28.01.2020
2.	Digital channel manager	10-15 years	Omnichannel Grocery	25,000-50,000	14.02.2020
3.	Digital channel manager	10-15 years	Omnichannel Grocery	1,000-25,000	04.03.2020
4.	Product portfolio manager	5-10 years	E-grocery	<1000	11.03.2020
Consumers	***Referred to in text as***	***Age***	***Weekly grocery spend***	***Household size***	***Date***
Group A					
1.	Consumer A1	>35	50-100 €	2 adults	24.01.2020
2.	Consumer A2	>35	50-100 €	2 adults	30.01.2020
3.	Consumer A3	>35	100-150 €	1 adult	11.02.2020
4.	Consumer A4	>35	200-250 €	2 adults	20.02.2020
Group B					
5.	Consumer B1	35-55	100-150 €	2 adults + 2 children	30.01.2020
6.	Consumer B2	35-55	50-100 €	2 adults + 1 child	03.02.2020
7.	Consumer B3	35-55	100-150 €	2 adults + 2 children	12.02.2020
8.	Consumer B4	35-55	100-150 €	2 adults + 1 child	25.02.2020
Group C					
9.	Consumer C1	55<	200-250 €	2 adults	04.04.2020
10.	Consumer C2	55<	100-150 €	2 adults	03.04.2020
11.	Consumer C3	55<	50-100 €	2 adults	06.04.2020
12.	Consumer C4	55<	100-150 €	2 adults	06.04.2020

3.6 Data analysis

As data collection and analysis are seldomly separate processes, ad hoc notes on my preliminary thoughts and reactions were gathered in addition to audio recordings of the interviews to support recollection (Eriksson & Kovalainen, 2011; Miles et al, 2014). Each interview was transcribed in full and translated into English within two days of the interview, to which the aforementioned preliminary ad hoc notes were added (Eisenhardt, 1989). To protect the anonymity of all interviewees, they will be referred to through the group they were included in as well as the numbers specified in table 7 (i.e. Supplier 1, Retailer 2, Consumer A3). I aimed to ensure the reliability of the study through the combining of field notes, coding as well as verbatim quotes (Corden & Sainsbury, 2005). I decided to not use a coding software for this process but to do it by hand, as it enabled me to use my personal experience of talking with each interviewee to most accurately grasp what was most important in each interview. Since the interviews were conducted in Finnish using every-day terms and vocabulary, I knew I was also better equipped in making sense of these. (Miles et al, 2014).

The interview transcripts were coded via the in vivo technique by breaking the data into the most prevalent themes, which were labeled into separate components (Bryman, 2001). This process mainly relied on the identification of patterns and linkages to the conducted preliminary research. The collected data was analyzed according to the method of open coding according to Gioia's methodology (Gioia et al., 2013). In the first level of analysis I read the transcripts thoroughly and bolded out quotations according to what I found most interesting from the perspective of the study. I also added descriptive terms to each quote to help me summarize their core meaning in the scope of my study. Then I reviewed the quotations and their terms to break them down into emerging topics, which made up my second-level codes found in appendix C. Finally, the second-level codes were summarized into 30 concluding themes (see Table 8).

Table 8 Themes assembled after the second round of coding

#	THEMES	TOTAL
1	Experiential shopping	189
2	Convenience	133
3	Shift from product-centric to service-centric	125
4	Finnish grocery culture	111
5	Market competition	91
6	Product assortment	78
7	Polarization of consumer demands	74
8	Shopper data & personalization	72
9	E-grocery user experience	56

10	Unadvanced Finnish e-grocery	55
11	Importance of corporate agility	51
12	Delivery cost	40
13	Data complexity	39
14	Data efficiency and automatization	38
15	Encouraging e-grocery trial	37
16	Delivery time	37
17	Impulse buying	35
18	Profitability	33
19	Supplier and retailer collaboration	32
20	Omnichannel shopping	31
21	Sustainability	30
22	The oligopoly	30
23	The role of product category	28
24	Population density	25
25	Grocery marketing	25
26	Grocery as a routine chore	25
27	Price as a driver	24
28	Supporting local players	16
29	Artificial intelligence and future technology	14
30	The social aspect	11

I supported the process of breaking down the first- and second-level codes to get to the aggregate dimensions presented in my findings by building a Microsoft Excel worksheet which helped me organize and keep track of how I progressed from my initial raw information to my final findings. This bookkeeping also helped me make sure I was applying the necessary rigor required in well-executed qualitative research (Gibbert et al., 2008; Gibbert & Ruigrok, 2010; Gioia et al., 2013). Once I was left with the 30 concluding themes in Table 8, I compared them to the insights from the research presented in my theoretical background. This helped me to not only identify potential linkages but also suggestions of new information, which in turn helped me build the umbrella topics presented in my findings (Chapter 4). The findings chapter itself was planned through the technique of clustering: I first wrote down every code in its own circle and then proceeded to cluster and re-cluster them according to how they related to each other. This gave me a flexible and visual method to make sense of my data while figuring out how to best put my findings into words. (Charmaz, 2006).

3.7 Trustworthiness of the study

According to Cooper and Schindler (2008), the ability to measure is essential in the validation or invalidation of any research. Therefore, it is important to always reflect on the reliability and validity of the chosen methodology within a study, as this determines how measurement occurs. Generally speaking, there are four assessments to help evaluate the trustworthiness of a case study: reliability, construct validity, internal validity and external validity (Yin, 2009).

According to Yin (2009), reliability is defined as the ability of repeating a study with the same results. To assure this, there is no place for situational factors or random errors (Cooper & Schindler, 2008). In my study, reliability has been assured through the careful documentation of the research process for all interviews involved. Also, all data was gathered, analyzed and portrayed in a cohesive manner within this report. In addition to this, I adopted Bryman and Bell's (2011) concept of external reliability by taking on the same role as interviewer with all interviewees, while internal reliability was reflected through the consistency identified within the data received from interviews within the same cohort.

Construct validity refers to which extent a study can be said to investigate exactly what it set out to investigate (Gibbert et al., 2008). According to Yin (2009), this is mainly assured by comparing the qualitative data gathered throughout a study with multiple sources of existing research. This has been assured in my study through not only the inclusion of an extensive preliminary literature review in addition to my qualitative case study, but also through the adoption of a systematic combining research approach (see Figure 7, pp. 32), to ensure the study supports itself throughout the entire research process and its consequent stages.

Internal validity signifies the ability to identify a link between the concepts introduced in a study's preliminary background research as well as the observations made in the subsequent case (Bryman, 2001). According to Gibbert et al. (2008), internal validity is realized through the researcher's logical argumentation and reasoning throughout the study. I have ensured this through exercising all of Yin's (2009) tactics of ensuring internal validity: Identifying and matching patterns; building and addressing rival explanations through active comparison; and using logical models to describe and exemplify my findings in the ensuing chapters.

Last but not least is external validity, which according to Yin (2009) is the most substantial critique of unique single-case studies. External validity refers to which extent the conclusions obtained in a study can be generalized across multiple social contexts (Bryman, 2001). I stated in the beginning of the study that my aim would not be to construct knowledge which can be directly implemented in other settings, as I am aware of the unique scope of my case and its limited number of interviews. However, I did aim to assure external validity in the realistic limitations of a unique qualitative study of this size by adhering to analytical generalization in the form of active open discourse between empirical observation and existing literature (Gibbert et al, 2008) as well as aiming to thoroughly explain my reasoning regarding the structure, research approach, analysis as well as contribution of this study as a whole.

3.8 Limitations of the study

Although I applied the aforementioned tactics to maximize the trustworthiness of my study, there are limitations that need to be taken into account to understand all the factors that influenced my study.

It is important to note that researcher biases cannot always be controlled: due to the fact that I was unable to find existing interview frameworks that fitted my unique topic, I chose to construct them myself. Even though I built the frameworks according to the careful reviewing of a large range of existing theories, there is always the reality that my tacit outlooks may have impacted my choice in the questions as well as their structure and wording, therefore potentially having an impact on the study's direction overall. In addition to this, although I aimed to keep my personal views outside the interviews and made sure to follow the same procedure with all interviewees, anything human derived – such as this research – is prone to mistakes and subjective perception (Norris, 1998). For example, I recorded field notes throughout the interviews, which were primarily my own interpretations of what findings were most significant to my study; these were most likely always influenced by my own subconscious expectations. I may have also had different affinities with the interviewees, in turn potentially impacting my way I conversed with them. My underlying sentiments and ability to concentrate may also have differed among the interviews. Therefore, even though I aimed to control the aforementioned variables to the best of my ability, it is important to note that another researcher – even with the same key focus – may have come to a different outcome. (Hellesø et al., 2015).

My data set came with its limitations as well. Firstly, it is a concern that my sample size of 20 interviews is not enough to reflect the context of my interest – the Finnish grocery supply chain – especially considering that my view of the supply chain was quite simplified to begin with: In reality there are many other stakeholders such as logistical players involved, and their attitudes were excluded from this study. In addition to this, the consumers I interviewed were largely from households with more than one individual, meaning I was not able to include an even amount of insights from both single- as well as family-households in my data set. The interviewed suppliers and retailers were mainly larger organizations, meaning I was not able to integrate an equal ratio of smaller players. In addition to this, I wish I had had access to retailers who were not present in digital channels at all, as now I have only included omnichannel and pure online retailers who one could presume have bias pre-conditions regarding digital grocery, as they have chosen to invest in it. Finally, it is important to note that I had a limited amount of prior research available on my specific topic of choice, which made it rather challenging to build a strong foundation for my research as well as find substantial existing theory to tie my findings back to.

4 FINDINGS

The subsequent chapter is divided into three parts according to the research questions introduced in chapter one. It will start off by presenting the identified prevailing attitudes towards the recent digitalization of Finnish grocery: first from the point of view of the interviewed suppliers and retailers, and then from the point of view of the interviewed consumers. In the second part, I will concentrate on the interviewees' contemplations on why the progress of e-grocery has been so slow in the Finnish market so far. The final part will present what the study suggests will be the most central trends and opportunities for Finnish grocery in the future. The aim is that through the consideration of these three aspects, readers can better understand what is needed to push the Finnish grocery market from what it is today to what it could ultimately be.

4.1 Prevailing attitudes towards e-grocery

This section will concentrate on the first research question by presenting the main themes identified when discussing the implications of the digitalization of grocery with the interviewees. These will be presented by first concentrating on the corporate point of view of suppliers and retailers, and finally by presenting the most central thoughts of the interviewed consumers. Throughout the interviews as well as subsequent data analysis, I was able to recognize an assortment of prevalent themes which describe how the onset of digitalization has been both beneficial as well as disadvantageous throughout the Finnish grocery supply chain.

4.1.1 Suppliers and retailers

Data allows endless internal business process optimization

All interviewed suppliers and retailers agreed that data, in its various forms and applications, is the largest advantage offered by digitalization. First of all, digitalization has led to improved internal tools and processes, which help to understand and keep track of a business in a way that has never been possible before. These tools output several streams of data which can be leveraged into different key performance indicators (or KPI), that help companies allocate their resources more effectively throughout the supply chain.

> *"Due to digitalization, controlling the supply chain is a lot more systematic and transparent. These days we can observe and control important key performance indicators in an entirely new manner."* (Supplier 4 – translation by author)

Data has also helped retailers and suppliers to perform more testing without the same sunk costs that were once required, therefore not only saving costs but also enhancing their innovation rate. Through this enhanced agility, grocery companies are capable of reacting to changes in market trends and demand at a much greater rate, thus helping them gain as well as retain their market shares.

> *"The more we have of it [data], the more we understand our consumers. Our tools are constantly becoming better, and we can see what products work and don't on the market. Data also allows us to implement our resources more effectively. In addition to this, our innovation processes are a lot clearer, as with smaller resources we are able to test faster without the sunk costs that were once needed."* (Supplier 1 - translation by author)

Digitalization has had a great impact on marketing as well, as grocery players can use data to allocate marketing investments more efficiently. For example, cross-category patterns in shopper data can be leveraged to understand what types of products complement each other best. These insights can be used to design effective targeted marketing campaigns to increase average order volumes. Overall, digital marketing methods such as these have improved the return on marketing investments significantly.

> *"From a marketing perspective, the impact of digitalization has been really interesting… If I have 1000 EUR to invest in marketing, anyone knows that of course I will reach a significantly wider pool of consumer more effectively by using targeted social media marketing*." (Retailer 1 - translation by author)

The interviews also verified the great impact that data has had on product portfolio management. This is a significant improvement in fast moving consumer goods, as players need to be able to handle a large variety of products with relatively short lifecycles. The interviewees mentioned that this is especially important when it comes to seasonal products: for example, by looking into ice cream sales volumes in juxtaposition with weather data, both suppliers and retailers are capable of predicting how demand will shift according to weather. This does not only enable them to prepare accordingly, but it decreases the amount of surplus production, ensuring a more sustainable business overall.

