



SCHOOL OF  
ECONOMICS AND  
MANAGEMENT

In-store applications - expectations, experiences  
and resulting gaps

Customers insight into today's in-store applications

by

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May 2020

Master's Programme in International Marketing and Brand Management

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# Abstract

<b>Title</b>	In-store applications - expectations, experiences and resulting gaps
<b>Date of the Seminar</b>	4th of June 2020
<b>Course</b>	BUSN39 - Business Administration: Degree Project in Global Marketing – Master Level
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<b>Keywords</b>	In-store applications, customer experience, customer expectations, omnichannel.
<b>Thesis purpose</b>	The purpose of the thesis is to explore customer expectations and experiences towards in-store applications and compare those in order to see if there are any gaps.
<b>Methodology</b>	The study is based on qualitative methodology and abductive research approach, enhancing the in-depth understanding of the phenomenon of the in-store applications.
<b>Theoretical perspective</b>	The study applies current theoretical knowledge within omnichannel, customer experience and in-store technologies which result in a theoretical framework for researching in-store applications.
<b>Empirical data</b>	14 semi-structured video interviews of 26-50 min duration were conducted with consumers living in Sweden and actively using in-store applications.
<b>Findings/ conclusions</b>	Customers' expectations of in-store applications are not met yet. Usefulness is one area for improvement where better online and offline integration and personalisation is expected. Customers have higher expectations of in-store applications for well-known retailers. Also, communication regarding applications is currently weak.
<b>Practical implications</b>	The study findings provide recommendations to retailers for the development and design of in-store applications. Usefulness and communication should be primarily focus areas as these are the gaps between customer experiences and expectations towards currently available applications.

# Acknowledgements

We would like to thank our supervisor Ulf Johansson for his guidance and support throughout the writing process of this thesis. His constructive feedback and positive energy helped us reach the finish line.

Also, we thank our interviewees, who took their time to participate in our video interviews and shared their valuable experiences and insights with us during the special circumstances related to COVID-19.

Lund, 29th May 2020

Inesa Stockunaite and Yannick Lindqvist

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# 1. Introduction

This chapter introduces the topic of research, illustrating the phenomenon in a retailing context. Next, we identify the gap, argue for our choice of topic, and discuss both managerial and theoretical contributions that our study can provide. Finally, we close the chapter with the outline of the thesis.

## 1.1 Background

The digitalisation of retail stores has led to an increase in customers' expectations in terms of service quality (Parise, Guinan & Kafka, 2016). They are no longer merely looking forward to the outcome of the shopping and service, but instead wish to enjoy the additional advantages originating from the shopping experience (Roozen & Katidis, 2019). On the other side, companies understand the importance of managing customer experience - which has become as important as their products and services and have focused their efforts on mapping customer journey (Edelman & Singer, 2015). Previous studies have shown that enhancing customer experience increases customer loyalty (Klaus & Maklan, 2013; Chheda, Duncan & Roggenhofer, 2017) and customer satisfaction (Sivadas & Baker-Prewitt, 2000).

To respond to customer demands towards a more enhanced shopping experience, retailers should turn to omnichannel strategies (Brynjolfsson, Hu & Rahman, 2013). This approach consists of connecting the online and offline channels in order to provide a seamless experience to their customers (Juaneda-Ayensa, Mosquera & Sierra Murrillo, 2016; Piotrowicz & Cuthbertson, 2014). One solution is to implement in-store technologies. In-store technology is still a relatively new, but fast-growing shopping tool spreading in all retail sectors (Kim, Lee, Mun & Johnson, 2017; Piotrowicz & Cuthbertson, 2014; Rigby, 2011). Academics agree that in-store technology has an impact on overall customer experience (Lecointre-Erickson, Daucé & Legohérel, 2018; Olarte-Pascual, Ayensa & Murrillo, 2018; Pantano & Denis, 2019). The technology positively affects the perception of store atmosphere, brings positive emotions and adds shopping value for the customer (Poncin & Ben Mimoun, 2014). Moreover, the experience with technology affects customers' purchase decisions, satisfaction and loyalty (Fernandes & Pedroso, 2017; Demirci Orel & Kara, 2014; Djelassi, Diallo & Zielke, 2018). Among others, the technologies implemented by retailers include self-checkouts (Demirci Orel & Kara, 2014), self-scanning (Kallweit, Spreer & Toporowski, 2014), interactive mirrors (Poncin & Ben Mimoun, 2014) and even virtual and augmented reality (Spanke, 2020). Past academic studies have mainly been focused on self-



checkouts and self-scanning defining the elements leading to customers' intention to use the technology (Dabholkar, Michelle Bobbitt & Lee, 2003; Lee & Yang, 2013), and understanding their effect on customer experience (Fernandes & Pedroso, 2017; Djelassi, Diallo & Zielke, 2018). We present an overview of the different in-store technologies currently available worldwide, together with their functions and retail sectors in Table 1. We have established this list ourselves based on the research done on the Internet. The list is non-exhaustive and might not represent the totality of in-store technologies around the world.

*Table 1. In-store technologies and their functions. Source: see Appendix A*

<b>In-store technology type</b>	<b>Function</b>	<b>Retail Sector</b>	<b>Retailers examples</b>
In-store applications	Scan and search for information about products, order products	Fashion, grocery, furniture, electronics	IKEA, ICA, COOP, H&M, Zara, Teknikmagasinet, Biltema and others
Self-scanning machines	Scan products while shopping	Grocery stores	ICA, COOP, Willys, Hemköp
Self-checkout kiosks	Scan and purchase products by oneself	Fashion, grocery, furniture, convenience kiosks	ICA, Coop, IKEA, Pressbyrå, Zara
Digital interactive screen	Information on products, product location, recipes	Grocery stores, Furniture, Electronics	Coop, ICA, IKEA, Biltema, NetOnNet
Self-planning/design tools	A digital view of the design without physically seeing the product	Furniture	IKEA
Digital ordering screen	Order food and pay with no/little interaction with the personnel	Fast food	McDonald's, Max, Burger King,
Interactive mirror / Augmented Reality	Virtually try out clothes without a physical product	Fashion	Zara, H&M

Automated checkout	Face recognition, pick & go	Cross-sector	Amazon
Virtual Reality	Configure and explore product virtually	Automobile, Furniture	Audi, IKEA

Another type of technology spreading into retailing is a smartphone. Its introduction has enabled people to stay connected with relatives and retailers wherever they are (Fuentes, Bäckström & Svingstedt, 2017). There are currently 3.5 billion smartphone users around the world (O'Dea, 2020). From answering a call to going on social media, the use of mobile phones has changed dramatically since its creation. In the retailing environment, more customers are using their smartphones to acquire information about displayed products or get direct feedback from friends and family (Fuentes, Bäckström & Svingstedt, 2017). Further, customers using their mobile phones in-store have shown to spend more than others (Grewal, Ahlbom, Beitelspacher, Noble & Nordfält, 2018). Only recently have retailers started to include applications for mobile devices as part of their omnichannel strategies (Grewal et al. 2018). In 2018, the fast-fashion giant H&M introduced their *In-store Mode* into their application to offer a smoother experience in-store (Mullan, 2019). This feature provides easy access to information such as assortment and sizes available in a particular store. Similarly, the application IKEA Store shows additional information on products and availability at nearby stores (IKEA, n.d.). Retailers can, in turn, collect data from their customers - application users and personalise the offers, therefore providing a superior customer experience (Melero, Sese & Verhoef, 2016).

In a recent survey in the US based on 1000 consumers, 57 per cent of the respondents answered using the mobile application from a retailer (Freier, 2019). Despite that number, retailers do not always succeed in meeting consumers' expectations. As the CEO of Infogroup Michael Iaccarino puts it:

"As consumer preferences continue to evolve, retailers need to adopt the right technology to meet their expectations. Retailers should identify the right technology and services partner if they want to deliver a convenient, seamless shopping experience that can increase both customer lifetime loyalty and revenue" (Freier, 2019).

For example, the IKEA Store application shows how a mismatch between consumers' expectations and retailers' offers can lead to dissatisfaction among customers. With its low rating of 1.9 out of 5 stars in the App Store (2020) on the 9th of April 2020, the IKEA Store application fails to meet customers' expectations regarding its navigation system. According to Hofbauer (2017), failure to deliver could lead to retailers losing customers to competitors. With today's customers expecting to receive personalised offers and information in real-time (Parise, Guinan & Kafka, 2016),

retailers must adapt quickly to the changing demand, and implement the tools needed to meet customers' expectations.

## 1.2 Problem formulation

As discussed in the previous section, failure to meet customers' expectations can lead to a decrease in satisfaction (Hofbauer, 2017). It is commonly agreed by academic researchers that in-store technology has an impact on customer experience (Lecointre-Erickson, Daucé & Legohérel, 2018; Mosquera, Olarte-Pascual, Juaneda Ayensa & Sierra Murillo, 2018). Furthermore, it affects customers' purchase decisions, satisfaction and even loyalty (Fernandes & Pedroso, 2017; Demirci Orel & Kara, 2014; Djelassi, Diallo & Zielke, 2018). Past studies have focused on the factors contributing to customers' willingness to use in-store technologies, and how technologies affect customer satisfaction and customer loyalty (Marzocchi & Zammit, 2006; Fernando & Pedroso, 2017; Elliott, Meng & Hall, 2012). Other researchers investigated retailers' view on how customers expect in-store customer experience to be (Bäckström & Johansson, 2006; Bäckström & Johansson, 2017).

However, academic knowledge regarding mobile devices used in-store is still scarce. Retailers are only now realising the opportunities emerging from smartphones (Grewal et al. 2018), for which we find a lack of previous academic research. The few studies in this field have focused on the effects mobile devices have on consumers' shopping behaviour (Grewal et al. 2018; Fuentes, Bäckström & Svingstedt, 2017), and their intention to download and use retailers' applications in-store (Hilken, Heller, Chylinski, Keeling, Mahr & de Ruyter, 2018). A previous study conducted by Anitsal and Flint (2006) examined the gaps between retailers' value offering and customers' perceptions towards self-checkouts. Similarly, we intend to uncover customers' expectations regarding mobile applications used in-store and determine if there are any gaps with the current offers of retailers. Although it is just one example, the case of IKEA's application shows a clear gap between customers' expectations and the perceived service quality provided.

We believe that the results from prior studies focusing on specific in-store technologies cannot be generalised to in-store applications. Although all in-store technologies serve the same core purpose - help customers shopping, they vary a lot in terms of functionality and are all experienced differently. For example, a self-checkout is not used the same way as an application. In-store applications normally offer more features than self-checkouts, can be personalised and can then provide more advanced services while shopping. Thus, while previous studies of in-store technologies are relevant to our research, we cannot directly apply their results to in-store applications. We, therefore, find our study to be necessary and believe it can further deepen the knowledge of mobile applications used in retail environments.

## 1.3 Research Purpose

Following the problematisation, the purpose of the thesis is to explore customer expectations and experiences towards in-store applications and compare those in order to see if there are any gaps. Firstly, we analyse the experiences which derive from customer satisfaction with the service of in-store applications while shopping in physical stores. We want to understand better how and why customers use in-store applications and what benefits they bring them. Secondly, we explore the expectations in terms of how customers would like the applications to be and what aspects could be developed in currently available applications. By comparing the experiences and expectations, we look for mismatches and identify the gaps that exist. Gaps occur when the service of applications does not meet customers' expectations. To carry out the research purpose, we address the following research questions:

- What are customers' expectations towards in-store applications?
- What are their actual experiences using in-store applications?
- What gaps can be identified?

## 1.4 Contributions

We can see the growing interest and investments into in-store applications in the retail sector. Since those technologies are continuously developing and improving, we believe that studying in-store applications could provide new valuable inputs to retailers. On a managerial level, our study brings to light retailers' missteps in their applications development. Instead, our results could assist in determining what features should be developed to create a better experience for the customer using in-store applications.

On an academic level, our study expands the knowledge of in-store application usage. As mentioned earlier, previous studies on in-store technologies have mainly focused on self-checkouts and self-scanning. However, as we have mentioned at the beginning, those are only two of a multitude of in-store technologies. Our study focuses on a topic still untouched and yet so important already. Our research provides further insights on how mobile applications are perceived and how they can be improved in the future. Moreover, we propose an initial theoretical framework to explore customer experiences and expectations and resulting gaps, that is later modified based on empirical research findings.

## 1.5 Outline of the Thesis

The first chapter provided an introduction to the topic of in-store applications, where we problematised the topic and formulated the research questions. In the second chapter, we review past literature pertaining to omnichannel, customer experiences and in-store technologies, and we present our initial theoretical framework that guides our study. Then we explain our research philosophy and methodology in the third chapter and discuss sampling, data collection and analysis. We argue for our choice of qualitative method and discuss the limitations encountered during the study. The fourth chapter focuses on the empirical data collected during the interviews. In the fifth chapter, we discuss the empirical data in relation to academic literature and present our analysis. Further, we alter the theoretical framework based on our findings and answer our research questions. Finally, the sixth chapter focuses on our managerial and theoretical contributions and ends with future research opportunities.

## 2. Literature Review

The literature review section will cover previous academic articles and publications within the themes of omnichannel, customer experience, in-store technology, as well as the service quality gap model. We identify the themes mentioned above based on the knowledge areas that are relevant for a better understanding and answering the research questions. Our topic of research, in-store applications, is an integration of online into an offline shopping and is part of retailers omnichannel strategy. Customers expect a smooth journey across channels, and it is, therefore, important to review previous studies in the field of omnichannel. We also see it vital for our study to define the concept of customer experience in order to understand what elements it consists of and how we can structure our research. We review existing academic findings related to customer experiences with various types of in-store technologies to summarise what we already know in the field. Even though we believe we cannot directly apply the findings from other in-store technologies, we use the elements in our theoretical framework that were found relevant in the existing literature. To structure our empirical study, we use the service quality gap model as we see in-store applications as service tools to customers. In the end, we present a theoretical framework that is based on the literature findings.

One could argue that the topic related to innovation could also be part of our study. However, we purposely excluded those, as we do not research the innovativeness of in-store applications, but rather their usefulness from the customer's perspective. We have also excluded topics in the consumer behaviour area as we found them indirectly related to our research question.

### 2.1 Omnichannel - online meets offline

To do research in retailing, it is essential to understand its trends and what drives customers nowadays. The Internet has changed the way of shopping and led to the empowerment of customers, who are becoming more informed and more demanding than ever (Parise, Guinan & Kafka, 2016; Blázquez, 2014). It is therefore essential for retailers to put customers at the centre of all retailers' activities, as it results in more satisfied customers and can also create a sustainable competitive advantage for organisations (Andajani, 2015; Stein & Ramaseshan, 2016; Grewal, 2019). To respond to customers' immediate demands, retailers are adopting an omnichannel approach, which consists of connecting the online and offline channels in order to provide a seamless experience to their customers (Juaneda-Ayensa, Mosquera & Sierra Murrillo, 2016;

Piotrowicz & Cuthbertson, 2014).