Digitalization has brought grocery players closer to consumers

According to the interviews, digitalization has brought grocery players closer to consumers in several ways. Suppliers and retailers cannot only offer their products via a larger array of channels and services but can also have more direct open communication with their consumers. This is especially important in the highly competitive market of grocery, as players are now capable of gathering and reacting to feedback a lot faster and thus keeping their consumers' satisfaction top priority.

> "*Digitalization has enabled us to be a lot closer to our consumers – they can access our services at any time they wish, and give us straight feedback no matter when and where they are… We try to connect with our consumers as much as possible. For example, we currently have Facebook groups via which we can openly ask our consumers direct feedback on new products or technological add-ons in our application."* (Retailer 2 - translation by author)

For retailers, the most efficient way to build their relationships with their consumers is through loyalty programs, which are very common in Finland. By leveraging all this shopper data, retailers can learn to know each consumer uniquely and learn to serve them best at all touchpoints. This leads to a variety of more personalized content and recommendations.

> "*Digitalization offers endless opportunities to understand as well as serve our consumers better and in a more personalized way. We have the ability to improve and personalize our offering and have an impact on the entire shopping experience: from researching recipes for the weekend to the actual shopping and consumption*." (Retailer 3 - translation by author)

Also, through the several new shopping channels that digitalization offers, retailers have been able to diversify their service portfolio in such a way that they can better cater to their consumers' unique needs. This is especially important when it comes to individuals that may have limitations in movement. For example, every interviewed retailer mentioned that digitalization has given elderly individuals the opportunity to stay in their own homes for much longer, as they or their caretakers can use home delivery services to pick and deliver groceries for them. This can substantially improve the quality of life of many Finns.

An open market is a healthy market

Another noteworthy theme that came up in the interviews was digitalization's role in freeing up the Finnish as well as international grocery market. Digital channels have brought down barriers of entry by making it easier for suppliers and retailers to bring visibility to their products to a larger array of consumers. New platforms such as social media have enabled organic word-of-mouth marketing and the easier crossing of geographical borders. Even though this advancement means that there are a lot more players and products fighting over the same spots in Finnish consumers' grocery baskets, all interviewees agreed that this shift has been a welcome one - especially in an oligopoly as intense as Finland's.

> *"I have to say that although digitalization has increased competition a lot, it has been extremely healthy. Imagine how difficult it would have been to launch a product 20 years ago versus today? With only 100 € I am able to purchase targeted marketing, and then through social media word-of-mouth my message could spread organically. I think it is great that not all innovation comes from the big traditional players, but there is now room for smaller less conventional players too."* (Supplier 1 - translation by author)

> *"A traditional challenge in Finland is that since we have such an oligopolistic market, the few big reigning players have great negotiation power which sometimes restricts us. So, in my opinion it would be great to see even more players here."* (Supplier 3 - translation by author)

As barriers of entry have fallen, the product assortment offered to consumers has improved vastly in Finland. A concrete example mentioned by a few interviewees was that of vegan products: A decade ago Finnish grocery stores had only few meat supplements available. Increased competition in this as well as many other product categories has led to an assortment of higher quality products, and also more choice for consumers. This is not only incredibly positive for consumers, but for the planet overall, as currently most grocery competition is centered around health and sustainability.

> *"Digitalization will continue to allow even more innovations around food... If you look 10 years back you notice that grocery stores have already changed drastically in all the types of products and categories they offer, which is awesome for consumers."* (Retailer 2 - translation by author)

The struggle of data sharing

Whenever discussing data with the interviewees, the tone was first very excited and positive. However, once the subject of data sharing came up, the air got thicker. Especially according to the interviewed suppliers, access to shopper data has been a difficult discussion point since its existence.

> *"Grocery retailers have data on the shopping cart level, so they for example see what product works with what and in specifically what channel... That's our main challenge, that we are not the ones who actually sell the products to the consumers, so we are very dependent on our customers [retailers] when it comes to that."* (Supplier 1 - translation by author)

Unfortunately, more often than not, this data doesn't make its way back in the supply chain. The specific reasons as to why grocery retailers do not want to share shopper data is not known for sure. This may be due to Finland's tight data sharing and market laws, or because retailers are afraid that external parties may use the data against them. The interviews suggest that it may also be because retailers themselves have not quite fathomed the strategical value of their shopper data. The only thing that is known for sure is that many are simply not comfortable sharing it - at least yet.

> *"Sharing data is a very difficult subject. I think it is such a strategic matter that we do not stop enough to think about it. We first need to figure out its role in our own value chain and what the relevant game rules would be."* (Retailer 2 - translation by author)

When retailers decide not to share shopper data with their suppliers, it makes it very difficult for suppliers to know how to market their brands and products in the most efficient way - it basically leaves them in the dark. According to the interviewed suppliers, this is not only a loss for them but also their customers, as they are not capable of supporting retailers in the same way they otherwise could. Therefore, they would even be willing to pay for it. Nevertheless, most suppliers understood why the topic of data sharing caused such uncertainty in their customers.

> *"We need to remember that [if retailers decided to sell shopper data] it would be very difficult to determine a price for it… what if it will be priced in such a way that smaller players won't even have the opportunity to buy it? So, I do understand that there are still a lot of questions and worries around this topic."* (Supplier 1 - translation by author)

The expensive cost-structure of grocery home delivery

Another topic which came up in the interviews was the expensive cost structure of e-grocery. Traditionally, in a brick-and-mortar, consumers are in charge of searching, picking, packing and carrying their products home. In e-grocery however, retailers themselves have taken on the responsibility for these steps. In Finland, all e-grocery orders are handpicked and packaged by specialized staff according to tight quality regulations and then delivered to each door in such a timeframe that all products included in the deliveries – also the ones that demand an uninterrupted cold chain – arrive according to the expected quality. This is a complex process which require various expensive resources.

> "*Making e-grocery a profitable business has been very difficult… Human resources are very expensive in Finland, especially if we need individuals to work in the evening and the weekends to gather groceries for deliveries. Grocery is also uniquely difficult in the sense that there is such an enormous number of products, which all have relatively small prices and gross margins. Therefore, the time needed to gather one individual cart is quite large compared to what we actually end up getting out of it... So overall, it's still a very complex equation.*" (Retailer 2 - translation by author)

This is not helped by the fact that Finland has a very low population density, which means that most retailers have not been able to scale their e-grocery networks enough to reach the necessary pool of consumers to turn e-grocery into a profitable business. This complex equation does not only reflect on retailers, but also their shoppers: If Finns wish to order their groceries home in the current market, they need to consent to long delivery times while paying a relatively expensive price for delivery. This can understandably be quite frustrating to consumers.

> *"I've received a few complaints from consumers about increasing my delivery costs for longer distances. I replied to them that I had no choice, because otherwise I wouldn't be able to do this [offer online grocery services] in a profitable way. So, if someone wants to order groceries online to their cottage in the middle of nowhere, they need to be prepared to pay the cost."* (Retailer 1 - translation by author)

The complexity of digital transformation

Many interviewees noted that although digitalization has helped to optimize and improve the Finnish grocery business in many ways, it has also led to a completely new sort of market which is not always easy to navigate. This causes a plethora of new challenges and complexities which retailers and suppliers are battling with. Firstly, the different tools and platforms used by grocery companies change and increase as fast as technology itself. This can be very challenging to keep up with, especially for traditional grocery suppliers and retailers.

> *"We have built our entire business via large brick-and-mortar stores, so leveraging our traditional business into a digital value chain has had its challenges, especially as some of our original tools are quite dated. There's a lot of digital architecture involved, and prioritizing tasks is not simple considering in what scale we operate."* (Retailer 2 - translation by author)

> *"Many think that digitalization changes everything inevitably, but in truth it is just a tool to do things in a different way - it is definitely not automatic. The challenge is data overload and knowing how to recognize the things worth pursuing with all this new information and opportunities, while also figuring out how to turn a large cooperation more agile."* (Retailer 3 - translation by author)

Some interviewees also pointed out that although digitalization mainly helps to do things faster and better, it does not come without its own hiccups. As new technological systems and processes are implemented, there is a higher risk that they somehow fail and cause glitches within suppliers' and retailers' systems.

> *"Well a concrete example [of a technological hiccup] is from yesterday when I came to work and the electric price tags in my store hadn't refreshed as they should have. This happens sometimes: chain-wide campaigns are refreshed into the system for other chain stores, but for some reason they do not refresh automatically for my own."* (Retailer 1 - translation by author)

Another noteworthy challenge is that due to the vast number of tools and processes, it is not unlikely that retailers and suppliers come to recognize that their ways of working do not match. This can lead to potential barriers within their shared value chain. This is especially the case among larger traditional suppliers and smaller digital retailers, since these suppliers are used to serving customers with larger order quantities and are therefore not agile enough to adhere to e-grocery's unique requirements. Thus, there may also be difficulties in regard to transferring product data and images.

> *"I think a lot of retailers need to re-evaluate their processes, since many only cater to large players and not us smaller ones. For example, some suppliers have very large minimum order quantities and product crate sizes, which don't work for us so we can't partner with them. Flexibility and agility from both sides are important."* (Retailer 4 - translation by author)

> *"There's also the issue that we as suppliers have no control over what our products look like on retailers' platforms, so images and product information etc. may be wrong which has a directly negative impact on our consumers' view of our products. We are naturally hoping this will be automated eventually*." (Supplier 2 - translation by author)

These tools and processes also cause complexities at the other end of the value chain. Considering that the product portfolio of a grocery retailer is in itself already very wide and complex – products can reach from perishable goods to toxic cleaning detergents – the internal tools as well as digital shopping platforms used by e-grocers need to handle a uniquely vast amount of data.

> *"One challenge has been in building a platform which is able to handle such a large amount of product codes. Grocery baskets usually have dozens of codes, while other online stores such as clothing don't."* (Retailer 4 - translation by author)

It is also important to remember that since e-grocery is still such a new phenomenon, industry players keep on having a difficult time fully understanding how they can maximize their visibility online. Even though a vast amount of shopper data is available, consumer demands change so fast that it is difficult to keep up. Especially retailers who are used to traditional trade marketing methods have a challenge transferring their know-how online.

> *"It continues to be a challenge, how we can advertise in the most efficient and targeted way… the entire media field and consumer needs have changed so drastically that we can't just put up a poster in a brick-and-mortar anymore.*" (Supplier 1 - translation by author)

"*Change happens so fast that if it takes us two years to handle one issue, that issue is already dated by the time we get to the solution... We need to learn how to have these internal discussions and what to prioritize, especially considering that the amount of data is so immense that we'll need to know what to tackle first.*" (Retailer 2 - translation by author)

Table 9 Summary of findings in supplier and retailer interviews

	Advantages of e-grocery	Disadvantages of e-grocery
Interviewed suppliers' and retailers' point-of-view	o Data allows endless internal business process optimization o Digitalization has brought grocery players closer to consumers o An open market is a healthy market	o The struggle of data sharing o The expensive cost-structure of grocery home delivery o The complexity of digital transformation

4.1.2 Consumers

E-grocery shopping saves time and effort

All interviewees agreed that ultimately, digitalization has made grocery shopping a lot more convenient. Many consumers mentioned the annoyance that grocery shopping can traditionally cause: first you need to find the time out of your busy schedule to go to the grocery store; then you need to look around the countless store aisles and often even find that a certain product isn't available; after that you waste time waiting in line to the cashier; and finally, you get to carry heavy bags all the way home – where you most likely realize that you forgot to buy the very product due to which you went to the store in the first place. Now, consumers have the opportunity to skip these steps and shop groceries on their own terms.

"*I like the fact that e-grocery allows me to do my grocery shopping wherever and whenever I want. For example, I like to place my order while I sit on the subway during my commute to work.*" (Consumer A3 - translation by author)

Through digital grocery services, consumers also felt they were able to keep track of their grocery consumption and costs in a completely new way. The majority of consumers mentioned that shopping at traditional brick-and-mortars tends to be quite unplanned, meaning it was easy to purchase too much and thus overspend. However, when shopping for groceries online, they had the opportunity to use a platform which helped them keep track of their basket's value in real-time before going to the check-out. This has helped consumers to save on grocery expenses – which is usually one of the larger overheads in any household – while also decreasing the amount of food they throw out.

"I like that the e-grocery app helps us keep an eye on our grocery spend, so we can better budget what we want to spend on our groceries. In a brick-and-mortar you have no idea how much your cart is worth until you are at the cashier. When we used to go into the brick-and-mortar store we would buy all kinds of products we really didn't need, like fresh picked mangos for 12 euro a piece or something insane like that… When you shop via an e-grocer you can see what your cart's value is while you shop, which is great." (Consumer B2 - translation by author)

Digitalization has offered more channels to choose from

In addition to increased convenience, the digitalization of grocery has improved the accessibility of grocery products and services tremendously. Consumers have a large array of omnichannel services to choose from, ranging from pick-up-points to home delivery and automated subscription services. This has improved the quality of life of many different consumer segments significantly.

"Life these days is so busy, that whenever I spend two hours on shopping in a brick-and-mortar it is time away from spending it with my child. That's why it is so incredibly convenient to just pick out the groceries on my app and pick them up, it saves me hours of time and nerves." (Consumer B2 - translation by author)

"My 61-year-old mother uses click-and-collect for her groceries. This gives her the possibility to go out of the house and see people, without having to spend the time and effort walking through the various aisles to find the products." (Consumer B1 - translation by author)

This improvement has diversified grocery services in such a way that consumers have the option of choosing what channel suits their existing requirements best. This frees consumers from having to solely depend on the physical brick-and-mortars in their area, which used to be the case before.

Grocery product assortments are better

Digitalization has led to more competition in the grocery market. This in turn has led to higher quality and wider product assortments. Considering that most interviewed consumers chose product assortment as one of the most important factors in their channel choice, this is a significant advantage. Competition has pushed retailers as well as suppliers to pay closer attention to consumer trends, which has led to numerous positive improvements: many consumers mentioned the increased variety in quality meat-supplements, as well as ready-made solutions. Ultimately, this competition has also led to a variety of differentiated stores which offer unique experiences to consumers.

"You can quite often see pop-ups of special products from somewhere close by, and if they are visually pleasing, I might definitely pay the premium price to try them. I think consumers really want something special these days." (Consumer A2 - translation by author)

One major trend mentioned by the interviewees was so called "grocerants" that combine grocery shopping with restaurant-like experiences. These experiences have also translated online into different forms of inspirational content such as personalized recommendations and recipes, which consumers do not only enjoy but also offer them solutions that improve their daily lives.

"The main changes I've seen is in the size of the assortment and the number of new products launches all the time. Grocery stores also offer high-quality ready-made options which are really great, we've tried those. They save time and give the cook in the family a deserved break." (Consumer C3 - translation by author)

The current Finnish e-grocey offersing is too small

Although the digitalization of the Finnish grocery market as well as e-grocery services were spoke of highly by the interviewees, they pointed out a bleak reality of the current Finnish grocery market: at the time of conducting this study, very little players offer e-grocery services. Many mentioned that they or someone they knew would like to shop online grocery channels more often, but they were not even offered the opportunity to do so. Some were offered the opportunity for home delivery but from a store far away, which made them concerned about the sustainability of it.

> "*We don't do that [use e-grocery] a lot because currently only stores far away deliver to our home, I think that's not very environmentally friendly, and I also want to support my local grocery entrepreneurs. We would purchase online more if the groceries were delivered from a store close by."* (Consumer B4 - translation by author)

Most consumers that were not offered home delivery were still offered click-and-collect services, which are much more widely available in Finland. The problem with these services is that the very reason why many consumers wish for the opportunity to order their groceries to their door is because they do not have access to a car, and therefore want help in carrying their grocery items. For many interviewed consumers, their closest pick-up-point was just as far as the closest brick-and-mortar, meaning these click-and-collect services did not have a good-enough payoff. Considering that urbanization continues increasing while car ownership decreases, this is a worrying trend.

> *"I think the problem is that all these pick-up-point services have been designed with people who own cars in mind, but what about us who don't have a car? We are the ones to whom ordering groceries online is the more important service, as we otherwise need to carry them home ourselves. Currently grocery home delivery services in central Helsinki are extremely expensive and I'm not prepared to pay that price, while the pick-up-points just don't save enough effort for me to use them instead of picking up the products myself."* (Consumer B1 - translation by author)

Another noteworthy drawback was that at the moment of writing this study, no grocery player in Finland was capable of same-day delivery. Most force you to choose a certain time slot which can be days away. This is an issue for many consumers, as common ad hoc purchasing is simply not possible.

Considering that a fast shopping experience - from order to delivery - is very important to consumers, many felt that e-grocery was not advanced enough in the Finnish market to be interesting to them.

> *"If I go to a brick-and-mortar store I can go whenever, but with an e-grocer I currently have to choose a time slot which is days away, and I might not even be home then. Especially now that I only live with my partner… we don't have a dog or kids we need to come home to at a regular time, so we can never know for sure when we will be home. That's another reason why online grocery shopping hasn't become regular for us. The time you need to reserve for getting the shopping done is so long. Maybe if I did have kids or a dog and I knew I had to be home at a certain time it [e-grocery] would work."* (Consumer A1 - translation by author)

Due to the long delivery times and expensive delivery costs, many consumers felt that e-grocery only made sense for larger purchases. This in turn meant that you had to spend a lot more time planning each shopping cart. Therefore, only larger households felt that they were able to choose online as their primary channel for purchasing groceries, while smaller households resorted to purchasing via e-grocers every few weeks or not at all. These findings suggest that due to the current unadvanced state of Finnish e-grocery, many consumers feel it is simply not a feasible option for them.

The user experience of e-grocery has room for improvement

Each interviewed consumer highlighted the importance of an effortless user experience when shopping for groceries. Although online channels are often praised for making shopping a lot easier for consumers, the findings suggested that this is not always the case: quite a few of the interviewed consumers were able to point out a bad experience related to shopping groceries online. These experiences usually related to the navigation of e-grocery platforms currently available in Finland. For example, the searchability of different products and the adding of items into your digital cart came with issues that caused frustration.

> *"Once when I ordered groceries home they left out my main ingredient – fish – because it was out of stock. That was annoying since I had built my entire meal around it. Now I've chosen a tab in the settings that allows the store to replace a product if they don't happen to have it in stock, but still, I think that should have been communicated more clearly. The user experience just isn't great*." (Consumer A4 - translation by author)

> *"As cost-effective as e-grocery may be, the platforms aren't generally very inspiring, and I also don't find them very user friendly. For example, I've often lost my shopping cart content after spending a long time picking out products – that was very annoying."* (Consumer B4 - translation by author)

In addition to the difficult navigation of e-grocery platforms, most consumers mentioned how challenging it was to visualize a product properly when they could only resort to a digital product page. On a few accounts, consumers had experienced mishaps caused by misreading product information.

> *"I once accidentally purchased a very overpriced half-liter of milk because I had misread at first glance that the carton was 1,5 liters."* (Consumer B1 - translation by author)

> *"I accidentally purchased way too many bananas once because I misinterpreted the unit as pieces when it was actually in kilos… that's why clear product information is highly important.*" (Consumer A1 - translation by author)

The interviews also shed light on the notable worry regarding the feasibility of e-grocery for individuals who may not be as comfortable in using digital platforms. Considering that a third of the Finnish population are pensioners, this issue is one that impacts a large fraction of the potential consumers that e-grocers could serve. Bearing in mind that serving the aging population is one of the great potential advantages of digitalized grocery in modern Finland, this is an issue worth noting.

> *"I've never tried e-grocery. I understand the point of it, and I guess I could try it, but I'm concerned how the ordering would work… Would I need to do all the ordering on some website? I would prefer doing it via the phone, I'm an older individual after all.*" (Consumer C4 - translation by author)

Shopper inspiration is more challenging online than offline

Although grocery was deemed as a relatively tedious chore by most interviewees, an interesting finding was that when consumers discussed grocery shopping in juxtaposition to the weekend, a special meal or perhaps a family event, their attitude towards the topic changed. In these conversations, inspiration was the key word. This is something that is considered quite challenging in the context of e-grocery, because how does one translate a beautiful physical grocery shopping aisle into an online platform? Consumers mentioned that they hoped e-grocers would be able to offer them more inspiring content, so that they would be motivated to try new products. Unfortunately, many consumers said that they felt that current e-grocers were not able to do this yet.

> *"E-grocery retailers need to be more inspiring and make me want to try new products. They already have recipe-based recommendations, but I would like to see new products more. I also want the platform to remember what I purchased last, so it can serve me in a personalized way. I think Finnish e-grocers are not really taking advantage of the aptitudes that digitalization has to offer.*" (Consumer B4 - translation by author)

> *"I just don't find them [e-grocers] very inspiring. It's not enough for the platform to tell me that because I chose minced meat, a pepper cream sauce may interest me. That's not inspiring in the same way as seeing a colorful new package displayed in a store aisle."* (Consumer A1 - translation by author)

Although e-grocers have the ability to inspire their shoppers through different digital content such as blogposts and recipes as well as digital personalized newsletter, a lot of the time consumers felt that they were mainly triggered to try new things through physical in-store displays and eye-catching packaging. This organic impulse reaction is notoriously very difficult to translate from brick-and-mortars to the online realm. Therefore, most consumers felt that they had to know a product in beforehand to be able to pick it up from an online grocer, as the idea of using online grocers as a channel to try new products seemed outlandish.

> *"I believe that what triggers trying new products the most is just walking into one – for example, whenever my husband brings home something new, it's because there's been a stand or advertisement in the store which has caught his eye… For me, e-grocers are not as inspiring, so they are best for purchasing products I already know of. That's why I would probably not buy something new from them."* (Consumer B1 - translation by author)

Another noteworthy factor which impacted the ability of grocery shoppers to be inspired online was not only the lack of a physical touchpoint, but also the lack of a social one: according to the interviews, this is surprisingly important to many. Some consumers wanted the opportunity to ask for an experienced butcher's input on their choice of meat, while others simply wanted to see a friendly face during their shopping trip. A few consumers said that online live chats and other services e-grocers offered sufficed, however most said that digital assets could never replace genuine human contact.

> "*The owner of the brick-and-mortar store closest to us is often there when we pop in, and we've even become friends… he always gives us tips and says hello when he sees us. I love that, it nearly makes it feel like we are visiting an exclusive store*!" (Consumer A1 - translation by author)

> *"It's really hard for me to imagine that an online platform could ever replace the butcher at my favorite store. I doubt a website could inspire me the same way as a live meat counter in a brick-and-mortar.*" (Consumer C1 - translation by author)

Table 10 Summary of findings in consumer interviews

	Advantages of e-grocery	Disadvantages of e-grocery
Interviewed consumers' point-of-view	o E-grocery shopping saves time and effort o Digitalization has offered more channels to choose from o Grocery product assortments are better	o The current Finnish e-grocery offering is too small o The user experience of e-grocery has room for improvement o Shopper inspiration is more challenging online than offline

4.2 The slow progression of e-grocery in Finland

When discussing the current role of digital grocery in the Finnish market, the tone of all interviewees was relatively unanimous: Finnish e-grocery is clearly underdeveloped and has failed to meet the great growth expectations originally laid out for it.

> *"Many [players] have invested in it [e-grocery], but the euros still aren't there. I would say it is definitely smaller than what we predicted five years ago... The belief has been there, it just hasn't arrived the way that we expected it would."* (Supplier 1 - translation by author)

According to the interviewees, this has been the result of a combination of many factors. Some believe it is due to market structure: Finnish grocery is mainly controlled by a few large retailer chains, which have built their entire business' on large brick-and-mortar stores. They have only started investing into building e-grocery services in the recent years, which is later than in other markets around the globe. This begs the question of if this has been a determined strategical decision on their part.

> *"I think Finns haven't really been properly convinced by the Finnish market to try e-grocery, since the large players haven't really invested in it. I mean it's understandable: Why would traditional brick-and-mortar players push their consumers to try their e-grocery channel if these consumers are happy to pick and transport their products themselves?"* (Retailer 4 - translation by author)

Nevertheless, some countered this thought with the fact that if the limited supply of e-grocery services was really only a conscious strategical decision made by the leading traditional Finnish retailers, international e-grocery players would have noted this as a worthwhile opportunity for expansion, and therefore would have opened business in Finland. This has however not happened.

> *"There are no international e-grocery players yet in Finland, so I don't believe this [an un-progressed e-grocery] has been up to the big Finnish players not wanting to invest in it. Otherwise some international player would have realized the potential and come here to fill it."* (Supplier 1 - translation by author)

This brings up the question of if the slow growth rate of Finnish grocery is not a supply-side issue but has actually been caused by limited demand – are Finns just not really that interested in e-grocery? A few elements which came up during the interviews sided with this thought. Finnish consumers are known for not changing their shopping behavior easily, which is probably even more the case for something as routine as grocery shopping. Finns are also not used to services in the same way as other markets, which is strengthened by the cultural tendency of finding pride in doing everything yourself.