### 2.1.1 Channel Integration

With the implementation of innovative technologies, customers are changing the way they interact with retailers' different channels (Savastano, Bellini, D'Ascenzo & De Marco, 2019). Customers expect the offline and online channels to support each other (Tyrväinen & Karjaluoto, 2019): they want to move across channels, and yet still be able to "see, feel, touch, and try the product, as well as feel the shop atmosphere" (Piotrowicz & Cuthbertson, 2014, p.10). If implemented correctly, omnichannel strategies create value for both retailers and customers. On the one hand, customers can move across channels seamlessly, thus increasing customer satisfaction (Melero, Sese & Verhoef, 2016). On the other hand, retailers can reduce their costs and understand their customers' shopping behaviour better (Piotrowicz & Cuthbertson, 2014; Savastano et al. 2019).

Channel integration quality is crucial for the success of an omnichannel strategy. It has been shown to positively affect customers' overall satisfaction (Seck & Philippe, 2013) and customer engagement (Lee, Chan, Chong & Thadani, 2019). Further, performance expectancy influences customers' shopping intentions in an omnichannel environment (Juaneda-Ayensa, Mosquera & Sierra Murillo, 2016). They are more likely to shop across channels if it brings them additional benefits. Moreover, the higher the amount of customer-retailer interactions through the various channels, the stronger is the customer relationship with a retailer (Ieva & Ziliani, 2018). The amount of interactions, in turn, increases the willingness to share personal information with a retailer and leads to customer engagement (Melero, Sese & Verhoef, 2016).

Online and offline integration has created possibilities for retailers to present customised offers. The balance between personalisation and privacy is an emerging topic in retailing, according to Piotrowicz and Cuthbertson (2014). Several studies show that customers prefer customised and individual offers, but are also concerned about privacy on what data is collected and by whom (Kang & Namkung, 2019; Piotrowicz & Cuthbertson, 2014). Nevertheless, Kang and Namkung (2019) discovered that the perceived benefits of personalisation were higher than their perceived risks. Consumers believe that personalised services outweigh the risks of retailers using their data for other purposes. Furthermore, privacy concern is less actual for younger generations due to their daily Internet usage habits (Piotrowicz & Cuthbertson, 2014).

However, despite many retailers making their products and services accessible across multiple channels, they are often unable to meet customers' expectations (Piotrowicz & Cuthbertson, 2014). Instead, they often adopt a multichannel approach, where all channels are seen as separate platforms and are handled independently from each other. This approach can be problematic, as every channel is in direct competition with the next one, leaving no place to share data from one channel to another (Shen, Li, Sun & Wang, 2018). It is therefore essential to connect, integrate and create consistent content across channels, thus providing the seamless experience sought out by

customers in an omnichannel context (Shi, Wang, Chen & Zhang, 2020; Piotrowicz & Cuthbertson, 2014; Ieva & Ziliani, 2018).

The previous studies above show us that there is no firm line between online and offline channels as customers nowadays expect integration and seamless experience. The overall shopping experience is accumulatively created at various touchpoints in different channels. For our study, it means that even if we exclusively focus on shopping experiences in physical stores (offline) while using in-store applications, we will unintentionally also research online shopping experiences. Therefore, we believe that online and offline integration is an essential element when researching customer experiences and expectations relating to in-store applications. According to the literature findings above, applications can be one of the tools for providing a personalised and unique experience, and we conclude that personalisation is also an essential element in our study.

## 2.2 Retail customer experience

### 2.2.1 Definition of customer experience

To be able to research customer experience, it is important to understand and define the concept and what it consists of. We see that there are many attempts in academic literature trying to grasp a multidimensional customer experience concept and what elements it includes. In this section, we will cover some most cited definitions in academics to provide a better understanding of the concept.

The majority of academics define customer experience as various types of customer responses to the retailer. Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros and Schlesinger (2009, p. 32) description of customer experience is probably one of the most cited in academics: "holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer". This definition is very much in line with how Schmitt (1999) ten years earlier described types of customer experience: sensory (sense), affective (feel), creative cognitive (think), behavioural (act), and social identity (relate). Similarly, but looking from a customer perspective, both Meyer and Schwager (2007), and Brakus, Schmitt and Zarantonello (2009) describe customer/brand experience as a subjective response to a contact with a company/brand. Building on the definition by both Brakus, Schmitt and Zarantonello (2009) and Verhoef et al. (2009), Homburg, Jozić and Kuehnl (2017, p. 384) defined customer experience as "evolution of a person's sensorial, affective, cognitive, relational, and behavioural responses to a firm or brand...".

Even if we see similarities in various definitions and categorisations of customer experience, there is no one accepted description in academics. In line with our conclusion, De Keyser, Lemon, Klaus and Keiningham (2015) aimed to conceptualise customer experience by analysing the previous academic literature and concluded that there is no common agreement amongst academics and



practitioners about the definition, dimensions and foundation of customer experience. After a thorough analysis, the authors concluded that customer experience is "comprised of the cognitive, emotional, physical, sensorial, spiritual, and social elements that mark the customer's direct or indirect interaction with (an)other market actor(s)" (De Keyser et al. 2015, p. 23). However, we see that the definition is similar to the one of Verhoef et al. (2009). Still, it includes a more balanced customer-retailer perspective and emphasizes the points of interaction, in other literature referred to as touchpoints. We conclude that there are clear similarities in the descriptions of customer experience. Therefore, in our study for researching customer experience with in-store applications, we will include the commonly discussed customer types of responses listed by De Keyser et al. (2015).

Customer experience is formed during the whole decision-making process, starting with a need for a product or service and ending with an experience of utilising the product. According to Verhoef et al. (2009), customer experience is the total experience that includes phases of search, purchase, consumption, and post-sale and can include several retail channels. Brakus, Schmitt and Zarantonello (2009) divide customer experience into a product, shopping and service and consumption, which follows the decision-making process. Similarly, Homburg, Jozić and Kuehnl (2017, p. 384) looks into customer experience "through a journey of touchpoints along pre-purchase, purchase, and postpurchase situations". Puccinelli, Goodstein, Grewal, Price, Raghurir and Stewart (2009, p.15-16) present customer experience through a consumer decision process and go into a more detailed analysis discussing seven elements at each stage: (1) goals, schemas, and information processing; (2) memory; (3) involvement; (4) attitudes; (5) affect; (6) atmospheric; and (7) consumer attributions and choices. It is important for our study to note that the search also referred as pre-purchase and evaluation phase, can take place in the store and is affected by all the seven elements according to Puccinelli et al. (2009). While the purchase phase is affected by five elements, excluding memory and involvement, according to the authors. Application of the above academic findings to our study purpose means that when analysing customer experiences in-store, all seven elements are important to consider as the store can be used also in the evaluation phase. As we see, this makes customer experience analysis a truly complex task. However, our study will focus exclusively on customer experience with in-store applications. We will leave aside search phase elements that are not directly related to in-store experiences such as advertising-memory, experience in searching for product information outside of stores, word-of mouth and others.

As discussed above, customer experience includes different stages of the customer decision-making process, but there are also other suggestions for categorisations in academics. Verhoef et al. (2009) suggest that retailers create customer experience through controllable factors, such as a store atmosphere, product offering, and through uncontrollable factors, such as word-of-mouth and individual purpose. Lemon and Verhoef (2016) divide customer experience touchpoints into brand-owned, partner-owned, customer-owned, independent. Meyer and Schwager (2007) classify the customer experience as direct, related to purchase or use, and indirect like word-of-mouth or advertising. In-store applications experience covers both software developed by a retailer, but also

hardware owned by customers that retailers cannot control. Since the experience is formed by both controllable and uncontrollable parts, our study looks at it from a holistic perspective.

Similarly to academic discussion on definition, there is a significant amount of research on measurements of customer experience. Bustamante and Rubio (2017) suggest measuring the in-store experience as cognitions, feelings, and social and physical responses that are created by in-store stimuli. Similarly, Meyer and Schwager (2007) in their research, discuss the brand experience that can be measured and predicted through the sensory, affective, intellectual and behavioural dimensions. The authors conclude:

"Although companies know a lot about customers' buying habits, incomes, and other characteristics used to classify them, they know little about the thoughts, emotions, and states of mind that customers' interactions with products, services, and brands induce. Yet unless companies know about these subjective experiences and the role every function plays in shaping them, customer satisfaction is more a slogan than an attainable goal" (Meyer & Schwager, 2007, p.126).

In short, customer experience is described as a customer journey through various touchpoints - individual contacts between the firm and the customer (Schmitt, 1999; Pucinelli et al. 2009; Verhoef et al. 2009; Homburg, Jozić & Kuehnl, 2015). The total customer experience is built through multiple touchpoints in different stages of decision making and is covering various types of customer responses to an offering. We see our study as very much aligned with the above quote by Meyer and Schwager (2007) as we believe that customer responses are often of emotional rather than rational nature as the overall phenomena of customer experience. Moreover, we believe that touchpoints are of different value and importance for customers, including in-store applications. To answer our research questions, we need to look for an in-depth understanding of individual perspectives.

### 2.2.2 Customer experience in-store

As discussed in the previous chapter, customer experience covers the entire decision-making process. Our study focuses on in-store customer experience, even more specifically, the experience using in-store applications while visiting a physical store. However, according to the concept definition, the experience with the technology is part of and closely related to the overall shopping experience. We believe it is important to see it in the context of shopping.

To analyse the customer experience in-store, we need to understand how it is created. Stein and Ramaseshan (2016) suggest analysing customer experience through the following thematic elements: atmospheric, technological, communicative, process, employee-customer, customer-customer and product interaction. Following this categorisation, our study's main focus is the technological element, although it is related and affected by other elements in the store environment. As a result of this we will briefly discuss these elements.

The atmosphere in shops is contributing to the customer shopping experience. It can be described as the "physical characteristics, and surrounding customers observe when interacting with any part of the retailer" (Stein & Ramaseshan, 2016, p. 12). The in-store atmosphere includes both tangible and intangible elements such as design, music, temperature and scents, which all affect customer shopping experience in stores (Baker, Parasuraman, Grewal & Voss, 2002; Puccinelli et al. 2009; Verhoef et al. 2009; Bäckström & Johansson, 2006). A positive atmosphere in the store can increase the amount of money spent on spontaneous purchases (Spies, Hesse & Loesch, 1997). Customers positively experiencing the atmosphere of the store expect a similar experience on the retailer's online channels (Tyrväinen & Karjaluoto, 2019).

Technological customer experience is related to customer usage of any form of in-store technologies while interacting with a retailer (Verhoef et al. 2009; Stein & Ramaseshan, 2016). Customers are eagerly using more technologies that are placed in-stores, including sales terminals, information screens, kiosks and many others (Fowler & Bridges, 2010; Giebelhausen, Robinson, Sirianni & Brady, 2014). According to Stein and Ramaseshan (2016), in-store technologies can be seen as bringing shopping benefits such as easiness-to-use and convenience or instead causing frustration and dissatisfaction. Moreover, the authors divide the technologies retailer-controlled such as self-service technology applications and websites and retailer-uncontrolled ones like non-corporate social media and other websites. The topic of our study, in-store applications, fall into the retailer-controller technological element category, and we will further discuss it in the next section.

Stein and Ramaseshan (2016) describe communication elements as promotion and information messages that are sent from retailer to customer. Such messages have various channels such as SMS, email, commercials, social media and many more. It is important to note that the communication element is especially important in the pre-purchase stage. However, customers find it relevant during purchase and post-purchase, according to the authors.

While getting a product or service purchased, customers go through the journey or process in stores. It includes moving around in a store, finding/testing the product, waiting time for checkout and checkout itself. The process element can be improved and enhanced via in-store technologies. For example, H&M retailer in-store mode application allows easier search for products and product information such as sizes, material, washing instructions as well as help to get inspiration by suggesting similar products. Mobile applications of some restaurants in Sweden, for example, Espresso House or Pinchos, allow both to order and pay on the phone making the purchasing process fully self-service.

Employee-customer experience is about the friendliness and sociability of employees in stores that can affect the overall in-store customer experience (Bäckström & Johansson, 2006; Verhoef et al. 2009). Even if stores are equipped with self-service technologies, the research shows that employee support with the technology and advice are still highly appreciated by customers (Dabholkar, Michelle Bobbitt & Lee, 2003; Anitsal & Flint, 2006). Customers expect employees to be knowledgeable about the products and attentive to their needs (Terblanche & Boshoff, 2004).

The presence of other customers in-store affects the overall customer's experience. Thakor, Suri and Saleh (2008) discuss how the presence of different ages of other consumers in the retail setting affect service perception. Moreover, Verhoef et al. (2009) add that the presence of other consumers can create a negative effect on the shopping experience. The authors refer to littering and mess in stores left by others. Interestingly, Verhoef et al. (2009) suggest that having compatible consumers at the same time in a store can improve everyone's experience.

Finally, the last element, product interaction, is related to customer interaction to the product itself and is part of customer experience in-store. In the majority of stores, customers can immediately see, touch, smell, test, hear and/or try on the product, and it is the major difference from online retailing.

The division of customer in-store experience by Stein and Ramaseshan (2016) provides us with an overview of a context in which we are researching experience with in-store applications. Even if we limit our study to a specific technology in stores, we believe that all the highly interconnected elements influence the overall shopping experience. Moreover, according to Stein and Ramaseshan (2016, p. 17), customer experience is "contextual, subjective and perceptual". Similarly, Rose, Clark, Samouel and Hair (2012) emphasize that customer experience should be analysed based on an accumulation of experiences. The findings imply that the experience with in-store applications need to be analysed in the context of the overall shopping experience as it is closely interconnected.

For our study purpose it means that even if we specifically focus on in-store applications, we will most likely find that it is related to other experience elements highlighted by Stein and Ramaseshan (2016), which customers evaluate in the context. In other words, even if a customer greatly perceives the in-store application, the shopping can be experienced as poor due to, for example, an unpleasant shop atmosphere. On the contrary, if all the other elements in a shop are perceived as very satisfactory, the experience with in-store applications might be heightened. Customers will explain their experiences and expectations towards in-store applications in an overall shopping experience context, and it will be influenced by the other elements. We believe the nature of the multidimensional experience concept requires to research it from a broader perspective, including the elements in the shopping environment.

## 2.3 In-store technologies in retailing

### 2.3.1 The concept of in-store technologies

In academic research, in-store technology is often described as self-service technology (SSTs) or technology-based self-service (TBSS) and defined as "technological interfaces that enable customers to produce a service independent of direct service employee involvement" (Meuter, Ostrom, Roundtree & Bitneret, 2000, p. 50). Moreover, Kim et al. (2017) discuss smart in-store

technology (SIST) in retailing such as tablets, smartphones, augmented reality, mobile applications, virtual catalogues and exclude the traditional ones. Retailers nowadays adopt a variety of technologies that contribute to customer experience in-store. Still, for this research purpose, we will focus on in-store applications; in other words, smartphone applications designed by retailers to use in physical stores to enhance the shopping experience.

Firstly, it is essential to understand in-store applications in the overall context of technologies in shops. In-store technology can be classified into elementary, intermediate and complex based on the level of service advancement (Pantano & Migliarese, 2014). The elementary technologies mainly provide additional product information such as example, price, functioning, in-store location. Intermediate technologies substitute services usually performed by employees such as payment and check-out. While complex services include more complicated context-awareness systems, for example, in-store mode applications and mobile phone checkouts. This classification suggests categorising in-store applications based on complexity, and for our study, it means that we could choose to focus on all or a specific category only.

### 2.3.2 In-store applications

Although in-store applications are quite modern tools in retailing, they are becoming increasingly important for omnichannel strategies, mainly when they are used in-store (Piotrowicz & Cuthbertson, 2014). In their article, the authors argue that retailers have not implemented customer usage of mobile devices for in-store shopping purposes yet. In a more recent study, Parise, Guinan and Kafka (2016) believe that some retailers have seen the change in customers' shopping behaviour and have created applications to provide instant services for customers. The devices are mostly used by customers independently for product search, comparison, advice, QR, and barcode scanning to look for alternatives while being in-store. Similarly, in their attempt to research customers' intention to use in-store applications, Taylor and Levin (2014) discovered that there are two types of related behaviour: purchasing and information-sharing. Purchasing behaviour includes using smartphones for accessing coupons and discounts loyalty membership, digital receipts and mobile payment. Mobile devices also function as information enablers: despite the amount of information already available in-store, consumers still use their smartphones for additional - or different information (Fuentes, Bäckström & Svingstedt, 2017). Thus, information sharing relates to finding information about products via scanning barcodes, comparing prices, accessing and sharing feedback with others or finding a product in the store (Taylor & Levin, 2014). To sum up, literature findings above suggest that in-store technologies serve different purposes, from assisting the customers with information to a self-service like check out.

With mobile devices, consumers can connect with retailers and their products anytime, anywhere (Blázquez, 2014). Smartphones have changed the way consumers shop; they have reconfigured the stores (Fuentes, Bäckström & Svingstedt, 2017) and redefined the in-store experience (Blázquez,

2014). For example, consumers using mobile devices gain in knowledge through feedback from others and thus become more empowered (Spaid & Flint, 2014). The authors further argue that using mobile devices do not only bring functional values, but can also generate hedonic values to the customer. Those hedonic experiences are not only about enjoying the device, but can instead focus on the satisfaction it brings, therefore enhancing the shopping experience.

There are different ways for retailers to incentivise in-store applications usage by customers. Kang, Mun and Johnson (2015), whose study focuses on the elements leading to the download and use of location-based retail applications, recommend retailers to promote the specificities and advantages of their applications. Their research shows that consumers' decision to download and use a retail application is based on their affective involvement. Thus, if the application can provide them with additional hedonic value, they are more likely to download it. For example, implementing augmented reality (AR) to retail applications would enable consumers to virtually try on clothes, or try out other products, despite not being physically in the store (Hilken et al. 2018). Further, Trivedi and Trivedi (2018) argue that application satisfaction is positively related to three quality dimensions: information, system and service quality. The relationship between those dimensions can be strengthened by personalising the information on the application. Thus, retailers should use customer information to provide customised offers, increasing application satisfaction among customers and leading to an increase in purchase through the application (Trivedi & Trivedi, 2018).

Nevertheless, retailers are sometimes unwilling to facilitate mobile device usage in-store. Previous research has been inconclusive, providing both positive and negative results on impulse purchases. However, in their recent studies, a group of researchers (Grewal et al. 2018) presents positive results from two experiments. Both studies show that customers using their mobile phones in-store spend more. Although impulse purchases might decrease, the overall effects will be positive for retailers. As they become distracted by their phones, customers spend more time in the store, roaming around and diverting from their original purchase plans (Grewal et al. 2018).

The consumer adoption of in-store applications can be analysed through the technology acceptance model (TAM) (Davis, Bagozzi & Warshaw, 1989). It was initially created to research the impact of external factors on internal beliefs, attitudes, and intentions of computer acceptance. According to TAM perceived usefulness, perceived ease of use (Davis, Bagozzi & Warshaw, 1989), and perceived enjoyment (Davis, Bagozzi & Warshaw, 1992) are key factors of consumers' intentions to use technology. According to Kim et al. (2017), some technologies may be used mainly for functional purposes, while others primarily for enjoyment and fun. Technology acceptance model has been intensively researched in retailing by academics among many by Childers, Carr, Peck, and Carson (2001), Lee, Kozar and Larsen (2003), Barkhi and Wallace (2007), Li and Huang (2009), Kim et al. (2017). The findings show that the three factors have an impact on consumer behaviour of using various types of technologies. However, none of them has looked into in-store applications. The closest in the subject to our study was the research in the fashion sector by Kim et al. (2017) looking into various smart in-store technologies (virtual mirror, interactive dressing room, and Radio Frequency IDentification music tag) confirming the importance of all the factors.

However, the findings show some factors are more important for some technologies than for others. Therefore, the applicability of the findings to in-store applications might not be straightforward.

According to Lin and Hsieh (2011), the quality of self-service technologies can be analysed through functionality, enjoyment, security, assurance, design, convenience, and customisation elements. However, convenience, ease of use, reliability and fun are mostly academically discussed attitudes towards the willingness to use the technology in stores. There is limited research done for in-store applications in terms of customer attitudes and willingness to use it. Therefore, in the following section, we will refer to the research on elementary and intermediate technologies believing that the findings are applicable for our study can bring us important elements for the theoretical framework. We structure our section further based on the three most discussed factors of consumers' intentions to use technology: perceived usefulness, perceived ease of use and enjoyment.

### *Perceived usefulness*

Perceived usefulness in the form of shorter waiting time and speed are important contributors to customer experience according to various academic studies (Berry, Seiders & Grewal, 2002; Anitsal & Flint, 2006). Dabholkar, Bobbitt and Lee's (2003) research in supermarkets in regard to a willingness to choose self-scanning identified speed and convenience as the main reasons for choosing self-service technologies. Similarly, Elliott, Meng and Hall (2012) found that, among other factors, convenience has a direct effect on customers' wish to use in-store technologies. Waiting time is an important factor for customer satisfaction with the technology (Weijters, Rangarajan, Falk & Schillewaert, 2007; Djelassi, Diallo & Zielke, 2018). Waiting time in stores is also most important for overall customer satisfaction, and self-service technology users are especially demanding time efficiency (Weijters et al. 2007). According to the authors, retailers should focus on communicating perceived efficiency benefits for customers. Nevertheless, the study by Dabholkar, Michelle Bobbitt and Lee (2003) and Anitsal and Flint (2006) also highlighted customers' wish to interact with other humans, which technology is unable to provide.

Kallweit, Spreer and Toporowski (2014) highlight the aspect of general perceived usefulness of in-store technology by consumers in terms of information and communication needs respectively by customer and retailer. Some literature findings conclude that the perceived overall usefulness of in-store technologies affects purchase decisions, satisfaction and even loyalty (Fernandes & Pedroso, 2017; Demirci Orel & Kara, 2014; Djelassi, Diallo & Zielke, 2018). Kallweit, Spreer and Toporowski (2014) conclude that the self-service technologies should be relevant for the target customers and retailers should emphasize the value of self-service technology to support its continuous usage. Kang, Mun and Johnson (2015) has researched intentions for download and usage for mobile location-based retail applications and discovered that interactivity and compatibility were important involvement factors. Reliability and quality of the self-service technology in stores affect customer shopping experience, according to Lee and Yang (2013).

Demirci Orel and Kara (2014) conclude that quality of self-service technology positively influences customer loyalty and satisfaction.

The extensive academic research emphasizes the rational factors as key drivers for continuous usage of self-service technologies. However, it is important to remember that emotional drivers, including satisfaction and habits, are also the reasons for choosing to use the technology (Wang, Harris & Patterson, 2013). The authors contradicting many previous findings conclude that usefulness of technology does not have a significant effect on customer satisfaction.

#### *Perceived ease of use*

The ease of use of self-service technology is another important factor affecting customers' total shopping experience (Dabholkar, Michelle Bobbitt & Lee, 2003; Anitsal & Flint, 2006; Elliott, Meng & Hall, 2012). Conceptually, perceived ease of use can be explained as "the degree to which a person believes that using a particular system would be free of effort" (Davis, Bagozzi & Warshaw, 1989, p. 320). The technology is easy to use when it requires as little as possible human interaction and is intuitive and user friendly. Customers see additional value in self-service technologies when they feel comfortable using it, but also when there is available service support nearby according to Turner and Shockley (2014).

Technology anxiety is a significant consumer trait that affects how likely consumers are to use and enjoy in-store technology, according to Meuter, Ostrom, Bitner and Roundtree (2003). Rogers (1995) identifies five different groups of adopters: the innovators, the early adopters, the early majority, the late majority and the laggards. The first two groups of adopters are actively looking for innovation and are willing to try it despite the high level of uncertainty. Their technology anxiety is therefore low compared to the other groups of adopters. The late majority and the laggards are usually sceptical towards new technologies, and their adoption process is very long. However, according to Lee, Cho, Xu and Fairhurst (2010), demographics only indirectly influence the wish to use self-service technology. According to the authors, the willingness is more affected by consumer traits than demographics.

#### *Perceived enjoyment*

With the rapid technological evolution, retailers not only look to facilitate more convenient, easy and fast shopping experiences but also aim to enhance it via new technologies in stores. According to Davis, Bagozzi and Warshaw (1992), it can be described as a perceived enjoyment of the activity itself of using a technology despite its performance and functional value. Such technologies could make shopping more pleasurable, fun and entertaining, while at the same time improving the store atmosphere towards more appealing to the eyes of the consumer (Poncin & Ben Mimoun, 2014). Moreover, Marzocchi and Zammit (2006) argue that pleasure and service satisfaction affect the customer's overall opinion of the retailer and the intention to shop more frequently.



Wang, Harris and Patterson (2013) conclude that enjoyment with self-service technology is an essential factor for customer experience. Similarly, fun and pleasure of using in-store technology are contributing to great customer experience, according to Marzocchi and Zammit (2006), and Elliott, Meng and Hall (2012).

The literature findings above provide us with some knowledge about in-store technologies in terms of its purpose and possible value that retailers can gain. However, technology adoption and customer perception are mostly researched for other in-store self-service technologies such as self-scanning and self-checkout. There is limited academic research about in-store applications since it is still relatively new in the market. We believe that the elements - usefulness, ease-of-use and enjoyment, that were found in existing literature researching in-store technologies should be further studied for applications. However, we might get new insights as well. Firstly, because customers own the hardware of such technologies and they are daily users of it. Secondly, such applications offer more functions and features than the previously researched in-store technologies.

## 2.4 Service quality gap model

Today's customers are becoming more informed and demanding than ever before, and expect a high service quality. To help companies to match customer's expectations, Parasuraman, Zeithaml and Berry (1985) created the Service quality gap model (SERVQUAL). The model consists of four gaps from the marketers' side, followed by a fifth gap on the customer's side.

The first gap of the model corresponds to the mismatch between the expected service and how management perceives customers' expectations. The authors mean that the service delivered will not meet customers' expectations if the firm executives do not understand them in the first place, thus reducing the service quality of the company. This leads us to the second gap when the management is unable to use its resources to meet consumer expectations accurately. The quality of the service is then damaged in the eyes of the customer. The next gap happens when the service delivery is not up to the expectations of customers, despite clear guidelines to provide an excellent service. Employees may not always follow the instructions, or maybe despicable towards a customer, leading to unsuccessful service delivery. The final gap caused by companies arises when the service delivery does not match the promises made by companies. Firms sometimes communicate in a way that leads customers to expect a higher service than in reality. This, in turn, damages customers' perceived service quality. As previously mentioned, those four gaps together lead to the fifth most crucial gap between consumer expectations and their perceptions of the service quality. Parasuraman, Zeithaml and Berry (1985) argue that the sum of the four company gaps is equal to the last gap. Thus, companies should not focus on reducing only one gap, but should instead develop strategies to reduce all gaps so that the difference between the expected and the perceived service quality equals close to zero.

In our research, such a gap would happen if the in-store applications implemented by retailers do not enhance customers' shopping experience. For example, Anitsal and Flint (2006) determined the gaps that could arise between retailers' offerings and customers' perceptions of self-checkouts. The authors discuss that retailers sometimes have the wrong information about customers' expectations which leads to an inadequate offer for the customers. Anitsal and Flint (2006) call it the information gap. Furthermore, they argue that customers enjoy having a choice between self-checkouts or regular cashiers. Concerning the in-store applications, we conclude that if customers are unable to gather more information about products (or something else) on their own, and automatically had to ask employees for information, it may result in a design gap between the intended value of the app, and its actual designed value. The end value of the in-store applications would be less than what customers had expected.

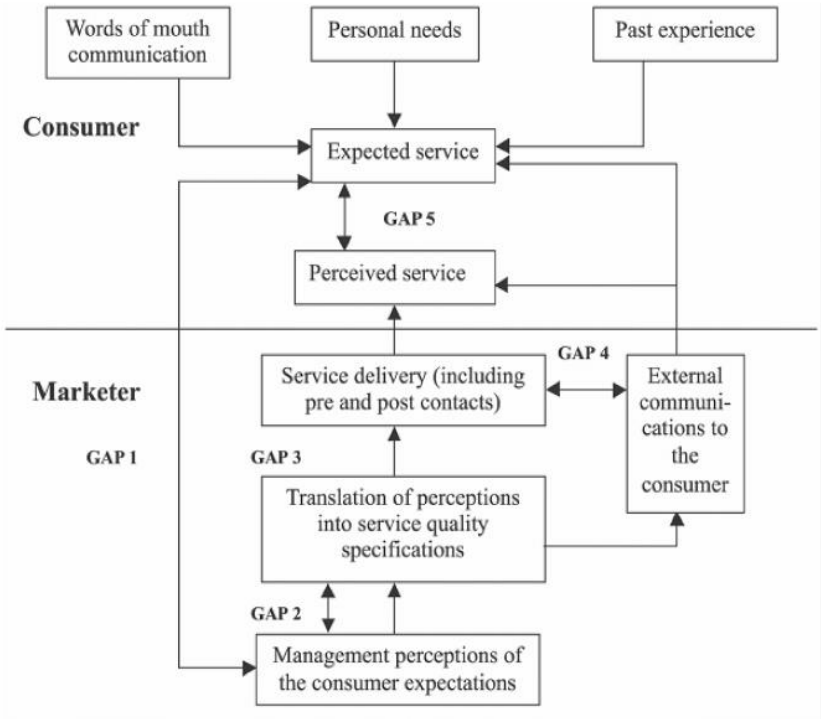


Figure 1. SERVQUAL model (Parasuraman, Zeithaml and Berry, 1985)

This way of analysing the gaps between customer expectations and experiences is the basis for our initial theoretical framework. However, our study exceptionally focuses on consumers; therefore, Gap 5 (Figure 1) is the key interest area for our research. As Parasuraman, Zeithaml and Berry (1985) suggest, the expectations are formed by past experiences, but also personal needs and communication. At the same time, experiences are dependent on how well the marketer delivers the service to match the expectations. We partly agree, but we also know that the hardware of in-

store applications is owned by consumers; therefore, we might discover other factors than the ones influenced by the marketer affecting the experiences.