> "*I believe Finnish culture and the way we are as people has a great impact [on why e-grocery is still so small]. We warm up slowly to new innovations. There's also a very established brick-and-mortar hypermarket culture in Finland. Food related services have been a lot more in-demand in other European countries… I think Finns just tend to want to take care of everything themselves."* (Retailer 4 - translation by author)

> *"Finnish consumers tend to change purchasing behavior slowly, and all kinds of new trends arrive and lay roots here much slower than for example in Sweden, we see that in our new product launches all the time… I think the word "careful" describes Finnish consumers quite well. I have a personal theory that it has to do with how war happened only recently in Finland, so many are for example still very price conscious due to that."* (Supplier 2 - translation by author)

This carefulness also explains the topic of sensitivity which could be identified whenever discussing Finnish shopping behavior throughout the interviews. For example, it was notable that if consumers ever had a bad experience regarding e-grocery, they easily gave up on it completely. Some consumers also kept on bringing up trust issues regarding the quality of e-grocery products – especially perishable and frozen goods.

> *"I've been aware of online grocery services, but I've never wanted to try them because I like going to the store and picking out the products myself. For example, I wouldn't trust someone else to pick out the bananas I want. And I may be pessimistic, but I am pretty sure that online orders include the products that are of secondary quality."* (Consumer C3 - translation by author)

Due to these several characteristics of Finnish shoppers, the barrier to place a first e-grocery order – which the majority of consumers said was the most important turning point for them – may be exceptionally high for Finnish consumers. Nevertheless, most interviewed consumers said they felt that they had not really been incentivized by retailers to step out of their routine and give e-grocery a try.

> *"When I walk into an omnichannel retailer's brick-and-mortar store, why is there no advertisement to prompt me to try their online services? Or why don't they offer a coupon at the cashier for 5% off home delivery? That's very different with fashion stores – you can't find an advertisement for a fashion retailer which doesn't advertise their online store too… It seems like they [Finnish grocery omnichannel retailers] are not even trying to incentivize consumers to try their online services. Especially families, I think they simply don't know how easy buying groceries online is... Even my partner and I might try it again if we were for example offered a trial with free delivery."* (Consumer A1 - translation by author)

Thus, we find the finger pointing at supply again. When reviewing all the interviews it was clear that Finnish e-grocery is somehow stuck. With the state of the current e-grocery offering, tenacious Finnish shoppers are not incentivized enough to move their shopping online. However, if more shoppers do not choose to invest their money in e-grocery channels, e-grocery profitability will remain so weak that related players will not be able to improve it – especially in Finland's logistical intricacy.

> *"I think debating about if the slow adoption of e-grocery in Finland has been due to supply or demand would be an endless one: it is a useless "chicken or the egg" -debate… Now that large players are investing in it, consumers will wake up to it. We are currently in that stage where awareness of it is increasing, slowly but surely, but a lot of work still needs to be done. I think it is our responsibility as big retail players to improve the ease and quality of e-grocery services - only then consumers will find it.*" (Retailer 3 - translation by author)

4.3 The future of Finnish grocery

Now that the interviewees' thoughts towards the digitalization of Finnish grocery have been established, the perspective will be shifted from today to the future. Next, I will present the three most important trends identified by the study when discussing the future of Finnish grocery.

I. Polarizing consumer demands

The most prevalent topic which came up in the discussions regarding the future trends in grocery was the polarization of consumer demands. All stakeholders of the grocery value chain were able to identify an increase in two extremes: some grocery shoppers are highly price and convenience driven, while others seek out premium experiences. For some consumers, grocery shopping was a way of bringing more luxury and experiences into their daily lives. For others, it remained a simple chore which should be as fast and affordable as possible.

> *"I think it is important for retailers to understand that there are so many different needs among Finnish consumers, so they need to offer personalized assortments and services according to people's unique needs and preferences. It's going towards this more all the time, but it needs to continue improving. For example, young families are completely different to young single households or pensioners. My grocery habits have changed drastically in the*

last five years. Not all grocery stores can offer the same to everyone." (Consumer B2 - translation by author)

"It [the feasibility of e-grocery] depends a lot on product category. Overall, I think markets will keep on polarizing according to wealth. Some [consumers] want large sizes for as cheap as possible, while others seek a premium experience. There has also been a rise in the "smart shopping" trend, which means that some consumers decide to pay more for one category than another. That of course means you have to have the money to decide. They get certain products from the hypermarket and others from a small premium retailer. I think the share of mid-range shoppers is decreasing, while these extremes are growing." (Supplier 2 - translation by author)

Therefore, having an extensive portfolio of different omnichannel grocery services such as pick-up-points was noted to be important, as this offers consumers who fall into any category the choice to choose what suits them best. Recent market trends show that Finnish retailers have woken up to the trend of combining convenience and experiential shopping – the most obvious being the rise in fresh ready-made meal options and grocerants.

"When you look abroad, a lot of grocery stores have restaurants and wine bars included, so I think this inspirational trend will come here too. Maybe Alko [the Finnish alcoholic beverage retailing monopoly] will have a wine bar. Overall, I think the market may polarize even more – the bulk products you want quick and cheap you shop online, while food shopping will become increasingly premium." (Consumer C1 - translation by author)

One of the most interesting trends identified by the research was smart shopping, which according to the research findings is increasing fast in Finland. Smart shopping refers to the trend that shoppers no longer resort to one retailer for all their grocery needs but optimize their grocery shopping habits according to what they see worth investing in: time- and moneywise. Several interviewees mentioned the role of product category in this: the most opportunity was seen in using digital grocery channels for products which were repurchased often – such as milk and toilet paper – because these were the ones that usually were most tedious to carry and refill. It was suggested that if the purchasing of these items were externalized to an automated service, shoppers could concentrate their time on only the products and shopping they enjoyed.

> *"I think it would be super cool If I could purchase daily foodstuff – you know when I'm tired and I'm absolutely not interested in trying something new – from a pick-up-point or a homedelivery service. And then in addition to that there would be an experiential brick-and-mortar store for weekends with great service.*" (Consumer A1 - translation by author)

II. A shift from product-centric to service-centric

As grocery related trends such as cooking keep on growing, consumers continue to seek for new sources of inspiration and ways of bringing luxury into their everyday lives. Therefore, grocery players have started to invest increasingly in a more differentiated offering for their shoppers: in product assortment as well as in-store experience. This can be seen in constant new launches, local produce and authentic communication which binds more to current consumer values. The interviewed consumers mentioned that they would love to see this shift being leveraged into e-grocery too.

> *"[I wish] that the online platforms would recognize me and know my past habits, and that I would for example be able to choose that I want to know about new products, and then it would for example with a pop up screen tell me when I'm paying that "hey you said this interests you so here you go". Or maybe if an influencer came to the screen with some awesome new garlic mousse, or even the owner of the store. Not just a stupid generic photo of a spaghetti dish... It can't go over the top, Instagram is full of useless influencers trying to make us purchase something. But if actual butchers or the store's owner would give me personalized recommendations, that would not go over the top."* (Consumer A1 - translation by author)

Consumers also mentioned that they increasingly hoped for the support of retailers in making better consumption decisions. Sustainability was a value which resonated with the majority of the interviewed consumers, and with ever-broadening assortments and an overload of information, consumers wished their grocery retailers would help them make the right purchasing decisions. This would not only decrease the effort needed by consumers, but also help the environment, as consumers would for example know when what produce is in-season.

> *"I wish e-grocery retailers inspired consumers more regarding what food to cook, by for example taking advantage of seasonality in vegetables and fruits which I never remember to do… especially since making decisions and planning is what make grocery shopping so burdensome to me.*" (Consumer A4 - translation by author)

Several consumers mentioned that they ultimately dreamed of a perfect end-to-end service which would lift all traditional blockages in grocery shopping, as the experience of shopping is vital throughout all touchpoints. When drawing out this perfect scenario, most said that zero interference from their part would be most ideal – technologies such as automatic payment, re-filling fridges and automated speech recognition were all opportunities that excited consumers. Naturally, this came with its worries too, as some mentioned they were concerned what this would mean security wise.

> *"I heard there are already delivery services that take deliveries all the way to your kitchen counter, but how can you make sure that the delivery guy doesn't take a nap on your couch? But apparently then they use microphones and cameras, where you can check where the delivery guy is. So, I feel like that could be a great idea. My partner and I could just decide what we want to eat tonight, then I could order the ingredients online and a delivery service would bring them all the way into my fridge – that service I would use immediately!"* (Consumer A1 - translation by author)

As consumers in Finland become increasingly willing to invest in ways to save time and make grocery shopping a more convenient as well as enjoyable experience, Finnish grocery was portrayed as a market which would continue moving from being product-centric to service-centric. Through the unfolding of this transformation, many interviewees saw that e-grocery may be well on its way on becoming a channel as significant as brick-and-mortars in catering to Finns' grocery needs.

III. Oligopolistic power will continue to grow

All interviewees agreed that international competition was not a large threat – at least yet. Most interviewees predicted that due to the vast size and low population density of Finland, the Finnish grocery market is not very attractive for international players – otherwise there would be a lot more present already.

> *"I do believe some international player like Amazon will arrive and mix the pack a bit, which will mean that the current big players will decrease in market share but probably only slightly. Although, my personal opinion is that Finland is such a complex and secluded market with a complicated language and logistical network that international e-grocery retailers won't target Finland for a while."* (Supplier 2 - translation by author)

Due to this, most players agreed that the Finnish grocery market structure would not change drastically in the foreseen future. The interviewees highlighted that the current big players are important to the Finnish economy, as they support local suppliers and are also some of the largest employers in Finland. The increasing penetration of private labels was also mentioned, through which traditional chains are constantly reinforcing their presence in their shoppers' carts. Some interviewees mentioned that through the cross-category benefits that they offer through their loyalty programs, consumers are increasingly committed to certain retailers.

Due to this, most interviewees felt that it is the responsibility of these larger players to drive e-grocery forward in Finland. Equipped with their scale and know how, the leading grocery retailers have the power to develop Finnish e-grocery – as long as they decide to strategically prioritize it.

> *"I would say that attitude of individual grocery retailers towards e-grocery is very important, because unless they are prepared to see its potential, the quality of e-grocery services will not progress. The ease and convenience of grocery shopping will always be #1, and as long as this doesn't improve, consumers will not take on e-grocery."* (Supplier 3 - translation by author)

The interviews suggested that data sharing would be the best way of achieving this. To be able to improve the user experience of e-grocery for Finnish consumers and therefore increase demand and the scalability of it in the future, suppliers would need for the large reigning retailers to allow them more access to shopper data. This would be mutually beneficial in many ways – for example they would be able to help retailers maximize their campaigns, especially through product category-level consultation. This would however mean that retailers would need to learn to trust that suppliers really want to help, not only work towards their own benefit.

> *"They [retailers] need to trust us that we really want to help them improve their business overall, not only our own sales. It is a win-win situation. I believe that our customers will never have the resources to understand and study our product category like we can. So, by letting us look into different category-level data, we could help them maximize category level know how like never before."* (Supplier 3 - translation by author)

> *"I think we suppliers need to be the spokesperson for collaboration, and make retailers understand that sharing data is a win-win situation. Since currently, as suppliers, we are missing the whole picture. Without data it's very hard to prioritize and know what we are doing...*

> *With more data we could help retailers improve their platforms and thus convince Finnish consumers to purchase more groceries online."* (Supplier 2 - translation by author)

These findings show that Finnish grocery is in a very key phase of digitalization, and that the big reigning players have the wheel in their hands. However, if they do not soon improve the service design of their digital channels, and thus furthermore strengthen their place in the Finnish grocery market, their head start on international digital giants such as Amazon may decrease insidiously.

> *"I'd really like to see the big retailers invest more effort into their e-grocery… I don't want to see them making the same mistake as Nokia: "Because we are so big, we will just do this the way we always have."* (Consumer A3 - translation by author)

5 DISCUSSION

This chapter takes the findings presented in the prior chapter and links them back to identified existing literature. The main objective of this study was to explore the attitudes of Finnish grocery suppliers, retailers as well as consumers on digital grocery as well as future industry trends to better understand how the prospect of Finnish grocery may look like. This study builds on existing literature by presenting prevalent themes across the entire supply chain in the specific context of Finnish grocery, thus helping relevant players better prepare and potentially excel in the future.

When tying the qualitative single-case study's findings together with the literature review, the following talking points were identified: firstly, discoveries that may help grocery players better navigate the continuous digital shift in the Finnish market; secondly, a contribution to Betancourt's (2005) five distribution channels to better understand the grocery channel choice process of Finnish consumers in the era of digital grocery; and thirdly, the identified trends that suggest what the future of Finnish grocery may look like.