## 2.5 Theoretical framework

In order to structure our research on customer experiences and expectations towards in-store applications and gaps between those, we have concluded that the previously discussed SERVQUAL model could be partly applied. Our empirical study will further investigate one of the most important gaps, according to Parasuraman, Zeithaml and Berry (1985). This gap presents the mismatch between consumer expectations, and their perceptions of the service quality and brings a basic structure to our theoretical framework (Figure 2).

Firstly, we apply previous literature findings to understand better how to research customer experience. We conclude that customer experience is a multidimensional concept as it is gathered through different stages of decision making as well as various touchpoints in the customer journey. At the same time, it is subjective and of emotional nature (Meyer & Schwager, 2007). It means that in order to analyse customer experience, we need to get an in-depth understanding.

Secondly, the previous literature findings suggest some elements that are possibly relevant for researching experience with in-store applications. To provide today's customers with a pleasant shopping experience, the retailers have to implement omnichannel strategy integrating their channels such as applications, physical shops and websites (Shi et al. 2020). Therefore, we include "online and offline integration" as one of the elements to our framework to analyse the experience. Besides that, the literature shows that personalisation and personalised customers' offers enable retailers to provide an enhanced customer experience (Melero, Sese & Verhoef, 2016). Following this finding, we include the "personalisation" element in our framework. Moreover, the technology adoption model suggests us to look into in-store applications acceptance through three elements: perceived convenience, perceived ease of use and perceived enjoyment (Davis, Bagozzi & Warshaw, 1989; Davis, Bagozzi & Warshaw, 1992). The three elements have been previously researched in academics concerning experiences with other in-store technologies (self-checkout, self-scanning) and we believe that they possibly are relevant for in-store applications, so we include them in our theoretical framework. The literature suggests that physical in-store experience can be divided into seven elements: atmospheric, technological, communicative, process, employee-customer, customer-customer and product interaction (Stein & Ramaseshan, 2016). These elements are highly interconnected and should be analysed in the context (Rose et al. 2012; Stein & Ramaseshan, 2016). Therefore, even if our research focuses on experience with in-store applications (part of a technological element), when looking at it in the context, we need to include all other elements that contribute to the overall shopping experience. The Parasuraman, Zeithaml and Berry (1985) model suggests that the experience is also affected by the communication by retailers, and we will also include this element into our initial theoretical framework.

To analyse customer expectations, according to the SERVQUAL model, we need to look into the topics of past experiences, personal needs and word of mouth. For the past experiences, we include all the elements described in the experience section above. This means that the same elements might be relevant both to research experiences and expectations, according to Parasuraman, Zeithaml and Berry (1985). The expectations are also affected by personal needs, and therefore the in-depth understanding of individuals is vital to our study. Customer expectations are also formed by word of mouth, according to the model authors. However, we believe that other communication channels, for example, social media, can also be relevant, so we include a more generic "communication" element instead into our initial theoretical framework.

Based on the findings of the literature review, we propose the initial framework that will guide us in the empirical research (Figure 2):

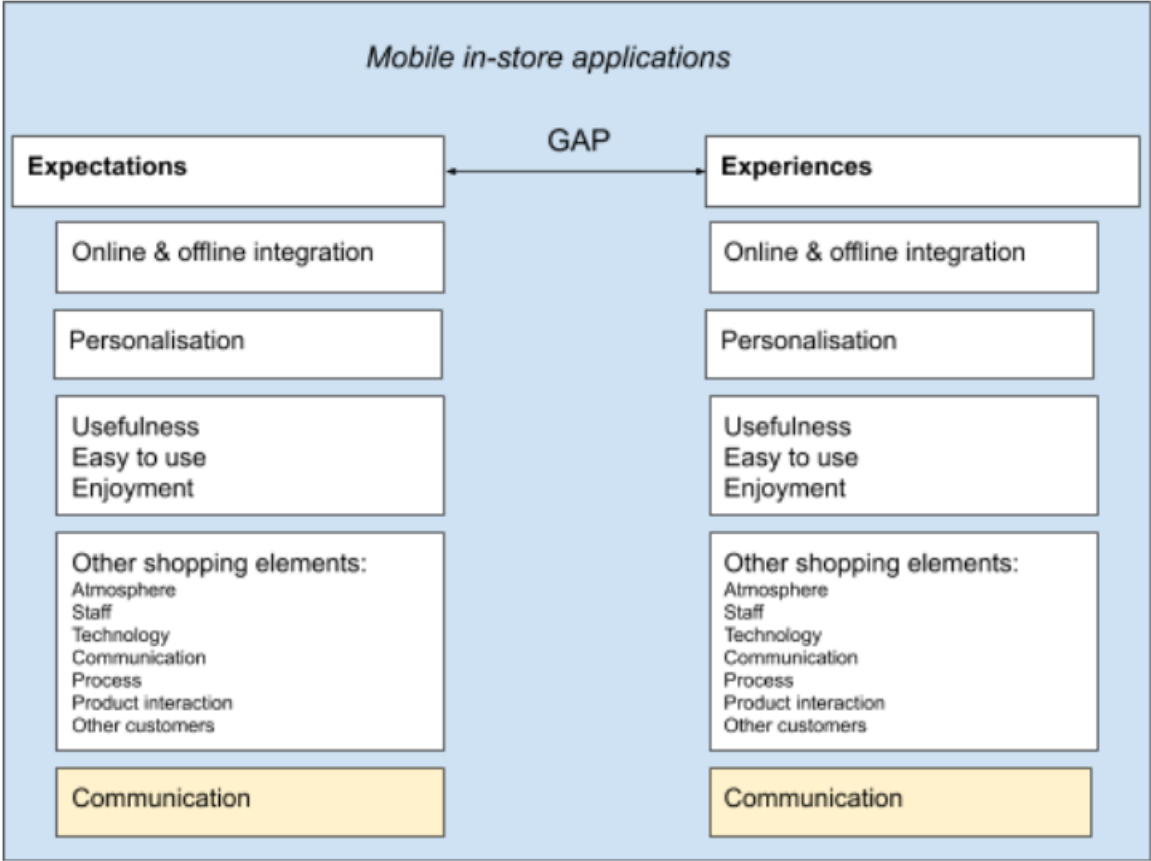


Figure 2. Initial theoretical framework

Even if the literature review helped us to design the initial theoretical framework, it also showed that there is a gap in understanding how the newly introduced technologies in retailing such as in-store applications affect customers' shopping experiences, how customers perceive this type of technology and what are today's customers' expectations. Previous academic studies provide us

with some understanding of the relationship between customers and some in-store technologies. Still, they focus merely on a fraction of the technologies available in stores and mainly grocery stores (e.g. self-checkouts and self-scanning). Moreover, we found the previous research findings are often quantitative, quite diverse, sometimes slightly contradictory. We conclude that previous studies in the area of customer experiences and expectations towards in-store applications are minimal and our study could help to shed light to increase the knowledge.

## 3. Methodology

This chapter describes our chosen methodological approach for the empirical study in order to answer our research questions. In this section, we explain philosophical research assumptions, our research approach and design, data collection and analysis approach, methodological limitations and ethical considerations.

### 3.1 Research Philosophy

Ontological and epistemological assumptions are essential for understanding the philosophical position of any study. According to Easterby-Smith, Thorpe, Jackson and Jaspersen (2018), knowing those assumptions helps researchers in defining their reflexive role and deciding upon the research design. At the same time, according to the authors, it increases research quality and creativity. Bryman and Bell (2015) add that defining research philosophy helps researchers to conduct the study effectively. Therefore, it is important for us to set our philosophical position before we discuss the research approach and design.

Our study is built on relativism ontology as we believe there is no "one truth" (Easterby-Smith et al. 2018) regarding expectations and experiences with in-store applications. Saunders, Lewis and Thornhill (2009) describe it as a position of interpretivism, and Bryman & Bell (2015) calls it constructionism. The prevailing philosophy view is that humans create social phenomena as "social actors" and it cannot be researched in the same way as objects. The relativism ontology implies that researchers interpret the social roles of others based on their perspectives, according to Bryman and Bell (2015). Therefore, the reality under relativism is dependent on various variables such as race, country, time and context, and the findings vary depending on the perspective taken by a researcher (Easterby-Smith et al. 2018). For conducting our study, the literature findings suggest that expectations and experiences of customers are individual and differ depending on the background and other individual traits, including the context that is being researched. Moreover, we believe that in-store applications have different value and meaning to customers.

In terms of how the research knowledge is acquired - epistemological approach - our study took a constructionist (Easterby-Smith et al. 2018) also called interpretivism (Saunders, Lewis & Thornhill, 2009; Bryman & Bell, 2015) view. In our case, it was more important to study and understand customer insights and emotions, forming customer experiences and expectations rather

than gathering facts or measuring frequencies, which is a focus of the opposite positivism epistemology. To answer the research question, we needed to focus on "how" and "why" type of questions (Bryman & Bell, 2015) to get an in-depth understanding and individual reflections on experiences and expectations towards the in-store applications. Our study was built on a constructionist approach and aimed to increase general understanding and gather subjective inputs from humans to enhance academic knowledge (Easterby-Smith et al. 2018). Constructionism position led us to the qualitative methodology of the study, where we focused on small samples for in-depth analysis. We discuss it further in the upcoming chapters.

## 3.2 Research Approach

Our research philosophy is based on relativism ontology and constructionism epistemology, which implies that the inductive approach on the empirical study could be most applicable. However, a significant amount of relevant literature within the in-store technology area and previous academic findings helped us to understand the research question in the form of suggesting possible elements for the theoretical framework (Dubois & Gadde, 2002). Even if there is limited research on the specific topic of in-store applications due to its newness on the market, we could apply the findings of other types of in-store technologies to our study. The available current knowledge in the area implies that a deductive approach could also be relevant for our research. Therefore, our aim was to use both inductive and deductive approaches in a combination, also called an abductive approach, to get the benefits of both and overcome the limitations associated with choosing just one position (Bryman & Bell, 2015). In this section, we will further explain how the abductive approach was implied in our research and why it was relevant for the study.

In our study, we were partly applying a deductive approach since we constructed the initial theoretical framework from the previous literature findings. We reviewed the literature related to the topics of omnichannel, customer experience and customer adoption of in-store technology, including the SERVQUAL model (Parasuraman, Zeithaml & Berry, 1985). Further on, by connecting the previous academic findings to answer our research questions, we designed an initial theoretical framework that included possible research elements/areas. The framework guided us further into the design of our empirical research as we used its elements as areas to cover in the interview questions. However, there is not much academic research done in the specific area of in-store applications to answer our research question using hypotheses (Saunders, Lewis & Thornhill, 2009). Also, our research question could not be answered with only quantitative data as we were investigating customer insights as expectations and experiences and a gap between those. Therefore, we could not apply a deductive approach on its own. We believed that our study findings would modify the initial framework, so it would be applicable for researching in-store applications.

On the other hand, the inductive approach was within the core philosophy of our research as we were interested to understand how in-store applications are experienced versus expected and if there was a gap. To answer the research questions, we needed to gather customer insights through empirical qualitative data as the limited current academic knowledge did not allow us to generate hypotheses. However, the limitations of our research in terms of the amount of data did not enable us to create a significant theory on its own (Saunders, Lewis & Thornhill, 2009). At the same time, as discussed previously, we have gathered valuable existing knowledge within the area of in-store technologies, which might be applicable for our study. We conclude that an inductive approach on its own was not the best suitable option for our research as well.

The analysis of both deductive and inductive study directions led us to realise that the abductive approach was the most relevant for our study. According to both Dubois and Gadde (2002) and Bryman and Bell (2015), an abductive approach combines inductive and deductive approaches by connecting inputs from the world in the form of qualitative data, bringing new theoretical ideas to the research at the same time applying current and relevant knowledge. For our study, it meant that we first designed an initial theoretical framework based on the current academic knowledge in the area and used it for structuring our empirical study. However, we realised that the existing knowledge is mostly generated from other in-store technology areas and did not cover all aspects of our research questions. This implies that we found new insights that modified the initial framework. Therefore, we used the theoretical framework elements for partly structuring data generation, but did not limit ourselves in just those elements. On the contrary, we looked for in-depth customer insights on experiences and expectations to see if the elements found in theory were all relevant and if there were any new aspects that the theory did not cover. In this way, we believe that the application of an abductive approach strengthened the ability to answer our research questions.

## 3.3 Research Design

### 3.3.1. Research method

As discussed in the previous section, the usage of current academic literature for the theoretical study background and the exploratory nature of the phenomena led us to the abductive approach for our study. We used the previous findings to structure our empirical research, but at the same time, we also broadened it to make sure we could generate possibly new findings. Also, as our study required customer insight data outside the initial theoretical framework, we used open-ended questions and semi-structured interview method rather than standardized and in advance prepared questions (Easterby-Smith et al. 2018) which implies qualitative research design. Moreover, our philosophical approach in terms of ontology and epistemology also supported the choice of qualitative research design (Bryman & Bell, 2015; Easterby-Smith et al. 2018).



Qualitative research is based on various data collection methods. However, we concluded that the most discussed in academics are interviews, focus groups, ethnography, netnography and case studies. Each of the methods has its strengths and limitations. For example, interviews are well suitable for gathering individual experiences and views in a context that might be difficult to observe (Easterby-Smith et al. 2018). On the other hand, insights in focus groups are gathered through the interaction creating a joint meaning (Carson, Gilmore, Perry, & Gronhaug, 2001; Bryman & Bell, 2015), which participants might not see when interviewed individually. Ethnography would have given us insights of "what people really do rather than what they say (or even think) they do" (Elliott & Jankel-Elliott, 2003, p. 215). However, it highly relies on the interpretation of researchers and would not have provided conclusive findings enough. Netnography is "faster, simpler, and less expensive than ethnography and more naturalistic and unobtrusive than focus groups or interviews" according to Kozinets (2002, p. 61). Still, the essence of the method is finding the online community that is interested in the research question. Finally, case studies allow to research the topic thoroughly, but take longer time and have limitations when it comes to generalisation (Yin, 1981; Dubois & Gadde, 2002). As the variety of methods was available, it was important to evaluate them with a focus on our specific study.

However, the limitations for social interaction due to the COVID-19 virus restricted us from having physical contact with the respondents, including observations in shops. Therefore, we had to limit our research methods to the ones that could be executed through digital channels: video or phone interviews, online focus groups or netnography. We have searched on the Internet using Google and Facebook to see if there were any groups or forums of in-store applications users or fans, either in general or related to a specific retailer. Our analysis of current online communities showed that no forum or group is related to in-store applications and could help us to answer our research questions. Therefore, we had to choose between interviews or focus groups that should both be moved into a digital format.