5.1 The impact of digital transformation on Finnish grocery players

The findings in this study concur with existing literature regarding the many ways that digitalization has been identified as beneficial in increasing the efficiency and optimization of internal tools and processes for grocery suppliers and retailers in Finland. Data indeed allows better accuracy and faster accessibility to key performance indicators which saves companies in time and costs (Anckar et al., 2002; Boyer & Hult, 2005; Vlachos et al., 2014). This gives suppliers and retailers access to a wider pool of customers and consumers through increased and more easily accessible channels. The findings also agreed with White et al. (2014) that the aforementioned benefits do not occur automatically to organizations, as the implementation of new tools and processes can be a slow process. The challenge of corporate digital transformation especially resonated with suppliers and retailers in Finland as most of the market is built upon larger brick-and-mortar hypermarkets. Boyer & Hult's (2005) observation of the potential partnership difficulties between such traditional players and new-age digital ones was also resonated by the interviewees' experiences. In addition to this, the interviewees agreed with Chintagunta et al.'s (2012) statement that understanding consumer channel choice is strategically important in optimizing grocery service offering, however very difficult in the complex digital age, while also approving Lu & Reardon's (2018) insights on the challenge of triggering impulse purchasing without a physical touchpoint.

In addition to clear linkages between the research findings and existing literature, new perspectives were identified. For instance, one point identified by the study was that although Vlachos et al.'s (2014) statement that supplier relationship management has become easier due to digital tools is correct, this is mainly the case for partnering organizations which have been able to align and streamline their processes. For a newly digital grocery market such as Finland, this may not yet be the case. The findings also indicated that competition has actually been mainly beneficial to the entire grocery supply chain due to enabling healthier rivalry which has led to better product assortments. This is especially important in consumers' perception of grocery quality, and also in making sure that grocery products and production become increasingly sustainable as this is fortunately a strong value of Finnish consumers. Therefore Anckar et al.'s (2002) view that increased competition is mainly a challenge was not quite in line with the interviewees' assessments.

Chintagunta et al.'s (2012) point on competitor orientation did not fully apply to Finnish grocery either, as the strong present oligopoly means that the traditional players are very confident in their market shares. New players on the other hand rather aimed to compete in different segments than even trying to cross ways with the oligopolistic powers. In addition to this, the interviewed suppliers and retailers seemed quite unanimous about current consumer demands as well as their weaknesses and strengths in relation to these, suggesting that Finnish suppliers and retailers are quite self-aware in how they stand in relation to competition as well as their shoppers. One of the major topics contributed to by this study was the statement that the expensive cost structure of grocery home delivery is one of the greatest barriers of e-grocery. Boyer and Hult (2004) stated that this is mainly due the difficulties behind matching low product prices with an expensive cost structure. This is not wrong per se, but the study suggested that for Finland the major challenge is not consumer endured cost but delivery time, as even consumers who would be willing to pay premium are mostly not offered same-day delivery due to the major challenge imposed by Finland's low population density.

5.2 Clarifying consumer grocery channel choice in the digital era

Due to digitalization, Finnish shoppers today are offered the opportunity to re-evaluate their shopping behavior as they have more choice regarding how they spend their grocery related time and money. The study reinforced the existing notion that this calculation is mainly driven by an intuitive weighing of perceived costs and advantages – in other words transaction costs (Betancourt 2004) – and that these are linked to an individual's unique preferences and needs, which can vary greatly (i.e. Aylott & Mitchell, 1998; Anckar et al., 2002). The transaction costs brought up in the findings aligned well with the preliminary research. Time savings and convenience overall were by far the most mentioned benefits of digital grocery for consumers (Morganosky & Cude, 2000), and all interviewees agreed that this benefit is most substantial for busy families (Chintagunta et al., 2012). The importance of delivery time and cost (i.e. Anckar et al., 2002; Boyer & Hult, 2005; Forman et al., 2009) was especially noticeable in the study – most interviewees mentioned that these are still significant in Finland's relatively unadvanced grocery market where the scalability of home delivery is very challenging.

E-grocery related psychic costs were also confirmed: the interviewees especially highlighted the frustrations related to using e-grocery platforms with bad user experiences (i.e. Aylott & Michell, 1998; Morganosky & Cude, 2000). Boyer and Hult's (2005) suggestion that consumers may have difficulties trusting e-grocery services was not highlighted in the study: there were only a few sentiments regarding personal data security and the quality of received products (Boyer & Hult, 2005; Chintagunta et al., 2012; White et al., 2014), thus suggesting that Finnish grocery shoppers trust their retailers. Lacka's (2014) thoughts on the role of cultural factors in trusting e-grocery channels were agreed with by the findings: they suggest that Finnish consumers are not only risk-averters but also not as used to using services as other Europeans – this was often explained by the cultural tendency of praising individuals for their ability to do everything themselves without external help. However, the findings suggest that this is changing as Finns keep valuing their time more and are therefore becoming more willing to transfer their chores to external services. One of the major topics that emerged in the findings was that grocery shopping can also be enjoyable to shoppers, being in line with Ramus and Nielsen (2005). However, the interviews showed that the social aspect only has a minor part in this, and that it is rather the inspiration a consumer can enjoy during an enriched and well-designed shopping experience that can make grocery shopping enjoyable. The findings also agreed with Morganosky and Crude (2000) as well as Forman et al. (2009) regarding the fact that e-grocery makes product comparing as well as keeping an eye on costs easier for shoppers. Nevertheless, the study indicated that due to the underdeveloped state of most e-grocery platforms, this benefit is not maximized for Finns.

When summarizing the additional findings made by this study in regards to consumer attitudes in modern grocery, a major suggestion is that grocery channel related decision making is not a simple comparison between time and cost, but a complex equation mainly determined by shoppers' subjective values, which will most likely become increasingly difficult as consumer preferences continue both fracturing and polarizing. Finns are increasingly deciding to incorporate several services and therefore touchpoints in their grocery shopping, thus leading to more complex shopper journeys. This proposes that Betancourt's (2004) five distribution categories are no longer thorough enough in explaining shopper grocery channel choice in the digital era, as the importance of each can be perceived so differently by each consumer: one consumer may be more than willing to pay for grocery delivery even to save on ten minutes of time wasted on going to the nearby store, while another would truly miss skimming through countless aisle displays even if shopping via an e-grocery channel would save her a significant amount of time. This further suggests that consumer grocery shopping behavior is becoming increasingly value driven rather than convenience driven: to understand what grocery channel a consumer will choose in a specific situation, you have to understand not only their perception of the time, money and effort spent on the chore of grocery, but what kind of value grocery related occasions and past-times such as cooking have in this individual's life. This became increasingly apparent as the findings highlighted the role of the need for which grocery products are purchased: is the shopper only filling-up on daily essentials or planning a Christmas dinner? This suggests that consumer grocery channel choice is a thought process which depends on the consumption occasion in question (as visualized in below Figure 9), proposing that grocery players need to reassess their perspective in regard to the determinants they consider when mapping out the shopper journeys of their target consumers.

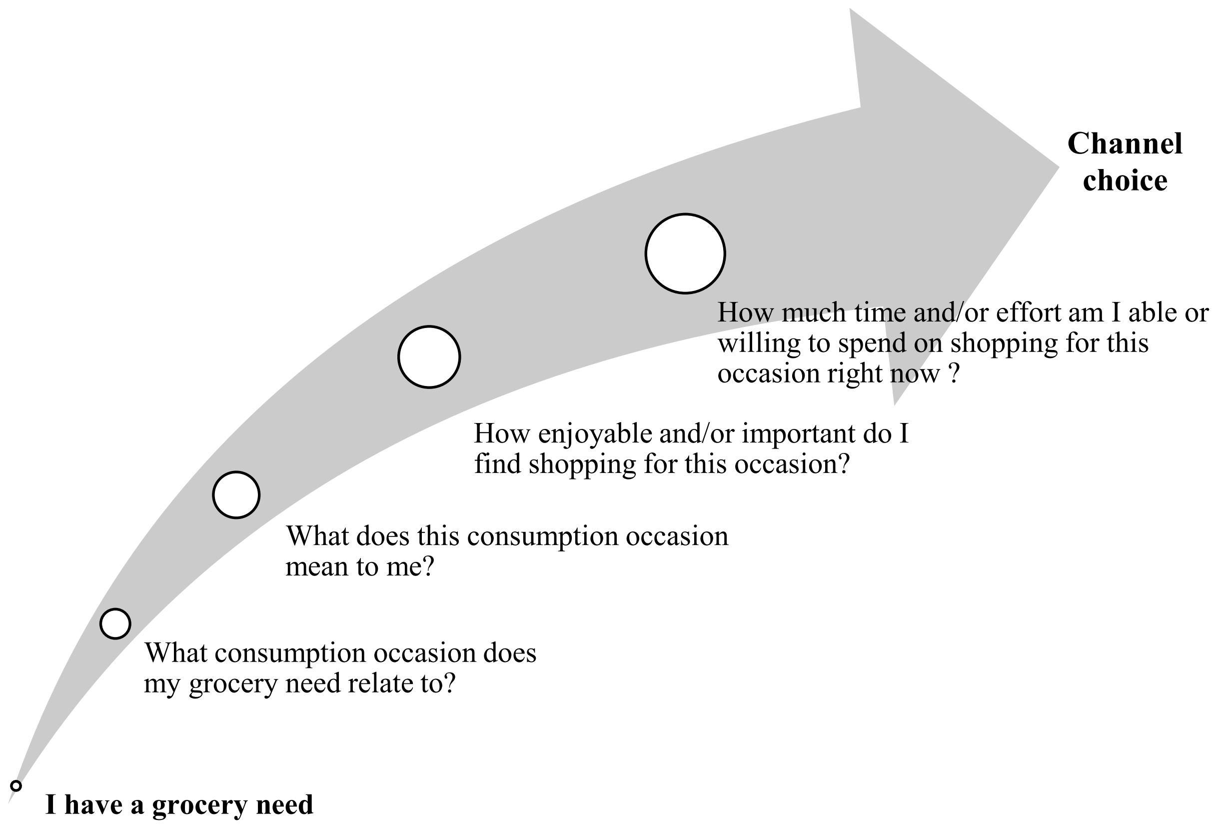

Figure 9 Visualization of consumer channel choice process according to consumption occasion

5.3 Foreshadowing the future of Finnish grocery

Many of the trends that emerged when discussing the future of Finnish grocery reflected those of prior research: firstly, Bandoim's (2018) prediction that digitalization would increase the variety of different grocery related technologies such as smart refrigerators as well as automized payment systems was reflected by both suppliers and retailers as well as consumers; secondly, the findings confirmed Chintagunta et al.'s (2012) idea that sustainability related topics such as ecological produce and environmentally friendly production techniques would increase as innovations and consumer values further shift in this direction, especially due to the suggestion of tightening regulations around this matter; thirdly, all interviewees agreed with Sharma (2019) that a grocery player's ability to personalize their offering will be their key competitive asset in the future; and finally, the findings agreed with Tammilehto (2019) that the share of private labels would continue growing.

The study was also able to add to these future predictions through the application of a unique perspective on Finland's specific case: The findings propose that the way Finnish suppliers and retailers currently prioritize e-grocery channels in their strategies is mainly driven by profitability and shopper demand, which are in constant relation to each other. As mentioned in the findings, the cost structure of Finnish e-grocery home delivery is expensive due to a unique small population density. Therefore, grocery home delivery has not been an easy target for investments, leading to a relatively unadvanced e-grocery offering. This in turn has led to Finns not being incentivized enough to invest their money in digital grocery channels. The study suggests that this has led to a never-ending loop: low profitability leads to weak supply, which leads to uninterested consumers and thus low demand. As depicted in the below Figure 10, this is a cycle hard to break.