After a thorough pros and cons analysis, we chose to conduct the study using semi-structured qualitative interviews. According to Gubrium and Holstein (2001) qualitative interview is a guided conversation where the researcher listens "so as to hear the meaning" (Rubin & Rubin, 1995, p. 7) of what is said. Therefore, this method was selected to give us individual in-depth insights into a social phenomenon of customers' expectations and experiences with in-store applications. Interviews are a good method for that, according to Gubrium and Holstein (2001) and Easterby-Smith et al. (2018). Moreover, according to Trost (2014), one-on-one interviews is a better method in comparison to focus groups when interviewers strive to get personal insights from everyone. In focus groups, people who are more at ease with speaking in public might take over the conversation, leaving other participants not able to speak their thoughts. Furthermore, focus groups often hinder people from unveiling what they think, as they fear they will be judged by the other participants (Trost, 2014). The video interview method allowed us to get an ongoing connection to a respondent for the period of an interview and gave us the possibility to analyse the emotions. It was more difficult to establish the same close connection online in comparison to face-to-face. However, in the current circumstances, we believed people were more used to this way of

communication. Our private interviews aimed to offer a relaxing setting, where respondents could be honest and open in their answers. To create such an atmosphere, we used down-to-earth and easy-going tone as well as prepared some interesting follow-up questions and asked for real-life examples. Moreover, it was more convenient for respondents to have individual interviews at their preferred time and place.

However, great individual interviews are, there are still limits to be considered. Where personal interviews are sometimes restricted to question-followed-by-answer situations, focus groups offer the opportunity of open conversations between participants, where different ideas and angles on a specific topic can arise from the discussions (Bryman & Bell, 2015). To meet this limitation in our empirical research, we stimulated an engaging dialogue by actively prompting answers from the interviewees with follow-up questions to get a deeper understanding of replies. Another issue that can arise from personal interviews is the need for the respondents to “look good”, meaning that their answers might reflect how they wish they were acting instead of how they actually behave. They might avoid looking like a fool in front of an interviewer, and it might happen that a person is telling the truth about how they actually acted and what experiences they had. This issue could firstly be mitigated by triangulating our findings with other data such as observations, but we were unable to do that due to the COVID-19 situation. Therefore, to limit that risk, we asked our respondents spontaneously to give some examples, so they do not have time to prepare the story in advance. We did not personally know the respondents. We assured them that they would stay anonymous, and we clearly stated that we were looking for their individual story as there were no good or bad answers. We comforted them during the interview, actively showing our interest in their personal stories, and when it was appropriate, we laughed with them. At the same time, we believed that our topic of in-store applications was not so sensitive in the privacy aspect, so the risk of not disclosing the truth was minimal.

### 3.3.2. Sampling

Personal hands-on experience using in-store applications was crucial to be able to reflect on experiences. At the same time, we believed that expectations could be better explained from customers who were already familiar with the tools. Taking this into account, we applied a purposive sampling strategy where the criteria were individual usage of in-store applications and the age of between 18 and 35 years. Firstly, we purposely interviewed customers who have used the in-store applications at least in the past 60 days. It would have been more relevant to interview customers as close as possible to the experience in order to get the maximum out of their memory (for example, interviews after check-out in shops). However, the duration here was extended to 60 days due to the current COVID-19 restrictions implemented in the middle of March 2020. Secondly, we focused on younger adults between the age of 18 and 35 years. According to Grewal et al. (2018), this category of people is more interested in using smartphones for information and evaluation purposes in stores. Further, the usage of smartphones by the younger adults’ group is “a natural part of their shopping practice” (Fuentes & Svingstedt, 2017, p. 141). Therefore, we

believed it was the most relevant respondent group for the purpose of our study focussed on in-store applications.

We have recruited our interview respondents through the social media channel Facebook posting a request in various groups related to universities (for example, “Discussion forum for business students and Stockholm University”) and other professional schools throughout Sweden, also start-ups (for example, “Malmö Startups”, “Media Evolution Community”) jobs and accommodation-related groups. The request was targeting active users of in-store applications of various shops, and the following examples were provided: IKEA, H&M, ICA, Coop, Hemköp, Biltema, Mediamarkt, Bauhaus. After having struggled to find respondents, in the beginning, we noticed that offering a small payment for participation highly increased interest. However, it also implied we received many messages from people interested in earning money, but not matching the respondent criteria stated in our post. To mitigate that possible bias, we adapted a thorough screening process, where respondents were asked to tell us before the interview, which in-store applications they use, how often and what they do with them. Only the respondents who were using more than one in-store application regularly and could give practical examples to prove it by answering our screening questions were offered to participate in the interview.

Facebook is a good platform for reaching high numbers of Swedish population of our targeted age group between 18 and 35, as approximately 90% are users (Tankovska, 2020). Therefore, we believe it offered diverse panel, and our approach was to search respondents among various types of groups (not only university-related) to get a more varied sample. The interview started with some personal information questions about age, occupation, location, and we could see a good diversity of respondents. The final sample included 14 respondents from 21 to 34 years; among those, there were three men and 11 women. We aimed for a more gender-balanced sample. However, we could not get more men that were interested in participating in our interviews. We see it as one of the limitations of our study. Nevertheless, the existing literature does not support that a more gender-balanced sample would have brought any other findings. Further, out of 14 respondents, we had three respondents of Swedish nationality. Still, all 14 respondents have been permanently living in Sweden for at least six months and the majority for a few years. We found it valuable to our study to have this diversity of nationalities as it offers a variety of customer perspectives in line with our qualitative study approach. Besides that, such a variety in our sample well represents the Swedish population, where 25,5% of inhabitants have a foreign background (SCB, 2020).

We excluded our family members and close friends for this research as we believe the close relationship might contribute to interview bias, such as imposing our own interpretation on answers, since we would think we know the interviewed person so well. Both Kvale (1994) and Carson et al. (2001) emphasise that it is essential to avoid imposing the researcher's perspective on respondents' replies when conducting and interpreting interviews. Considering the time and resources aspect of the empirical study, we used the non-probability sampling design (Easterby-

Smith et al. 2018). The interview participants can be found in Table 2. For the purpose of anonymity, the names have been altered.

*Table 2. Qualitative interviews respondents list*

<b>Name</b>	<b>Age</b>	<b>Nationality</b>	<b>Gender</b>	<b>Agreed interview</b>	<b>Current location</b>
Victoria	30	Lithuanian	Female	23/4 15.00	Malmö
Isabella	23	Bulgarian	Female	23/4 11.00	Lund
Pari	27	Indian	Female	22/4 12.00	Malmö
Marc	25	German	Male	22/4 16.00	Lund
Marie	25	Finish	Female	23/4 10.00	Lund
Pontus	32	Swedish	Male	23/4 10.00	Stockholm
Erika	30	Romanian	Female	28/4 20.45	Malmö
Julia	21	Swedish	Female	05/5 13.00	Stockholm
Alexandra	21	Russian	Female	27/4 16.00	Lund
Ebba	26	Swedish	Female	4/5 17.15	Stockholm
Sofia	27	Italian	Female	29/4 15.00	Malmö
Kishor	28	Indian	Male	29/4 11.30	Malmö
Cecilia	23	Ukrainian	Female	29/4 14.00	Borås
Azra	34	Turkish	Female	30/4 12.00	Malmö

We conclude that we recruited a good variety in our sample of in-store applications users as we had participants of age group 21-34, both genders, both Swedish and foreign background and living in various locations in Sweden. We gathered a variety of individual perspectives towards in-store and stopped recruiting new respondents when we saw a pattern in the respondents' answers, and therefore reaching data saturation.

### 3.4 Data Collection Method

In this study, we collected qualitative data through one-on-one qualitative interviews via video call on Facebook Messenger. The data that was needed to answer our research question is described as personal insights in the form of experiences and expectations towards in-store applications.

We prepared questions to conduct semi-structured interviews (see Appendix B) which allowed us to ask questions in a natural flow and gave us the advantage of being more flexible during the interviews. Following an abductive research approach, we deliberately formulated questions closely related to the elements of the initial theoretical framework. Still, at the same time, we used a variety of open questions that allowed the respondents to develop their own thoughts (Gillham, 2008). For this reason, we pre-structured our interviews with more general questions on shopping to see if we can indicate any other spontaneously mentioned elements outside the framework that could be further explored in the conversation.

We started interviews asking respondents to *“describe what a normal shopping day looks like”* to understand how they shop and what their relation to in-store applications is. This broad question gave us spontaneous insights into respondents' shopping as they were given the freedom to explain their behaviour and what they found most important. Then we directed the conversation towards shopping in physical stores which is the area of our study. We wanted to know why and when respondents shop in physical stores in comparison to online channels in order to understand the preferences and benefits of each. Later we brought up questions related to in-store technologies and then specifically in-store applications in order to see what respondents have used, what they think of them and even why they think so. To get thorough answers, we used the technique of laddering up with “why” and “how” questions. This helped us to understand and better interpret the answers and gave us more in-depth data (Gillham, 2008; Christensen, Engdahl, Gräas & Haglund, 2010). Questions like *“Why do you think that in-store applications are good/bad?”* helped us understand the reasons behind the respondents' opinions and their thoughts related to in-store applications' usefulness and ease-of-use.

The following questions focused on the respondents' experiences with in-store applications and were formulated based on the elements from our theoretical framework. The covered themes were integration across online and offline channels, personalised offers and other elements pertaining to the shopping experience. The laddering down technique was used when we felt that an example was important to add more context to the answer (Easterby-Smith et al. 2018). For example, we asked *“Could you give us an example of the personalised offers you receive?”* to identify the level of personalisation retailers are currently offering. Other times, we asked for examples concerning their explanation about the experience with in-store applications. It gave us the respondents' perception of specific applications and their functions.

We asked respondents to describe their ideal shop, followed by an ideal in-store application, including its design and functionality. We encouraged respondents to brainstorm and think of any

aspects of in-store applications they might find relevant with questions like “*If you could decide on how an application looks like, what functions would you like to have?*”. This gave us a better picture of the expectations regarding in-store applications and physical stores in general. We sometimes used techniques such as basic and explanatory probes to understand better certain answers that would have been incomplete otherwise (Bryman & Bell, 2015; Easterby-Smith et al. 2018). Some respondents could easily spontaneously come up with their expectations for applications, while others needed some probing.

The interview answers provided us with in-depth data for both experiences and expectations towards in-store applications in relation to the theoretical framework elements, but also new insights. Some respondents during the conversation mentioned the areas where their expectations were not met, while others were not clearly indicating a mismatch. When the gap was not clear from the respondents’ answers, we compared their expectations with their experiences afterwards in data analysis.

Before each interview, respondents received a Video Interview Consent Form (Appendix C). It is further discussed in the Ethical Consideration section. Interviews started with a short introduction, including the purpose of the research and permission to record the audio was verbally reconfirmed. Each interview took between 26 and 50 minutes. At the end of the interview, participants were asked to provide any other additional thoughts they had related to the topic that was not covered during the conversations.

In some cases, we noticed that the participants did not understand certain questions as their answers were not related to the questions asked. When that was the case, we gave examples to make it more understandable and relatable to real-life situations. We also sometimes used leading questions to avoid respondents answering off-topic. Kvale (1994) argues that leading questions can sometimes be beneficial in qualitative interviews, as they help to establish the direction the question aims to take. For example, we sometimes asked what the participants thought of retailers’ communication strategy regarding their in-store applications.

### 3.5 Data Analysis

As mentioned in previous chapters, the nature of our research is exploratory as we are analysing experiences and expectations towards in-store applications. Therefore, it is essential to collect all inputs provided by the respondents. Our first step was to transcribe each interview using specialist software (otter.ai), as advised by Easterby-Smith et al. (2018). We then reviewed the transcripts, correcting the words that the software had been unable to understand. The next step consisted of coding the written interviews to find patterns. According to Charmaz (2006), coding is categorising the data giving it a short name that summarises the meaning of the data. Our coding process followed the abductive approach, with both a deductive method by preliminarily selecting codes to

search in the interviews derived from our original theoretical framework (Easterby-Smith et al. 2018), but also with an inductive method of open coding when new findings could not be categorised with our initial themes. The first transcript was coded together for both of us to adopt a similar coding strategy for the other transcripts and minimise interpretation bias.

*Table 3. Examples of coding*

<b>Themes</b>	<b>Keywords</b>
Online and offline integration	Product information, price comparison, online shop
Personalisation	Privacy, personalised emails/SMS/offers, data tracking
Usefulness	convenient, easy to find, information, membership card, planning, location, time-saving
Enjoyment	entertaining, fun, relaxing, inspiring
Ease-of-use	easy, difficult, user-friendly, basic, confusing, complicated
Communication	application advertising, transparency, downloading application
Shopping elements	Clean, organized, spacious, personnel, atmosphere, music, light

The themes were based on the theoretical framework from the second chapter (see Table 3). Thus, answers pertaining to each theme were colour-coded, and quotes were gathered in an excel sheet. This turned out to be harder than anticipated, as some of the answers given by respondents could have been linked to more than one theme. Having exclusive categories makes it easier to code each item, as discussed by Bryman and Bell (2015).

We then created a second excel sheet where we interpreted the quotes and classified them depending on the category they belonged to. For example, some respondents talked about the issue of having personalised offers or data privacy. This item was classified to the personalisation theme. Some aspects were later dropped to present a readable and understandable empirical data. This is close to what Rennstam and Wästerfors (2018) refer to as categorical reduction, but instead of reducing the number of categories, we reduced the number of elements in each category.

Additionally, we divided the data into experiences and expectations, as our purpose is to find any gaps between the experience of consumers and their expectations of in-store applications. Any mismatch between the two categories would form the gaps discussed in the analysis.

### 3.6 Methodological Limitations

As mentioned previously, the quality of research can be enhanced when ontological and epistemological approaches are defined (Easterby-Smith et al. 2018). However, the ethos of the research is not enough to assess its quality. The trustworthiness and strength of the research are usually discussed in relation to its validity, generalizability and reliability (Kvale & Brinkmann, 2009).

According to Seale (1999), there can be two kinds of validity: internal and external. Internal validity refers to the relevance of the study, whether its results are justifiable and convincing (Kvale, 1994). Validity from a constructionist perspective means including a variety of perspectives raised by the respondents (Easterby-Smith et al. 2018). In our study, we aimed to include all respondents' perspectives, even if it was a single opinion, to achieve internal validity. Triangulation could have increased the study validity and its trustworthiness even further by using more than one qualitative method or mixing qualitative with quantitative (Easterby-Smith et al. 2018). We initially thought to triangulate the interviews data with customer observations in stores. However, due to COVID-19, we could not do that and were therefore limited to interviews based on respondents' memories about their experiences. Ultimately it became more difficult to find active in-store applications users. Although some respondents were frequent users and provided us with interesting data, others did not use applications so actively. Cooperating with a retailer would have been beneficial, as we would have gained access to customers using in-store applications.

External validity pertains to the *generalizability* of the results (Seale, 1999; Christensen et al. 2010). If the research had been conducted in other settings, would it have yielded the same outcomes? How transferable are those results in other sectors (Kvale & Brinkmann, 2009)? As we did not focus on one retail sector, but rather on in-store applications in general, we believe that our research would yield results in specific sectors likewise. Nevertheless, we were not able to gather data from every retailing sector, and it is therefore not impossible that additional aspects can be found in specific sectors. The gender imbalance between female (11) and male (3) respondents can also be discussed. We would have wished to interview more men, but considering the difficulty of finding in-store application users, we focused on finding appropriate participants instead of evening out the genders. Having more men as respondents could have given us new perspectives for the study. Our results should, therefore, not be generalised but rather seen as a part of the equation that in-store applications play in customers' in-store experience.

Reliability assesses whether the same results would be found if other researchers were to study the same phenomenon. From this definition, it can be said that reliability is closely related to replicability (Aguinis & Solarino, 2019). The method process has been described in detail, leaving



other researchers the possibility to replicate the study. The codes used for analysing the data were also discussed, making our method clear. As an area for our study improvement, we see the elements primarily chosen in the theoretical framework. They were set as themes for categorising the codes. Some codes could have been used for more than one theme, which made it more difficult to categorise. Certain codes used for personalisation could, for example, have been used for integration of online and offline channels instead. Establishing mutually exclusive categories would have facilitated the data analysis and the coding part, as discussed by Bryman and Bell (2015). Finally, given that some respondents were not Swedish, but have been living in Sweden for at least a few months, their experiences with in-store applications might differ from an entirely Swedish residents panel. Discussed earlier in the chapter, 25,5% of the Swedish population have foreign backgrounds (SCB, 2020). A perfect replication of the respondents interviewed should, therefore, include people from different nationalities living in Sweden.

### 3.7 Ethical Considerations

We believe that ethics is a necessary element for any professional research, and therefore, ethical considerations were part of our study at all stages. According to Easterby-Smith et al. (2018), ethical principles can be divided into the ones that protect interests of research subjects - in our case, respondents, and the ones that ensure the accuracy of the study itself and limits any potential bias that may occur, which we have discussed in the previous chapter.

In order to make sure we protect our respondents, we followed the principles of no harm, dignity, be informed, privacy, confidentiality and anonymity (Easterby-Smith et al. 2018, p. 157). We have fully respected those principals and followed them without compromise at all times. To recruit participants, we believe it was essential to present the research idea and purpose so that the respondents were aware of why we are collecting the data and how it will be used. In our posts in various Facebook groups, we have provided such information in brief, including the criteria for respondents that can participate in the research. To ensure anonymity, any interested participants could contact us via private message. However, we realised that using Facebook as a recruiting channel has been disturbing researchers' privacy as some of the messages received were not related to our post.

After a respondent was recruited and before every video interview agreed, he or she received a consent form (Appendix C) via the agreed communication channel. The consent form included the permission to audio-record the video interviews, statements about voluntary participation or 100 SEK reward and anonymous approach to data collected. The consent form was sent prior to the interview well in advance, so the participants have the opportunity to familiarise themselves with it. However, at the beginning of every interview after introducing ourselves, we presented the research purpose and reminded about the voice-recording.

To research an ethical way, we have agreed on the behaviour guidelines such as polite and welcoming greeting and introduction as well as being prepared to rephrase any of the questions if participants do not understand them. Our goal was to maintain a relaxed atmosphere encouraging free conversation. In this way, we could comfort the respondents to talk openly and feel comfortable about any of the questions. Participants were informed that they could stop the interview at any time or ask to skip any question they do not want to answer; however, this was not the case in our interviews. Additionally, participants had an opportunity to ask questions at any time during the interview.

When it comes to privacy, confidentiality and anonymity, we have protected the identity of the participants by assigning them pseudo names in our research paper. The transcription data was limited to sharing among the two of us and if requested, by any of the master thesis academic team in Lund University.

### 3.8 Chapter Summary

Our research philosophy is built on relativism ontology and constructivism epistemology that lead us to qualitative research methodology. We applied an abductive research approach as we used existing academic knowledge within other in-store technologies for creating an initial theoretical framework, but at the same time looking for new customer insights that were applicable for in-store applications. We conducted 14 semi-structured video interviews with active users of in-store applications to explore their experiences and expectations towards such technology. The small sample size is related to some methodological limitations such as generalizability. However, the variety of respondents brought many different perspectives allowing us to reach data saturation.

## 4. Empirical Findings

The following chapter presents the thoughts and insights of our respondents during the interviews (see Appendix B for the interview questions). The chapter is structured based on the elements in our theoretical framework. The answers that could not be classified under any element are presented as “other findings” and are discussed at the end of the chapter. Certain thoughts presented were expressed by several respondents, but we also included single perspectives. Based on our qualitative approach, the latter ones are also important as we look for a variety of individual views that are representing other people that were not interviewed in this study.

### 4.1 Online and offline integration

In-store applications are primarily tools designed by retailers to provide customers with online benefits in the physical environment. The in-depth interviews showed that respondents often use in-store applications for shopping preparation to have a more efficient time in the actual shop. Some customers prefer to prepare for shopping at home and be efficient when in the actual store:

“Well, I spend much more time on checking stuff before I go to the store, rather than in the store. And yeah, as I said, I prefer to be fast in the store, because I don't like spending too much time there [...] And I prefer just to lay in my bed in my house for an hour. Taking the applications rather than go spend this half an hour in the store”. (Isabella)

Another reason for using mobile applications before rather than during the actual shopping is to find grocery shops which have the best deals:

“.. I have a look at the prices and offers that are there for each week. So, for example, sometimes I would go to Willys, and sometimes I would go to Lidl. Sometimes I go to ICA depending on where the price was better”. (Pari)

The interview findings also showed that the in-store applications yet have limited functionality when it comes to online and offline integration to be beneficial for use in actual stores. The respondents use them in stores mostly for shopping lists, finding offers, scanning the membership cards, receiving digital receipts or accessing the self-scanner. However, there is a limited number of stores that offer those functions in Sweden and the respondents besides preparing for shopping

at home, are typically using one or just a few functions of applications in their usual stores like H&M, IKEA, ICA, COOP, Hemköp and Lidl.

According to many of our respondents, customers' expectations for integration of in-store applications into physical stores are not fully met in several areas. For example, it is not easy to find products after seeing them online in the actual stores. Respondents explained their expectations towards digital maps:

“I think that one thing that is missing a lot is like mapping the stores. Yes, they have everything digitalised as a catalogue but not as in location wise. Which I think will be great help in clothes, in food, in electronics, anything like if they can tell you just turn here, go there.” (Sofia)

“The best one would be where I can put something like okay, I'm looking for this, where can I find it within the store. Because even when you've been to a place 30 times, you still are not 100 per cent sure which product is where.” (Pari)

IKEA and Systembolaget offer product location information in their in-store applications, and these are well-appreciated features by some of our respondents:

“Because in the case of Systembolaget, their function with telling the section and the exact shelf, where they have a specific product, that's then I can plan ahead, my shopping, if I know that I'm going to buy five different products, it's very it's faster to look up before in their application or once I get to the store as well to see where exactly they have the product, so it makes my shopping more efficient.” (Ebba)

Even some in-store applications offer product availability, size and information; however, our respondents tell about their experience with data integration failures:

“I've had like many experiences like that I would find something on the app or a website, and that I would come to store, and then it turns out, that's a mistake”. (Alexandra)

The respondents emphasised that it is easy to find products online after seeing them in the physical shops as the online search functions work well. However, they often use not a specific retailer application, but search engines and other websites to find the cheapest item that they saw and liked in the store:

“But if I go to the store and I see maybe a deal on lipstick, I don't need it right away, then I usually check on some websites like Lyko or Nordicfeel when I find the best deal then I end up buying it online”. (Victoria)

“..What I do is I always google the product I want to buy from technology, electronic markets, in Amazon, or in other things, because I think stores are more expensive than the internet [...], I'm not stupid”. (Azra)

At the same time, some respondents are even checking other grocery shops while shopping in the physical shops to see if the product is cheaper somewhere else:

“I compare prices, so I will be in... For instance, I will be at Lidl and I will go into the ICA app to check if that product is more expensive or not. It's cross-checking most of the time for me.” (Sofia)

According to many of our respondents, online channels still cannot offer customers a clear impression of the actual products. Retailers' online offers do not yet represent the products well enough, creating uncertainty for the customers. Instead, they choose to go to physical stores to see, feel, try the product and materials, especially if the brand is not known or a purchase is of more significant value:

“I need to be sure it's like it has a good quality. And then I wouldn't be sure from the picture that like, how it feels or anything. Then I would switch to offline. Because then you can actually see, experience and try it. Sometimes pictures maybe distort colours [...]. But if it's a new brand, I will be unsure about the sizes, how they fit, like, what's different. Are they actually what they say about themselves, then I would want to go to a store? Also, when it's some big purchase, I would also prefer to be physical.” (Alexandra)

For a better integration between online and offline, customers expect to find more information about products online, such as sustainability facts, ingredients safety, nutrition, expiry dates:

“...I think I would like to know more about the ethical and sustainable parts of it. I think often it's not really highlighted enough. [...] I was ordering cream from a pharmacy. And I was quite worried like what if it has a very short expiry date, for example, I wouldn't be able to check that. Yeah, then I would rather prefer to be in the physical store to see that I am getting a fresh product, for example, as well, but if that information was given in the app, I wouldn't worry about it”. (Alexandra)

In general, the respondents had high expectations of retailers in regards to online and offline integration that are not met yet: mobile checkout, mobile scanning instead of self-scanning, digital assistance, AI, image recognition and many others. According to interview findings, in-store applications should be further developed in terms of integration.

## 4.2 Personalisation

The interview findings indicate that customers are receiving an enormous amount of various offers from the retailers, and those offers are not always appreciated, but on the contrary, are seen as annoying or even disappointing. Our respondents see those offers as being generic and, in most cases, not meeting their needs, and part of those offers are coming directly to their in-store applications:

“Ah... disappointment. My expectation is that, you know, when you sign up for these kinds of stuff that you will get personalised stuff that you might like [...] But when I get these kinds of messages, I feel like, ah not again, nothing”. (Pontus)

However, some of the offers, according to the interview findings, are valuable. They can help to save some money, especially if they are received from favourite brands in the form of discount coupons for any of their products providing a free choice. Our respondents also pointed out that some grocery chains seem to track their purchase history and offer personalised offers which are appreciated:

“It was like you tend to buy this product, so you will get this product for free. There might also be some discount, and then I think it's very good. I like the personalisation.” (Marie)

The interview respondents expect retailers to send them more personalised and relevant offers as they have access to their purchase data. On the other hand, there should not be too many offers and messages, but instead, the right amount that the customers can decide themselves, either once a day, a week or a month:

“It's important that the stores don't overdo it. Don't send too much. Otherwise, you're just like skip everything”. (Alexandra)

“I get extremely frustrated, because every time I sign up to something with my email, they just keep sending and sending and sending and it just, you know, it's hard to like to follow, I just ended up deleting all of them.” (Victoria)

Even if many respondents would expect more personalised offers, at the same time, some of them question and worry about data privacy and tracking:

“I mean it's nice, but I didn't ask for it, like, I don't know. It just gives a weird like privacy-related feeling that they really like track you. But, I mean sometimes it works well.” (Alexandra)

Some of the respondents are more concerned about their privacy than others and prefer not to get personalised offers at all. They are actively looking for technical solutions to reject such offers, for example:

“I don't like it too much to be honest, because I feel like they're spying on me and then I generally refuse cookies. Always, I always take that extra second to say no to all those kinds of options unless, you know, you can refuse the necessary cookies, or still there, of course, to make everything run. But otherwise, I tend to keep it as private as possible. I would say I don't like to receive notification or emails about all look, this is on discount now I will check it myself if I need it.” (Sofia)

On the other hand, some respondents enjoy personalisation and are not concerned about privacy:

“I'm not like, at all worried about that they might find some information for me. I'm not sceptical that they might misuse my information. I'm just, I'm just happy if they can provide me with a personalised advice like offer, so I don't mind it at all.” (Marie)

To sum up, the interview findings suggest that the current offers from retailers are not sufficiently personalised and do not fully meet our respondents' expectations. Respondents feel that the offers are too generic and sent to everyone. However, grocery store ICA has been mentioned as a good example of providing personalised offers. There was a split opinion in regards to privacy concerns among the respondents.

### 4.3 Usefulness

According to previous literature findings, usefulness in regards to in-store technologies can be analysed in terms of time-saving and convenience. The findings of the interviews confirmed that customers find in-store applications useful in the way that shopping can be faster and more convenient. For example, Systembolaget application helps to find products in stores:

“I know that I'm going to buy five different products, it's very.. it's faster to look up before in their application or once I get to the store as well to see where exactly they have the product, so it makes my shopping more efficient.” (Ebba)

Mobile applications make shopping more efficient, but also help in making more informed decisions, which is a new dimension of usefulness besides previously mentioned time-saving and convenience:

“I think it's made it more efficient with all the shopping, more informative because you can look up whatever you want. [...]. You are getting access to information right from home, and you can make a more informed decision about what or not you want to buy. So, I think this way applications are just basically helping you to be more efficient.” (Kishor)

The efficiency can be firstly explained as it is quicker and easier to find actual products and product information in stores. Furthermore, for example, using mobile applications, one can check the availability of product and sizes in the actual store or other nearby stores:

“If it's some clothing and I really want to try on my size, but didn't see it in the store I would check which store has it and I would go there and try it there.” (Alexandra)

Additional tools, such as QR codes in stores, are found as useful and at the same time exciting features in shops:

“...They had like QR codes in the posters. So, you could just scan that on the camera app and see offer details within your mobile phone. So that was something I found super fascinating”. (Pari)

The ability to plan shopping to spend less time in the actual shops is another benefit of in-store applications. Many of our respondents think that this way of shopping, which is preparing and planning at home, makes their presence shorter in the actual shops. However, the time that they save in a store, they use it for shopping preparation at home, and it is more pleasurable:

“It's probably not faster, because I spent this time before, but it's nicer because I do it in my bed. Okay. And instead of like, being between all the people who are making noise”. (Isabella)

To sum up, usefulness as a convenience and time saving is both experienced and further expected features of in-store applications according to our respondents. As previously explained in the online & offline integration section, customers expect more information and functionality from applications than they offer today. In comparison to other in-store technologies, mobile applications have also been found useful as they enable customers to make more informed decisions.