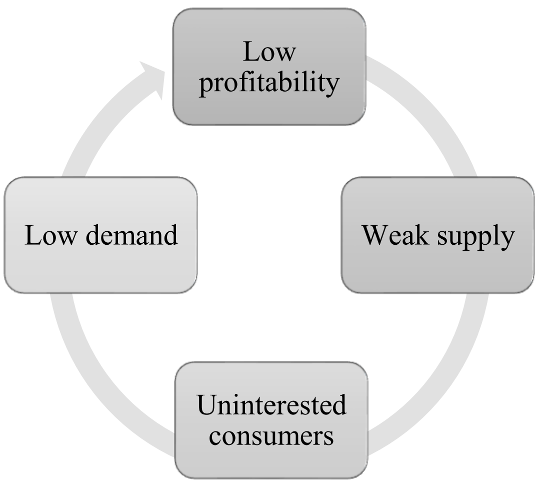

Figure 10 Depiction of Finnish grocery's entangled supply and demand

According to the findings of this study, the aforementioned endless loop could be broken through data sharing between retailers and their suppliers. The simplified supply chain introduced in chapter 2.1 depicts that the information flow in grocery supply chains is traditionally relatively linear. Therefore, not all information that can be valuable in regard to improving and optimizing final offerings is shared throughout. If suppliers and retailers understood the win-win situation of sharing their unique expertise, suppliers could better improve and advertise their products while retailers would get more support from their suppliers in regard to understanding how specific product categories should be managed. As visualized in the below Figure 11, this could transform the linear grocery value chain into an ongoing loop which would allow the continuous alignment of consumer demands with supplier and retailer offering, thus potentially freeing Finnish e-grocery from its current stuck predicament. This could finally enable e-grocery to become a channel as valid as traditional brick-and-mortar shipping in the Finnish market.

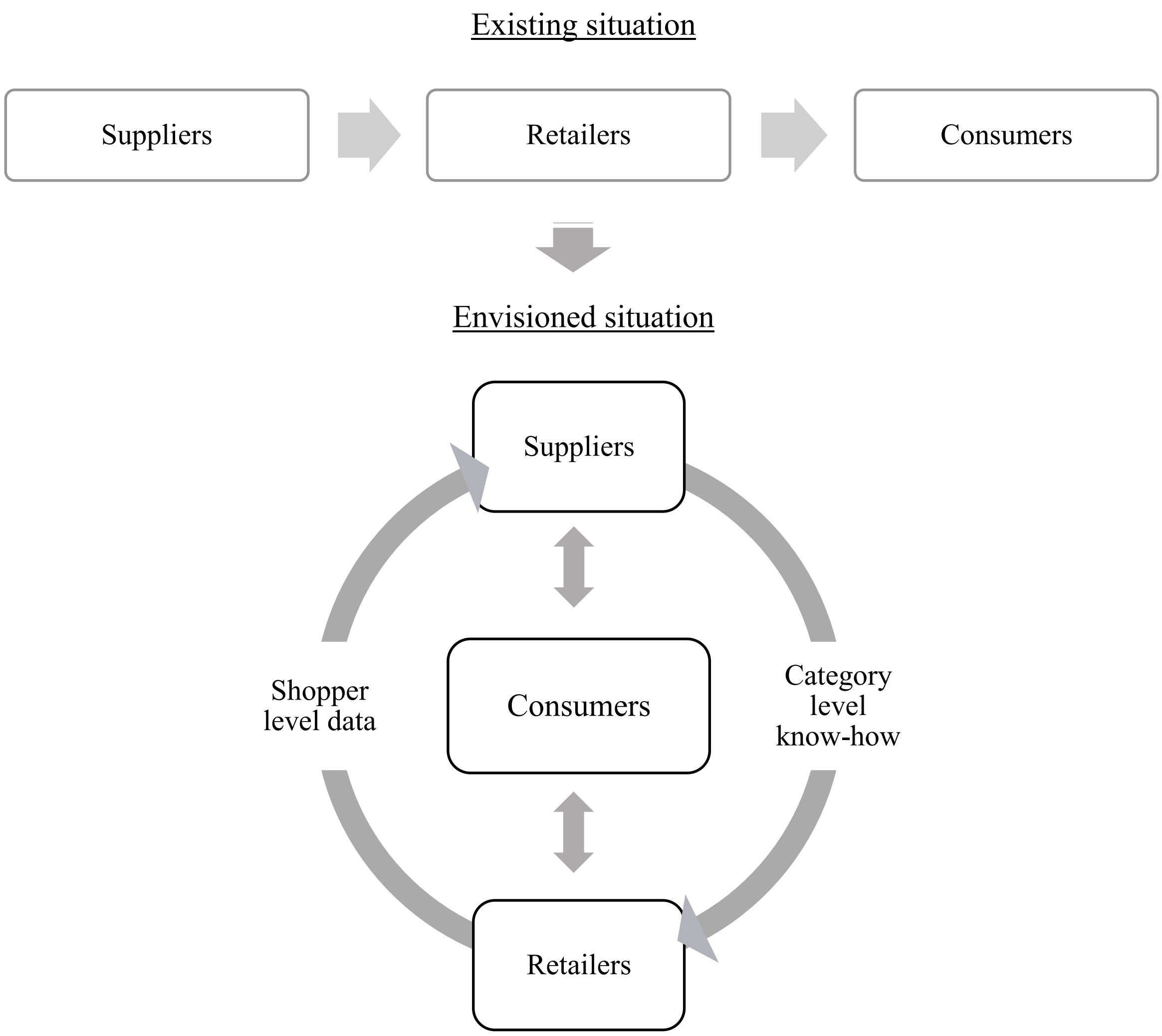

Figure 11 Revision of simplified classic retail supply chain based on Vlachos et al. (2014)

5.4 Managerial implications

This study suggests that for suppliers and grocers to truly leverage the plethora of benefits offered by digital tools and processes as well as consequent data, they should do the following:

- **Invest in increasing internal as well as external agility**: potential silos in in-house decision making need to be broken down to allow faster rates in innovation as well as reaction time to market changes, while the ways-of-working between suppliers and retailers need to be streamlined. Otherwise, as the findings suggest, the chain is broken and thus fails in amplifying the value created in both ends of the supply chain.

- **Share shopper data**: To truly maximize the offering of grocery services and products as well as related cooperation, suppliers and retailers should further consider how they could share shopper data and their independent expertise to maximize collaboration as well as consumer value in the long run.

- **Invest in digital user experience and service design**: Due to the discovery that the importance of personalization will continuously increase as grocery shifts further from being a product-centric to a service-centric industry, grocery retailers could benefit from investing in better digital service design as well as a differentiated service portfolio to enable the serving of all shopper segments despite their broad differences. This study also suggests that retailers should further incentivize their shoppers to try online channels in grocery; only by being prompted to change up their traditional grocery shopping habits, will Finns be able to wake up to e-grocery's advantages.

Finally, I would like to underline the importance that grocery companies – be it suppliers or retailer – continue adopting a genuine interest in serving their consumers: only by being genuinely attentive of where shopper values and interests continue to shift can grocery suppliers and retailers safeguard their place at the forefront of Finnish grocery in the future. Hence, this is an attitude that should be integrated into the internal cultures as well as strategies of all relevant players.

6 CONCLUSION

Through the juxtaposition of existing research as well as a qualitative intense single-case analysis based on 20 interviews, this study set out to explore the current e-grocery related attitudes of key players in the Finnish grocery supply chain. The purpose was to help industry players better understand the factors behind Finnish e-grocery's slow progression, while also investigating how large a role online channels may have in Finland's traditionally concentrated grocery market in the future, thus helping suppliers and retailers adjust their strategic priorities accordingly. The consequent findings suggest that the progress of Finnish e-grocery has been limited by trapped supply and demand, which can however potentially be freed through the practical implications of corporate agility, shopper data -led collaboration as well the improving of service design in digital channels.

The results of the study show that Finnish grocery is currently, in relation to other European markets, in an early phase of digital transformation. This is challenging suppliers and retailers to not only revise their internal tools and processes but also their strategical short- and long-term priorities. This is no easy feat, especially considering the uniquely difficult cost structure of home delivery in the geographical setting of Finland. At the same time, Finnish grocery shoppers are revising the way they think about grocery shopping in context of their unique values and circumstances as well as the new offered grocery channels enabled by digitalization. These simultaneous shifts throughout the Finnish supply chain will only gain momentum as digitalization continues to disrupt grocery – locally as well as globally – suggesting the heightened importance of grocery suppliers' and retailers' ability to forecast, prepare as well as integrate these changes into their entire value chain.

6.1 Suggestions for future research

Considering the limitations of this study, future research will be necessary to better understand the role as well implications of grocery digitalization in Finland. First of all, the study identified a potential area of further research in regard to international grocery competition: as mentioned, the findings suggest that Finland is currently not an attractive opportunity for foreign grocery players. Instead of only asking suppliers and retailers who are active in Finland about international competition's intentions, it would be interesting to see what a conducted research which integrated actual international grocery suppliers and retailers would conclude with. In addition to this, I see a valuable opportunity in further exploring how specific life circumstances (e.g. single urban household vs. larger suburban family) and values (e.g. convenience driven vs. a passionate cook) impact shifts in a consumer's grocery shopping journey and what factors they deem important. This would better help grocery suppliers and retailers design their products and services for their particular target groups. Finally, considering the ongoing profitability difficulties regarding home deliveries in Finland, I encourage further research into identifying innovations and existing logistical solutions that could help crack the difficulties around last-mile delivery – I would not be surprised if the answers would already exist, perhaps even in logistical parties outside of traditional grocery.

6.2 Post scriptum

When the writing process of this thesis began in June 2019, I could never have guessed how strongly the topic of my thesis would resonate with the current state of the world by the time I completed it. In the moment of writing these final remarks, it is the end of April 2020, and I as well as the majority of the rest of the world have been in lock-down due to a global epidemic caused by the Covid-19 virus for over a month. The virus has led to never foreseen challenges in global grocery, as the industry is challenged to meet the daily needs of potentially panicked consumers that are limited in their ability to leave their homes. This epidemic has proven that grocery players can no longer only see themselves as profit-driven businesses, but central pillars in the preservation of our modern quality of life. Therefore, it is important to make sure that all consumers – no matter in what circumstance physically or financially – can have their grocery needs met in an equally convenient fashion, regardless of what challenges we are faced with and at what scale. Covid-19 will undoubtably have a forever-changing impact on grocery shopping behavior: many individuals, especially those considered at-risk, have been forced to rely on home delivery services as they have not had the choice to visit brick-and-mortars. Although sparked by a terrible circumstance, this will most likely have a positive impact on e-grocery in Finland as well as the rest of the world, as consumers have been pushed to try digital channels, potentially for the first time. This has given Finnish e-grocery players a sizeable momentum they will most likely not be offered for a while – whether they will choose to take advantage of this remains to be seen.

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APPENDICES

Appendix A: Total summary of reviewed literature in chapter 2

#	Research goal and analysis	Relevant findings	Author(s)	Title
1.	To identify transaction costs that impact choice between offline and online channels. They integrate these into a channel choice network to investigate their impact on a retailers marketing strategy by looking at data received from a Spanish retail chain.	Finds that transactions costs have a great impact on the retail channel choice of online vs. offline. Especially transaction costs related to convenience and emotional stress are significant.	Pradeep K. Chintagunta, Junhong Chu, Javier Cebollada	*Quantifying transaction costs in online/off-line grocery channel choice.*
2.	Investigates the ability of E-SRM technologies to increase sales and market share in the grocery industry through a case-study with Austrian SME's.	Concludes that there are great opportunities related to e-business tools (i.e. cutting costs in the supply chain, managing strategic alliances) but also threats (i.e. lack of implementation know-how, inability to guarantee quality of fresh produce).	Ilias P. Vlachos, Dimitra Skoumpopoulou, Sandra Gutnik	*Electronic supply chain management tools in international business: Evidence from Austrian food clusters.*
3.	Investigates the advantages and challenges related to e-commerce platform adoption from the point of view of suppliers, retailers and consumers through 9 separate articles.	Touches down on a variety of different topics. Especially interesting are the discussion around the nature and implementation of electronic supply chain management and related security threats, how different types of retailers can adapt to e-commerce practices, as well as human factors related to the adoption of e-commerce by consumers.	Ewelina Lacka, Hing Kai Chan, Nick Yip	*E-commerce Platfrom Acceptance: Suppliers, Retailers, and Consumers.*
4.	Explores consumers beliefs regarding online shopping - specifically internet grocery shopping - using theory of planned behavior (TPB) as a theoretical framework.	Positive as well as negative beliefs on internet shopping were surprisingly homogenous among seven groups of different consumers. Pros: convenience, product range, price. Cons: fear of getting lower quality products, missing the experience of grocery shopping.	Kim Ramus, Niels Asger Nielsen,	*Online grocery retailing: what do consumers think?*
5.	Profiles as well as assesses consumer response to e-grocery retail through online surveys filled out by 243 American consumers. 9 closed ended and 9 open ended questions were used.	Main incentives to purchase groceries online were saving time and convenience, especially for families of higher income and with young children. 15% mentioned physical constraints issues. 19% purchased all groceries online.	Michelle A. Morganosky, Brenda J. Cude,	*Consumer response to online grocery shopping.*
6.	Assesses the competitiveness of a Finnish online grocery store (Nettimarket) through its strengths and potential downfalls.	Argues that customer value can be created though four main ways: Price, assortment, convenience and customer service. Highlights the importance of finding as well as targeting the correct consumers, i.e. in Nettimarket's case most consumers are disabled or elderly who shop online by necessity, not pure choice.	Bill Anckar, Pirkko Walden, Tawfik Jelassi	*Creating customer value in online grocery shopping.*
7.	Discusses Amazon's threat to other grocery retailers and the strategies they are using to compete.	Most shoppers are not loyal to a single store or chain in the e-grocery business, as they increasingly appreciate flexibility and communication. Walmart and other retailers are mainly building their strategies around these factors to grab market share from Amazon. Also, conventional	Amit Sharma (Former executive at Apple and Walmart)	*What the Grocery Stores Holding Their Own Against Amazon Are Doing Right.*