## 4.4 Ease of use

According to interviewees, not all mobile applications are easy to use. The respondents gave us some examples on which in-store applications they use and what they think of them. Some respondents, for instance, praised IKEA's application, as they can navigate easily through it and can get the information they are looking for. However, something that some respondents feel is missing in most applications is the possibility of changing the language. According to them, it makes it harder to use the application if they are not fluent in Swedish:

“But when in some applications you choose the location saying Sweden, the language automatically changes to Swedish. So maybe this is not super great, because there should be an individual option for languages. Because I think in IKEA when you say IKEA Sverige, then it's all Swedish. That's something that as an international in Sweden, that's the first thing that comes to my mind. I mean, I can survive with Swedish, but it's good if it's English.” (Kishor)

“Like lots of applications in Sweden don't have that option. For a country that prides itself to be bilingual, I find that a big downside because not everybody speaks Swedish.” (Sofia)

However, not everyone was positive about the IKEA application. The navigation on the application was criticised for being confusing, and respondents did not understand why there need to be two different applications for one retailer:

“But I think the IKEA app is not good at all. And I think there are also two applications, one in-store and another one just IKEA. I think this is super confusing, because well you don't need to make applications for the same store, basically and secondly, I think the functionality by itself is really shit. Like, they could develop so much more.” (Cecilia)



Some enjoy the design of specific applications. They expect applications to require as little clicks as possible to find the information, and the settings to be simple to understand. The application of Systembolaget is convenient and easy to use when in the store:

“I think it's... I really like it. Yeah, both because it's user friendly. I've never experienced any malfunction. And it contains the information I need.” (Ebba)

“It should be really simple to use. I mean, of course, I can handle complex things. But when you want to access something, it's really good, very simple.” (Kishor)

Sometimes, the design makes it more difficult for customers to find what they are looking for. The respondents also get overwhelmed with the overflow of information on applications. Although they do enjoy being able to search for information about products by themselves, it sometimes becomes disorganised and more challenging to find that specific product. Similarly, the respondents were a little anxious about how the future will look like. If every store were to provide an application for customers, it would become confusing and frustrate people instead of helping them.

“I mean, it's not appealing [the design]. [...] I know that it's retaining a lot of product assortment and variety and everything. But sometimes I think it's too much information at once.” (Erika)

“I think it's also very frustrating if every single store will get its own app, maybe if you were expected to use it, like 100%. [...] I think that would just get very messy on my phone.” (Victoria).

Other times, the fact that a membership is needed to be able to use the application can be irritating. Instead of using the application directly, consumers are asked to register and log in to their account and give additional personal information:

“The other one can have an app, which isn't functional and makes me annoyed. I had to wait for the Apple Store to download it and [it] immediately asked for some tasks and asks me the membership and I cannot figure it out.” (Azra)

Finally, the ease of use of an application depends on how prone consumers are to technology. Some feel more comfortable and will look for advance functions, whereas others are looking for simpler applications that are easy to understand and use:

“Yeah, I think so, it [using applications] makes it a lot easier. I think. Also, I just feel really comfortable with tech.” (Alexandra)

“I think they're good because they're kind of simple. They're not too much. They're kind of basic. I mean, but I also use them for a basic thing to do my shopping list. So, I don't really need a lot of elaborated stuff on them.” (Isabella)

Overall, the majority of respondents experience the applications to be easy and smooth to use, while few applications are found to be too complicated and containing too much information. The

level of complexity of an application also depends on the respondent's savviness of technology. Certain participants look for more advanced and sophisticated applications, while others are happy with essential functions such as product information and shopping lists. Further, some respondents also felt anxious with the flow of information on specific applications and wondered what the future would look like if every retailer had their applications.

## 4.5 Enjoyment

Enjoyment or fun was not spontaneously mentioned as an experienced or expected benefit of in-store applications during the interviews. Instead, respondents find some retailers' applications are inspiring, such as Lidl, IKEA and Desigual. The main reason is that the respondents can see a complete solution instead of a single product presentation. For example, in its application, Lidl promotes brochures of national food coming from various countries around the world during some weeks. Some of our respondents enjoy that concept of Lidl, however, they just sometimes use the mobile application, but more often look at a paper brochure which is delivered home:

“Some stores it is like it is for ideas. I enjoyed it very much. I know, for example, the Lidl brochure.” (Azra)

When it comes to the mobile application of Lidl, some respondents clearly state that they do not enjoy it as it is not so well developed:

“Lidl is very old fashioned. They have nothing. So I tried to use it, but then you still have to go there to check you know, you just know that it might be cheaper a little or you might find that product because it's an international store. So maybe Italian sometimes I find stuff that I wouldn't find on ICA, but it could definitely be developed better.” (Sofia)

IKEA mobile application offers an inspiration section for designing a whole room with its furniture. Desigual is offering videos of clothes while wearing them:

“Desigual, for example, doesn't just put the clothes, but they have short videos of the woman walking, and I say she's very thin, it will not look like that, but they have a 3D image of the dress. I think that's also very successful.” (Azra)

The interviews showed that some participants find enjoyment in actual shopping activity in physical stores, where they can feel, touch, see the fabrics, try items or even get inspired:

“I'm already looking for inspiration in the store, why should I look for it on the app as well? So, for me, that's a bit of a waste of time.” (Marc)

According to the respondents, the usage of mobile applications does not bring enjoyment, but is more functional, convenient, as it provides help and is useful. For example, being able to find recipes on an ICA application is convenient:

“I make the list or like okay, I look up the recipes, and so I'm not in the store. Okay. And whereas in the store I can have it, so I don't need to start searching for it [...] For ICA (application) the recipes are mostly for me. I think they're good. And I think this is useful.” (Marie)

However, some of our respondents have tried more advanced in-store applications outside Sweden, where they offer some unique features like a digital personal assistant. This is seen as entertaining, fun and providing a unique experience:

“Actually, in Madrid, I had a quite unique experience with one store. My professor was talking about the special app for the store that I tried. And it kind of tracked the wi-fi signals of the phone when you enter the store, and like a special advertisement will pop up on your phone. So it will kind of be like a personal assistance on your phone [...] It was like a really different kind of experience. And I think there's lots of future for stores using phone applications”. (Alexandra)

The respondents, while asked about their expectations towards in-store applications, listed various functions to make their shopping faster and more convenient. They did not spontaneously think of, for example, inspirational features. Nevertheless, when asked, they believed that some personalised recommendations and relevant inspiration could be beneficial for them, like, for example:

“[From in-store application I expect] something more personalised that can recommend you something similar maybe, while in case of clothing, some ideas from stylists, also based on your body type and so on. And case of food, well maybe develop the ICA recipe idea, but make it more interactive”. (Alexandra)

To conclude, according to the interviews, enjoyment is not a significant part of experiences or expectations of in-store applications. Other elements, like convenience and personalisation, are seen as more relevant.

## 4.6 Other shopping elements

The respondents were also asked about the other elements that affected their shopping experience in physical stores. According to them, the atmosphere of the store plays an important part in the shopping experience. For example, both the music played in the store and the lighting could either be beneficial or annoy customers:

“I find that most stores go for very bright, very poppy colours. I think that while it's nice for some extent if it's too much, it's just overwhelming. [...] If there's nice music in the background, it just

creates a nice atmosphere. But if it's very loud, very upbeat the whole time, it can be quite exhausting" (Marc)

"And, and then also I think the lightning is very important and that it should be like, try to be as close to like the natural lighting, for example." (Marie)

Further, the interviewees also expect the stores to be clean, spacious and tidy. Seeing dust in the store or clothes left on the floor leaves an impression of messiness and disorganisation, which affects the shopping experience of customers:

"And if it's like messy, I wouldn't really want to look through what they have, I guess." (Alexandra)

"But also that it is, I think it's important that it's tidy in the store. It shouldn't be dusty. For example, like, in some stores, you can see when you lift the product that it sort of marks around where it's been because it's dirty, [...] it's important for me that they keep it clean and organized in the store." (Ebba)

Another essential aspect of the shopping experience is the interaction with the personnel of the store. While they do not necessarily want employees to come to them on their own, they expect to find available staff when they have questions:

"I have a better experience if the staff they don't have to talk that much to me, but if they smile, for example, I think that gives me a better experience of the store in general." (Ebba)

"I don't really care for how they approach me. So, It just feels fake [...]. It almost feels stressful." (Victoria)

However, the respondents often experience a lack of good customer service from the personnel. It can be because the employees cannot be found, are unavailable or even because they are rude to the customers:

"There's been instances when I found the store employee not that great. So of course, I'm not interested to buy anything anymore. I mean, with all respect to the store employee, maybe he has had a bad day, but I think the most important thing is the human interaction." (Kishor)

"Because otherwise the personnel is quite hard to be found and I don't really, don't want to spend, I don't know 10-15 minutes to look for someone." (Erika)

According to the interviewees, all of the aspects mentioned above had little effect on their experience with the application. Instead, if the application and/or the website of the retailers is perceived as being good quality, certain respondents expect the same quality of service from the physical stores:

“If I see that their website or their app is excellent, I am expecting the level of like perfection, even in the physical world, you know [...] you can expect in reality and usually also by the efficiency of the company, the best.” (Sofia)

At the same time, many respondents explained to us that they expect good stores to have good quality in-store applications and the other way around:

“I believe that you have to maintain, to invest in an app; you need some effort and money. So if the store is trying [create an application], is that it gives you the indication that, okay, they are trying to do a good job. So, they also take care of their clothes. They also create better quality clothes” (Azra)

“If I did have the app and the store was nice, but then everything was not functioning with the app, I think that would also make me frustrated. [...] So it would be nice that the app and the store reflect each others values.” (Victoria)

Elements like music, lights and tidiness are important for the consumers. They can either create a pleasant shopping experience or instead irritate the consumers. The most crucial element that affects our respondents’ experience is their interactions with store employees. Although they might not need their help, they expect employees to be available and amicable when required. Moreover, our findings show that respondents have higher expectations for known and more prominent brands in-store applications as well as for their physical stores. They believe that the brand image sets a certain standard for the in-store application quality.

## 4.7 Communication

Several respondents in our interviews felt that retailers do not communicate enough about their applications. Quite often, consumers are not even aware that an application exists. They expect retailers to communicate more about the functions that those applications have:

“I think the retailers should be better at communicating to us consumers if they want us to start using them. Yeah. Because then I think that they would be of like big relief when we do our shopping. [...] I just think that they should emphasize more on what functions... What like the value they can bring to the consumers.” (Marie)

“Well, with some of them I didn't even know they had an app until I looked for it. You know, most of the time I think it's not really advertised at all.” (Sofia)

Our respondents also see the application as a way to be more transparent about their products. As mentioned in the online/offline integration part, they expect retailers to give out more information through the application. Information that might otherwise not be available in the physical store.

“I told you before a little bit more transparency for people to get more aware of that feature and to be more conscious when it comes to the food that they purchase.” (Erika)

“I think it would be a good opportunity for them to be more transparent, in their, like, way of conducting their business. Yeah. And I would definitely expect that because it can be quite tricky to find.” (Marie)

Finally, some respondents expressed her doubts concerning the benefits of current applications, seeing it as something that retailers have because it is the trend instead of actually developing it:

“I just think they [the applications] are there because they have to be there, you know because they [the retailers] want to jump on this technology movement and so on. Somehow.” (Marie)

Marie’s thought coincides with another respondent’s view on retailers with applications. Usually, retailers with applications seem more digital and more attractive. That a brand has an application that shows how big the brand is, and that its products are of a certain quality, a certain standard:

“I think I mean, websites could work too, but if they have an app, I just have a better impression that they're more digital, more like innovative. So, it's kind of like creating a good reputation.” (Alexandra)

“So it [the application] doesn't give you the idea of the brand, but it gives you the idea that the brand is big. And it gives you the idea that the product shouldn't be so shitty.” (Azra)

The communication of retailers concerning their applications is found to be weak. Some respondents were unaware of the existence of certain applications until they found them themselves. They expect retailers to use their applications to be more transparent about product origin and the material/fabrics used for them.

## 4.8 Other findings

The answers from our respondents led to new findings that were not part of any elements of our initial framework. For example, the interviewees felt that using an application to find information about products and offers was a good alternative to paper catalogues from a sustainability point of view:

“I really loved those small catalogues that they were sending. But then I felt also that it was like a waste of paper and everything while with the phone I can perceive better those products that are inside.” (Erika)

Nevertheless, not all aspects of applications were perceived positively. A few respondents were concerned about what using the applications meant for human interactions. Even though they would instead shop alone without having to ask for assistance, they sometimes see the digitalisation of stores from a worried eye:

“You forget that you could just turn around and ask someone, and sometimes they tell you just look on your phone. That's the answer. Even if they know the answer. It's depressing in a way.” (Sofia)

Also, some respondents expressed their concerns about what the applications meant for their consumption. While the advancements of in-store technologies offer new opportunities, they also encourage people to buy and consume more, as they spend more time actively using the applications, see offers and can easily and quickly make a purchase. Those are aspects that our respondents found worrisome:

“We were buying less, for example, now we have a tendency to buy more. [...] If you think in terms of how the digitalisation, the growth, but in terms of consumption, I'm seeing it as a negative.” (Erika)

At the same time, there is a split opinion among respondents in regards to loyalty. Some respondents stated that the use of in-store application does not make them purchase more from one specific retailer, while others felt that it makes them more loyal:

“In some ways, I think, for example, with Espresso House, I buy more coffee than I usually would. And maybe also prevents me from going to other different coffee places because it becomes more convenient [...] I think in one sense, it's sort of solidifies you as a customer so that I have noticed.” (Victoria)

“So I think overall, it makes [me] really consume more, or it makes me spend more time with them [the applications].” (Azra)

“Just made it more convenient. It wouldn't probably force me to shop more, to be honest.” (Cecilia)

Finally, some respondents mentioned that their background might be the reason for being more interested in physical stores than shopping online:

“Well, I would say that I'm just more used to physical stores. Because firstly maybe because in Bulgaria, where I'm from, it's not like online has been a thing until kind of recently. So basically, everybody has been like, I mean, since I was a kid, I've been going to stores, and it's like a whole experience” (Isabella)

As well, they stated that the difference in the preferences for human in comparison to a machine (in-store application) interaction is dependent on the culture:

“Yeah, you know, we are from a different culture. For that, I can do examples for me and my husband. I'm from Turkey; the service is very high quality for people who can work there. [...] I want somebody to check from the system. And I don't want to check, guys. [...] Yeah, I think my husband doesn't like to be chased because we were thinking of buying pants, jeans, you know, how to see the size.[...] But he's like no, I will find that, and he is half an hour there, trying to find it by himself. It is not logical, you know.” (Azra)

The interviews provided us with some additional interesting findings. Among other things, the respondents brought up the benefits of applications concerning sustainability. They see applications as a sustainable alternative to paper catalogues. However, the use of applications also means less human contact in stores and more consumption, which our respondents felt was worrying for the future. Finally, the interviews also showed that the use of applications and shopping behaviour, in general, differs depending on the respondent's background. In certain countries, the technology is not as developed, or the culture is simply different, meaning that consumers will act differently in physical stores.