		retailers such as Trader Joes have built emotional relationships with their consumers built around trust. Consumers will continue to prioritize experience over everything else.		
8.	Assesses the role of marketing and operations on consumer behavior in online grocery shopping through survey data received from four different grocers and a total of 2440 customers.	Concludes that the consumers reacted greater to different variables according to which grocer they were purchasing from. This further proves that grocers need to define their unique strategy and put their efforts into factors that are most important to them specifically.	Kenneth K. Boyer, G. Tomas M. Hult	*Extending the supply chain: Integrating operations and marketing in the online grocery industry.*
9.	Analyze the evolution of food retail by inspecting what factors impacted consumers choice of store and different times of the evolution.	Identified two factors which impact the patterns in retail at any given time: Consumer characteristics (income, preferences, convenience and costs) as well as the cost structure of the store in question. Through further inspecting these factors, the article identifies what types of retailers exist at which point of the choice equilibrium.	Liang Lu, Thomas Reardon	*An Economic Model of the Evolution of Food Retail and Supply Chains from Traditional Shops to Supermarkets to e-Commerce.*
10.	Discusses the future of food retail, especially from the point of view of future digital trends.	Discusses seven main digital trends through examples: E-grocery attackers, Thinking differently about the box, Digital marketing and social media, CRM programs, Self-check-out and digital wallet, Shop floor customer service and dynamic pricing.	Parag Desai, Ali Potia, Brian Salsberg	*Retail 4.0: The Future of Retail Grocery in a Digital World.*
11.	Analyzes modern retail, in the book defined as “distribution systems”, and discusses the determinants of success in retail exchanges between all relevant parties in the supply chain.	Touches on several topics within retail as concept. Includes Betancourt’s framework of five broad distribution categories, that synthesize a great vast of research on transaction costs consumers endure when purchasing products.	Roger R. Betancourt	*The Economics of Retailing and Distribution.*
12.	Looks into the challenges and benefits of adopting e-business technologies in developing nations through existing literature and a survey questionnaire aimed at SME’s in Nigeria.	E-business technologies have enabled SME’s in developing countries to advance faster, through i.e. increased flexibility and cost reduction, however employees need to be trained and infrastructure improved so that the technologies can be taken advantage of fully.	Gareth R. T. White, Ademola Afolayan, Eoin Plant	*Challenges to the Adoption of E-commerce Technology for Supply Chain Management in a Developing Economy.*
13.	Explores what parameters impact consumer channel choice between online and offline platforms, especially from the point of view of geographical locality. Uses data off of Amazon.com from different geographical locations to explore how online consumer behavior differs from offline.	Determines that consumers mainly make their decision between offline and online retailers based on price comparison, offline travel cost and perceived online disutility costs.	Chris Forman, Anindya Ghose, Avi Goldfarb	*Competition Between Local and Electronic Markets: How the Benefit of Buying Online Depends on Where You Live.*
14.	Considers the potential cultural influence on consumer willingness to choose online channels over offline ones, and wonders if consumers are capable of overcoming this when changing their cultural environment. Studies these questions through an explorative study where Polish people living in England were interviewed on their perception of e-commerce channels.	Finds that cultural factors such as risk aversion do have a great impact on an individual’s perception of online purchasing. However, this can change when a consumer is exposed to a different culture, therefore global and intercultural e-commerce strategies are most effective.	Ewelina Lacka	*Culture Dependent Benefits of E-commerce: A Consumer Perspective.*

15.	An exploratory research on stress factors linked to grocery shopping. Especially regards aspects that may impact store patronage decisions for families of different sizes.	Finds that grocery shopping is indeed one of the most stressful chores for many households. Especially the following factors impact the stress level: Crowd density, staff behavior, physical layout of the store and pressure to make impulse purchases.	Russell Aylott, Vincent-Wayne Mitchell	*An exploratory study of grocery shopping stressors.*
16.	Looks into the status of grocer retail around the world through i.e. data on modern-trade penetration globally. Discusses the main challenges for grocers and through which seven levers they can potentially succeed in penetrating emerging markets.	For modern grocers to grow in new markets, these factors are most important: Proximity, low prices, productivity, woo manufacturers, educate policy makers, partnership with more traditional retailers and adopt a city centric strategy.	Peter Child, Thomas Kilroy, James Naylor	*Modern grocery and the emerging-market consumer: A complicated courtship.*
17.	This book looks into logistics and retail supply chain management on an in-depth level, covering topics such as sustainability, automation and measuring efficiency.	In the context of this study, the most added value was in understanding the set-up as well as role of logistics and supply chain in grocery retail.	Martin Christopher	*Logistics and Supply Chain Management.*
18.	An article on modern and upcoming technologies which may change the way supermarkets keep track of stock and personalize the shopping experience for consumers.	Describes the following technologies: Electronic labels, Personalized advertisements, RFID technologies and IoT Sensors.	Lana Bandoim	*How smart shelf technology will change the supermarket.*
19.	Annual publication on the status of the Finnish grocery industry.	Offers statistics and insights into the market structure of Finnish grocery and relevant topics.	PTY - Finnish Grocery Trade association	*PTY - Finnish Grocery Trade association (2019) Annual publication.*
20.	Annual publication on the current food related trends in Finland.	Includes insights on what foods saw an increase or decrease in sales in 2018, as well as what potential social trends explain these changes.	Kesko	*Ruokailmiöt 2018 (Translated: Food phenomenon 2018)*
21.	An online article on the global growth of online FMCG in 2018, and what reasons have been driving demand in online grocery retailing.	Gives statistics on how much and to what capacity online FMCG has increased around the world, and what consumer attitudes are leading to this.	Nielsen	*Global Online Grocery Purchasing Is Up 15% in Last Two Years.*
22.	A forecast regarding the e-grocery market sized of selected European nations between 2018-2023.	A graph depicts the predicted market size of online grocery in Spain, Germany, France and the UK.	Statista	*Forecasted online grocery market size in selected European nations from 2018 to 2023.*
23.	Annual publication on the status of the Finnish grocery industry.	Offers statistics and insights into the market structure of Finnish grocery and relevant topics.	PTY - Finnish Grocery Trade association	*PTY – Finnish Trade Association (2018) Annual publication.*
24.	News article discussing the vast growth of e-grocery in Finland.	E-grocery grew 90 percent from 2017-2018 and is expected to start growing even faster in the future.	Anna Juvonen	*Päivittäistavaroiden verkkokauppa kasvoi 90 prosenttia (Translated: FMCG e-commerce grew 90%)*
25.	News article on Amazon's potential entry to the Finnish grocery market, and what precautions this should mean for local Finnish retailers.	According the article, due to international competition such as Amazon, Finnish grocery retailers should no longer see online as a potential channel, but as a necessary one.	Juha-Matti Mäntylä	*Amazon mullistamaan Suomen ruokakauppaa? Kauppias: "2-4 vuoden kuluttua he ovat täällä"*
26.	Article which explores the correlation of household characteristics and shopping behavior in grocery.	Identified definite variables such as household size and grocery spend, however also complex ones such as the recreational aspect it may have for some households.	Kapil Bawa, Avijit Ghosh	*A model of household grocery shopping behavior.*

27.	Explores the penetration of private labels using supermarket scanner data to better understand in what kind of pattern their share is growing in consumers' baskets.	Finds that instead of growing evenly in all product categories, the growth rate of private label brands fluctuates a lot among different categories.	Michael B. Ward, Jay P. Shimshack, Jeffrey M. Perloff, J. Michael Harris.	*Effects of the private-label invasion in food industries.*
28.	Investigates what makes a household prone to purchasing store owned so Private label brands.	Found that several factors which have an impact on how many private label products households purchase. For example, the. familiarity of a private label brand and the perceived quality has an impact on proneness to purchase store owned brands.	Paul S. Richardson, Arun K. Jain, Alan Dick	*Household store brand proneness: a framework.*
29.	Looks into the impact of private labels on horizontal supply chain competition.	Identified that introducing private labels increases the negotiation power of retailers in their markets, since they do not only decide about shelf spaces but also have an impact on retail price levels.	Jorge Tarziján	*Strategic effects of private labels and horizontal integration.*
30.	Explores the correlation between private labels and retailer loyalty in the Netherlands.	Finds that the same consumers tend to purchase private labels. However, these consumers are usually also very price driven, so they are not necessarily very loyal to private labels as they will easily switch to a cheaper option.	Kusum L. Ailawadi Koen Pauwels Jan-Benedict E.M. Steenkamp	*Private-label use and store loyalty.*
31.	Investigates the advantages and disadvantages of hybrid channel systems.	Suggests the integration of hybrid channel systems is a great option as it increase market coverage and profitability. However, this also causes potential conflict between suppliers and their customers.	Byong-Duk Rhee, Seong-Yong Park	*Online store as a new direct channel and emerging hybrid channel system.*
32.	Discusses what it takes for modern D2C models to succeed.	Mentions a few ways through which companies can gain better success in implementing D2C business models, for example by using several channels and by investing in differentiation among customer segments.	Len Schlesinger, Matt Higgins, Shaye Roseman	*Reinventing the Direct-to-Consumer Business Model.*
33.	An article on recent increases in private label related legislation in Finland.	Finds that private labels most likely keep on growing due to economies of scale, and that legislation is trying to control that the power balance doesn't get out of hand in the grocery retail product assortment.	Teijo Valtanen.	*Miten käy Pirkka- ja Rainbow-tuotteiden? Kaupan alalla ihmetellään, aikooko hallitus puuttua tuttujen halpamerkkien myyntiin*
34.	An article on the Europe-wide discussions regarding increased private label penetration in grocery.	Suggests that the greed of international suppliers is a major reason for the onset and growth of private labels in grocery.	Pirkko Tammilehto,	*Järjestö: Kaupan merkit hiertävät isoja brändivalmistajia – hakevat tukea tuottajista.*

Appendix B: Interview guidelines

Suppliers

Opening

- *Could you please tell me about your role and your company?*
- *How long have you worked in this industry?*

Current grocery market

- *What have been the biggest opportunities offered by digitalization in your industry in the past decade?*
- *What have been the biggest challenges?*
- *How important do you consider the e-grocery trend in the Finnish market today?*
- *Why do you think have Finnish consumers adapted to e-grocery slower than other markets in the world?*
- *In your own words – what do today's consumers want from grocery shopping in regard to products and retailers*

Future market

- *How do you think Finnish grocery will change in the next 10 years? Why?*
- *What will be the biggest opportunities and challenges for suppliers?*
- *How do you believe can suppliers and retailers best prepare for these changes?*

Retailers

Opening

- *Could you please tell me about your role and your company?*
- *How long have you worked in this industry?*

Current grocery market

- *What have been the biggest opportunities offered by digitalization in your industry in the past decade?*
- *What have been the biggest challenges?*
- *How important do you consider the e-grocery trend in the Finnish market today?*
- *Why do you think have Finnish consumers adapted to e-grocery slower than other markets in the world?*

- *In your own words – what do today's consumers want from grocery shopping in regard to products and retailers?*

Future market

- *How do you think Finnish grocery will change in the next 10 years?*
- *What will be the biggest opportunities and challenges for retailers?*
- *How do you believe can suppliers and retailers best prepare for these changes?*

Consumers

Opening

- *How old are you and how many individuals live in your household?*
- *Approximately how much money do you spend on grocery shopping on a weekly basis and how often do you shop? What is your shop of choice?*
- *How do you feel about the chore of grocery shopping – are there things you enjoy about it, and/or things you find an inconvenience?*

Current grocery preferences

- *From which retailer(s) do you shop for groceries and why? Has this changed in the past or always been the same?*
- *What are the most important items to you when you go grocery shopping and why?*
- *Do you tend to purchase the same items, or do you like to try new ones – if so, what triggers you to try new products?*
- *What are the most important characteristics of a grocery store to you? (Price / assortment / service / convenience?)*
- *In your own words – what do today's consumers want from grocery shopping?*

Future grocery preferences

- *Would you every consider changing to online / offline channels from your preferred one – why yes / why not? How do you think your grocery behavior may change in the future?*
- *What type of change would you like to see in the Finnish grocery market in the future? Any type of products or retailers you would like to see more of*

Appendix C: Second level codes

#	Code group	Groundednes s
1	Consumers want convenience and easy shopping, waiting in line / peak hours are bad	44
2	Consumers want experiential grocery shopping	41
3	Smart shopping is increasing + buying daily reoccurring products from a cheap retailer and food items in special premium retailers	41
4	Consumers want to be inspired during grocery shopping	41
5	E-grocery is best for busy families	38
6	Unique specialized differentiated offering and new launches are interesting to consumers	35
7	A wide product assortment is important	32
8	Consumers appreciate their time more as they have less of it, therefore are happy to pay for services	29
9	E-grocery platform user experience needs to be more seamless (i.e. searchability)	28
10	Grocery is a routine set on autopilot	25
11	Finnish consumers are very price driven	24
12	Ready-made meals and other solutions are important	23
13	E-grocery offering has been too little in Finland, it is not very advanced here and clearly behind compared to other markets	23
14	Consumers appreciate customer service from a live person, i.e. from a butcher	22
15	Consumers have polarized into two extremes in Finland: Some are highly price driven while others are premium experience seekers	21
16	The way a product is displayed and looks is important in triggering purchases	21
17	Personalized targeted offering and marketing is the future	20
18	E-grocery delivery time is too long	19
19	Some consumers enjoy going to b&m grocery stores	19
20	Retailer recipes and catalogs inspire consumers	19
21	E-grocery delivery cost is too expensive	18
22	Consumers want more planned and cost-efficient shopping, which e-grocery allows	18
23	Grocerants are popular	17
24	Consumers want grocery shopping to be fast	17
25	Supporting local retailers and suppliers is important to Finns	16
26	A good-looking interior is important to consumer experience	16
27	More competition means more innovation and better products	15
28	Data allows personalized experiences for consumers online i.e. automated recommendations	15
29	E-grocery is dependent on big retailers, and they haven't invested in e-grocery enough	14
30	Consumers want to be able to purchase ad hoc (which e-grocery doesn't currently allow)	14
31	Shopping behavior changes very slowly	14
32	Finns love hypermarkets which have everything under one roof	13
33	Finns are very careful shoppers: i.e. product launches take on slower than in Sweden	13
34	There's a demand for smaller premium niche retailers	13
35	Some consumers find grocery shopping very annoying	13
36	Supplier and retailer collaboration would be mutually beneficial	12
37	Retailers are overloaded with data so they are first figuring out what to do with it themselves	12
38	E-grocery allows more healthy competition through a fractured market	12
39	Finland's market is very polarized: cities are very different to rural areas	12
40	E-grocery is best for large and heavy bulk products	12
41	E-grocery is great for people with limited movement like elderly people	12
42	Artificial technology is the future (automatic payment, re-filling fridges, speech recognition)	12
43	Consumers want to choose their products themselves	11
44	E-grocery forces you to spend time planning your grocery purchase	11
45	B&m grocery stores are important to some individuals due to the social aspect, especially elderly	11
46	Triggering impulse buying and trying new products is a challenge in e-grocery	11
47	Inspirational shopping is easier in B&M than e-grocery	11
48	Keeping ahead of trends and agile testing as well as learning are important in preparing for the future	11
49	Assortments at hypermarkets are overwhelming	11
50	Data helps understand consumers	10
51	Finnish e-grocery may be small now in size, but it is has big potential and is therefore strategically important for learning	10
52	The barrier to place a first order is high in e-grocery. But once a consumer has tried it, they tend to stick to it.	10
53	Data allows more efficient and targeted marketing	9
54	E-grocery products are the same or better quality as b&m ones	9
55	Finnish consumers have a strong "do it yourself" culture	9
56	Stores need to be easily accessible	9
57	Ecological produce is important to consumers	9
58	Subscription services are interesting to consumers	9
59	Free samples / coupons are important in triggering consumers to try e-grocery	9
60	Large players are not as agile as small ones	8
61	Other European markets show the potential of e-grocery	8

62	E-grocery's viability depends a lot on product category	8
64	Consumers are very sensitive about e-grocery: if consumers have a bad experience, they easily give up on it completely	8
65	There will be more international competition in the future	8
66	Population density is a big barrier for e-grocery in Finland	8
67	Digitalization has made shopping easier: consumers can shop using several different devices	8
68	E-grocery cost structure (esp. Logistics) is very expensive, not profitable	8
69	The market structure will not change a lot in the future	8
70	Different tools and platforms increase internal complexity	8
71	Consumers want retailers support in making responsible consumption decisions i.e. meat supplements, in-season fruit/veg.	8
72	Pick-up-points don't have good enough pay off, especially for people without cars	8
73	Digitalization has improved internal tools and processes	7
74	E-grocery breaks down barriers-of-entry: it is easier to get visibility for your products, also internationally	7
75	E-grocery will not be invested in until it is profitable or big enough	7
76	E-grocery is due to large basket sizes not relevant for smaller households	7
77	E-grocery forces you to go out of your way to be home for the delivery	7
78	The share of hypermarkets will continue growing in the future	7
79	Omnichannel solutions such as pick up points will become more popular	7
80	Finns have not been trained to use services and grocery technologies (i.e. self-checkout) like consumers in other countries	7
81	Carrying your shopping without a car is tedious	7
82	Suppliers are dependent on retailer data	6
83	In the future the players who use data to offer the best product and service will win	6
84	Big retailers' have their money in physical infrastructure so they don't want to move demand online	6
85	Elderly individuals do not know how to use e-grocery or might find it odd	6
86	Consumers do not trust the quality of e-grocery products, especially perishable and frozen goods	6
87	Urbanization is increasing	6
88	Car ownership is decreasing	6
89	E-grocery is currently not profitable - it needs to be before it can grow	6
90	Logistics are key in e-grocery	6
91	Health is a big trend	6
92	Finland is a challenging market for e-grocery: big country, small population	6
93	Finnish big traditional retailers will remain because they are important to the Finnish economy: they support local suppliers and are big employers	6
94	Consumers are sensitive to trends and build their identity through consumption decisions	6
95	Customer service online is as good/better as offline	6
96	Online shopping behavior is very different to B&M	5
97	Ignoring e-grocery now will mean trouble when it grows	5
98	E-grocery forces you to buy a lot at once due to the expensive delivery	5
99	Sustainability is an important value for consumers	5
100	Product assortment and therefore competition has increased and will increase more	5
101	E-grocery should not just be an additional service but a worthwhile business in itself	5
102	Automated re-purchasing/subscription models easily leave some suppliers' products out as impulse buying decreases	5
103	Private labels will grow share in the future	5
104	Social media changed marketing (no longer using newspapers) and increased competition a lot.	5
105	3rd players and new innovations might crack delivery in the future	5
106	E-grocery is mainly a Helsinki city area phenomenon	5
107	Finland needs a new mid-range retailer to combine low price and experience	5
108	Big retailers' have not used their loyalty program data enough (i.e. impersonalized recommendations)	5
109	Consumers don't understand how many resources home delivery demands	5
110	Hypermarkets are especially important in rural areas	5
111	Using e-grocery will normalize in Finland the future - just like hiring a cleaner did	5
112	Data helps to allocate resources more effectively	4
113	Without retailer data it is difficult to know how to market brands	4
114	Cross-category data helps to understand what product works with what	4
115	Retailers have the advantage of a lot of consumer data through loyalty programs	4
116	Social media allows organic word-of-mouth marketing	4
117	Nobody can predict how fast e-grocery will grow	4
118	E-grocery investment is and will be a strategic decision	4
119	Nobody knows for sure why e-grocery is small in Finland - it's a mix of many: "Chicken or egg"	4
120	The Finnish grocery market is not very attractive for international players	4
121	The "last mile" in home delivery is most important in e-grocery	4
122	E-grocery is best for reoccurring purchases of basic products that fuel daily life	4
123	Long opening hours are expected	4
124	Small stores will increase in popularity	4
125	More services will be built around different product categories in the future	4
126	Data sharing between suppliers and retailers is the biggest opportunity in the future	4
127	Brand loyalty is decreasing	4
128	Consumers are overloaded with data and information, making it hard to know what to choose and who to trust	4
129	Due to restaurant home delivery consumers are used to get food fast	4
130	Emotional connection with consumers will be key to brand/retailer loyalty	4
131	Product portfolio management is easier with data	4

132	Digitalization allows direct communication between retailers and consumers is easier, i.e. feedback	4
133	E-grocery is an additional service to traditional B&M which commits consumers to a store	4
134	Suppliers needs to experience and understand the last mile of the value chain to improve their products / services	4
135	It is the responsibility of big players to lead the way in e-grocery	4
136	Data helps know what products work and don't on the market (identifying whitespaces)	3
137	Data sharing would help support retailer campaigns	3
138	Growth expectations have been large, but it has not happened	3
139	Consumers tend to buy the same products in e-grocery	3
140	Consumers demand transparency regarding production and processes	3
141	Strategically it is important to be at the forefront of e-grocery	3
142	Mid-range products and shopping is decreasing while extremes increase	3
143	Through data sharing suppliers have the potential of being category-level consultants to retailers	3
144	Finnish big traditional retailers have the experience and money to keep their market share in the future	3
145	Data helps retailers forecast and optimize product portfolio on i.e. holidays	3
146	Through data retailers can help suppliers optimize their product assortment visibility in their store	3
147	GDPR and other consumer data related regulations will make data use and sharing difficult in the future	3
148	Big retailers' loyalty programs allow consumers cross-category benefits	3
149	It is difficult for small retailers to work with suppliers who are used to working with big retailers, because their order processes are not agile (I.e. MOQ)	3
150	The sustainability of home delivery concerns some consumers	3
151	Not finding the product you need in a B&M is awful	3
152	Digitalization allows faster testing and innovating	2
153	Proving advantages of data sharing to retailers is difficult	2
154	Important cross-category data is owned by retailers	2
155	Market regulations very strict in Finland: not allowed to have competitor data	2
156	A data / marketing spot price war may push out smaller retailers	2
157	E-grocery's success has not depended on big retailers' investments, since then international competition would have already arrived	2
158	Finns like and trust the process of purchasing products online	2
159	Finns trust e-com payment solutions	2
160	Sustainability is strategically important in the future, especially as legislation may increase	2
161	The future of grocery is hard to predict	2
162	International competition will start with easily delivered product categories	2
163	Logistics will improve in the future	2
164	Cheap and fast delivery is the most important thing for e-grocery in the future	2
165	Digitalization has enabled better consumer access to product information and images	2
166	Digitalization allows consumers easier and faster product comparison	2
167	Easier price comparison means more competition	2
168	Automated sharing of high-quality product images and products is important	2
169	E-grocery is already a very important channel for product research	2
170	E-grocery cannot grow until the ban of selling alcohol and tobacco is lifted	2
171	Consumers buy the same products via e-grocery as they do from B&M, not just dry/bulk products but fruits and vegetables	2
172	Trust is most important in winning a consumer’s loyalty	2
173	Grocery demands a huge amount of different types of products which adds complexity to the platform and logistics	2
174	Retailers and suppliers should work on projects together	2
175	The entire end-to-end experience at all touchpoints is vital	2
176	D2C is becoming more common through digitalization	2
177	It would be smart of retailers to externalize niche products online	2
178	Authenticity is important to consumers (i.e. Social media influencers or stock pictures not inspirational)	2
179	Digitalization has decreased need for sunk costs	1
180	Suppliers willing to pay for retailer data	1
181	Hard to define a price for data	1
182	Once big players have caught up, they can use their scale to beat smaller ones	1
183	A more fractured market would be good for e-grocery in Finland	1
184	Consumers have a lot more power over companies as reviews and posts online can easily ruin a business	1
185	Suppliers cannot control how their products look on retailers' product pages	1
186	It is important to build good relationship with e-grocery retailers beofre they grow big	1
194	The share of hypermarkets will decrease	1
195	Retailers need to trust that suppliers want to help, not compete	1
196	Supply chain control has improved with data	1
197	KPIs help to understand the business so much better	1
198	Consumer data allows the recognition of top customers	1
199	E-grocery payment needs to be more agile	1
200	Finnish B&M grocery stores are the best in the world	1
201	Traditional retailers will be at the forefront of innovation	1
202	E-grocery will become more popular as digital savvy generations start having children	1
203	Cold-chain is that biggest challenge in e-grocery logistics	1
204	Consumers feel uncomfortable about data sharing	1