## 4.9 Chapter Summary

According to our interview respondents, even if the in-store applications seem to be useful, the expectations towards online and offline integration are not met yet, and it should be further developed. While some respondents found them easy and smooth to use, others thought they are too complicated. Enjoyment is not currently a significant part of experiences or expectations of in-store applications. Other shopping elements such as the atmosphere, the tidiness and the interaction with employees were important for the consumers. However, they did not influence their experiences and expectations towards applications. Instead, we found that expectations towards in-store applications are higher for retailers with a well-known image. The respondents experienced too little communication from retailers in relation to the applications and expected more transparency. Our other findings disclosed that some respondents emphasised sustainability towards the usage of in-store applications and worried about the future of human interaction and the overload of information. Some respondents stated that due to in-store applications, they consume more or even become more loyal to a retailer. Besides, interview respondents believed that their foreign background had an impact on their shopping behaviour, including the usage of in-store applications.



## 5. Discussion

In this chapter, we discuss the empirical findings in relation to previously presented theoretical academic findings. We discuss the relevance of the elements of the initial theoretical framework and argue for newly found elements that are relevant to answer our research questions.

### 5.1 Customers expectations and experiences towards in-store applications

#### 5.1.1 Usefulness

Perceived usefulness is one of the key factors affecting customers' adoption of technologies, according to TAM (Davis, Bagozzi & Warshaw, 1989). Previous studies suggest that customers perceive usefulness in relation to time-saving and convenience (Berry, Seiders & Grewal, 2002; Anitsal & Flint, 2006). According to the findings of our interviews, usefulness is a key benefit of in-store applications among its users and is achieved through online and offline integration and personalisation.

#### **Online and offline integration**

Integrating and connecting retailing channels is essential to create a seamless experience for a customer (Shi et al. 2020). Firstly, our interviews reveal that customers use mobile applications to have more efficient shopping, as they can find both the location and more information about products quicker and easier in physical stores. This is in line with previous academic research findings stating that speed and convenience are the main reasons for choosing other in-store technologies, such as self-scanning and self check-out (Dabholkar, Bobbitt & Lee, 2003; Kowatsch & Maass; 2010; Elliott, Meng & Hall; 2012). Usefulness is essential for adopting other in-store technologies, such as virtual mirror and interactive dressing room (Kim et al. 2017). Our findings show that customers use the applications before going to the store, as they still find the in-store functions to be limited. Their use of the applications in-store can be summarised to minor functions such as creating a shopping list, looking for offers or using their membership cards and some others. Although such functions can help consumers to address their shopping more efficiently, it lacks

the benefits of adding values to the shopping experience. According to our findings, customers expect a location-based navigation system on the application where they would be able to find products in the store. Kang, Mun and Johnson (2015) has researched intentions for download and usage for mobile location-based retail applications and discovered that interactivity and compatibility were important involvement factors. However, only a few retailers currently offer any digital map function on their mobile applications to help customers find products quicker in stores. Such function would decrease customers' shopping time and waiting time, thus contributing to good customer experience (Berry, Seiders & Grewal, 2002; Anitsal & Flint, 2006; Weijters et al. 2007; Elliott, Meng & Hall, 2012). Therefore, we believe that equipping mobile applications with digital map functions can help retailers to improve their customers' shopping experience and satisfaction.

Additionally, besides the feature of finding products quicker and easier, the findings of our interviews suggest that customers find mobile applications as useful when it is possible to find various information such as availability of product and sizes in the actual store or other nearby stores. According to Kallweit, Spreer and Toporowski (2014), in-store technologies are perceived as being useful as a communication tool for retailers and as an information source for customers. Our findings confirm that customers primarily use applications before shopping. The ability to plan shopping to spend less time in the actual shops is another benefit of in-store applications, according to our findings. Besides that, customers feel that with the help of applications, they can make more informed decisions about their purchases (Parise, Guinan & Kafka, 2016). This means that customers can find the information they need to plan the shopping from home, which is often also seen as a more pleasurable place than shops, according to our study. We believe that access to relevant information through in-store applications can increase the perceived usefulness of mobile applications in the eyes of customers.

Even though the current users find the applications useful, according to our study findings, they have many unfulfilled expectations for additional information like for example, QR codes, sustainability, and other features to increase the usefulness such as mobile scanning, mobile payment, digital assistance and many others. Today these expectations are not met by any available in-store applications.

## **Personalisation**

Piotrowicz and Cuthbertson (2014) discuss the issue of personalisation versus data privacy. Our findings suggest a split representation between those who wish for more personalised offers and those who prefer to keep their data private. The authors further argue that privacy concerns are less actual for younger generations due to their daily Internet usage habits, according to authors (Piotrowicz & Cuthbertson, 2014). The respondents who responded positively to personalisation wished for offers to be more personalised than they currently are. In the food industry, ICA seems to be the only retailer presenting personalised offers. Its competitors instead send weekly deals to all of their customers. In their study, Kang and Namkung (2019) found that the perceived benefits

of personalisation were higher than the perceived risks on retailers' food applications. For better customer experience, retailers should promote the benefits of personalised offers to increase the perceived benefits and reduce the perceived risks of divulging personal information. The more personalised the information, the better customised the offers will be, providing retailers with the opportunity to increase customer satisfaction.

According to Trivedi and Trivedi (2018), information quality, system quality and service quality of an application had a positive effect on application satisfaction, which in turn can lead to an increase in the purchase through the application. It would, therefore, be beneficial for retailers to provide applications with an operating system of high quality, where customers can receive personalised offers. Despite the wish to see more personalised offers, consumers also recognise a risk related to disclosing their personal information (Kang & Namkung, 2019). As mentioned previously, some of our respondents see negatively personalised offers. They refuse cookies on websites and do not subscribe to any newsletters from retailers. If they wish to look for a product, they prefer to do it by themselves instead of receiving personalised offers.

We have seen that personalisation can increase customer satisfaction. However, not everyone agrees with what personalisation means to their personal data. It is, therefore, imperative for retailers to propose both options. They should work on providing better-customised offers, while at the same time offering the possibility to navigate through their applications without having to give out personal information. Kallweit, Spreer and Toporowski (2014) conclude that the self-service technologies should be relevant for the target customers and retailers should emphasize the value of self-service technology to support its continuous usage. We would argue that for the success of an application, retailers need to produce relevant content and offers to customers.

Consumers currently find in-store applications to be limited in their functions and their usefulness. While they are convenient, save time and render shopping more efficient for customers, current applications do not yet meet customers' expectations. Further, the offers presented by retailers are still too generic, which affects customer satisfaction. The mismatch between customers' expectations and their actual experiences leads to a gap, which is explained further in section 5.2.

### 5.1.2 Ease of use

Some applications are easier to use than others. Depending on what group of adopters the consumers belong to, they will search for more or less complicated applications to use, which is explained by Rogers (1995) five groups of adopters. The innovators and early adopters are more likely to adopt a new technology despite a high level of uncertainty. They will then look for more complex applications that can bring them added value. In this respect, the applications and websites of the retailers seem important for some customers. Consumers who are more adept to technology expect physical stores to produce the same quality of service if they are first satisfied with the

application and website. It is therefore essential to offer a functioning and user-friendly application, as it can either get consumers to visit the physical store or instead make them avoid it.

However, our findings show that many consumers are generally looking for user-friendly applications with smooth navigation across different features. Similar to the need for self-service technologies to be reliable and of high quality (Lee & Yang, 2013), customers expect applications to be reliable in terms of the information and service they provide. If not, it could affect the customer shopping experience negatively. Further, Orel and Kara (2014) concluded in their study that the quality of service of self-service technologies influences customer loyalty and satisfaction. Our findings also suggest that a bad experience with an application leads to customers “abandoning” it for a better and simpler application. It could thus potentially lead to customers leaving a retailer to go over to a competitor.

Another aspect that was brought up by respondents was the inability to change the language on specific applications. In today’s world, not everyone living in the same country speaks the same language. Although it might seem like a detail, customers unable to understand the language might decide to switch to a foreign-friendly application, where at least an English version is available. Retailers should, therefore, think of that aspect when developing their applications, which could increase their number of users.

Nevertheless, consumers sometimes feel overwhelmed with the overflow of information available on applications according to our interviews. As discussed by Piotrowicz and Cuthbertson (2014), they become anxious and get lost in the sea of the information offered by retailers. Although consumers use applications to access additional information, the retailers should design their applications to facilitate navigation and avoid flooding consumers with too many features. The application should be organised with information accessible within just a few clicks. Similar to the threat of overflowing customers with information, another issue that may arise in the future, is the creation of applications by every retailer. This could instead have a negative effect on the use of applications, where customers would focus on the few ones they use regularly and leave the others.

In conclusion, ease of use is an experienced and expected feature for current in-store applications. Even if there are some suggestions for improvement, our interview findings suggest that the existing applications are in general easy to use. However, some of the respondents - innovators and early adopters (Rogers, 1995) - wish to see even more advanced features as they feel comfortable with the technology. Some of the respondents were concerned with the overflow of information in applications, as well as the number of applications if every retailer had one.

### 5.1.3 Enjoyment

The majority of academic research emphasizes the rational factors as key drivers for continuous usage of self-service technologies, however some others, for example, Wang, Harris and Patterson (2013), find enjoyment using the technologies having a significant effect on customer satisfaction. The concept is described as an enjoyment of the activity itself of using a technology despite its

performance and functional value (Davis, Bagozzi & Warshaw, 1992) and is part of the technology adoption model. Our interview findings suggest that enjoyment is not a significant part of experiences or expectations of in-store applications. Instead, our respondents referred to using the applications because it is convenient, helps them and saves them time. According to Davis, Bagozzi and Warshaw (1992), enjoyment is one of the key factors of consumers' intentions to use technology. Poncin and Ben Mimoun (2014) argue that in-store applications have the potential to make shopping more pleasurable, fun and entertaining. Similarly, Spaid and Flint (2014) claim that using mobile devices while shopping can generate values which are not only related to enjoying the device but also focus on the satisfaction in enhancing the shopping experience. During the interviews, several respondents mentioned the H&M application as an example of a good application, mentioning its in-store mode and the possibility to take pictures of clothes in-store and get immediate information about them. Such interactive features enhance the shopping experience and can encourage consumers to download and use the applications (Kang, Mun & Johnson, 2015).

The enjoyment element of the technology acceptance model has been researched in retailing with other in-store technologies (Childers et al. 2001; Lee et al. 2003; Barkhi & Wallace, 2007; Li & Huang, 2009; Kim et al. 2017) and the findings show that it has varying importance depending on the type technology. For example, enjoyment was found to be more important for Radio Frequency Identification music tag than an interactive mirror (Kim et al. 2017). However, none of the previous research has looked into in-store applications.

Our interview findings put usefulness above enjoyment concerning the adoption of in-store applications. The findings suggest that consumers find some applications inspiring instead as they see a complete solution, for example, for refurbishing a room or cooking new recipes to make a more creative dish. Although we can see that there are just a few retailers that offer such features in their applications. One could argue that the inspiration value seen in mobile applications contributes to enjoyment. However, our respondents do specifically state that they find it convenient and helpful to assist them in shopping, but they do not enjoy the activity of using applications on itself. We assume that the currently available applications are still quite basic except for a few retailers. Therefore, the respondents mostly described the functional benefits in relation to their experiences and expectations with applications.

At the same time, our study reveals that some customers look for more basic applications and appreciate them. In contrast, others look for advanced features like digital personal assistance, and this is seen as entertaining, fun and providing a unique experience. Previous literature findings suggest that enjoyment with self-service technology is an essential factor for customer experience (Marzocchi & Zammit, 2006; Wang, Harris & Patterson, 2013; Elliott, Meng & Hall, 2012). Therefore, we believe for those customers that are looking for more advanced features; mobile applications could be a tool to enhance the shopping experience. Moreover, Marzocchi and Zammit (2006) say that pleasure and service satisfaction affect the customer's intention to shop more frequently. Adding features that generate pleasure and enhance service quality could lead to an increase in sales for retailers.

Similar findings are found in our study in regards to customer expectations towards the enjoyment of in-store technologies. The consumers focus on various functions that could be useful while shopping and make it more convenient and fast, including personalised recommendations and relevant inspiration. While shopping, customers want to focus on what they see, hear and feel in the store instead and see the applications as assisting tools only. This is aligned with other interview findings that some consumers see the enjoyment in shopping itself in physical stores. Therefore, other shopping elements discussed in the next section are more important to them.

To sum up, the literature findings suggest that enjoyment is an important factor for the adoption of some types of in-store technologies. Our findings show that enjoyment is not directly applicable to in-store applications experiences and expectations as consumers instead primarily focus on usefulness. We conclude that the reason might be that consumers have not seen yet applications offering entertainment features. Therefore, they chose usefulness over entertainment. However, some features emphasized in interviews such as recipes or personal assistance were found as inspiring and could be linked to enjoyment, thus enhancing the shopping experience. We believe that entertainment aspects could be new opportunities for retailers and should, therefore, be further investigated.

#### 5.1.4 Other shopping elements

The interviews revealed similar shopping elements from previous studies contributing to customer in-store experience. When asked about what affected their in-store experience, the respondents focused their answers on traditional values such as the atmosphere, the design and tidiness of the store, as well as the interaction with employees. The atmosphere consists of different factors such as design, music and scents (Baker et al. 2002; Puccinelli et al. 2009; Verhoef et al. 2009; Bäckström & Johansson, 2006). Our results suggest that music, lights and the tidiness of the store contribute to the shopping experience of consumers. A pleasant in-store atmosphere has shown to increase the amount of money spent on spontaneous purchases (Spies, Hesse & Loesch, 1997). Retailers should therefore not neglect the traditional values, as they too can lead to increased customer satisfaction and sales.

Another aspect that mainly affects the shopping experience is the interaction with the personnel. Many participants mentioned it and seemed to put it above other elements. Interestingly, customers' expectations remain high concerning the employees of a store, even though the respondents would rather shop on their own and find information themselves on the applications. Despite self-service technologies in stores, customers much appreciate when the personnel is available and helpful (Dabholkar, Michelle Bobbitt & Lee, 2003; Anitsal & Flint, 2006). Moreover, employees should be knowledgeable and attentive to customers' needs, therefore increasing customer satisfaction (Terblanche & Boshoff, 2004). Unfortunately, many respondents recalled terrible experiences with employees being unavailable or even rude to them. Although developing new technologies for the customer can enhance the shopping experience (Savastano et al. 2019), they should continue working on the more traditional aspects of the shopping experience, such as

employee-consumer interactions. The role of employees should then be adapted to best support and accompany the changing needs of consumers.

Further, our findings suggest that the traditional elements mentioned above still bear more importance to the shopping experience than the applications. All of the other shopping elements had little effect on their experience with the application. However, our results show that the overall shopping experience in-store has an effect on consumers' expectations regarding online platforms. Consumers expect retailers with a good reputation to deliver a good service, both online and offline. Moreover, if the experience online (website or application) was satisfactory, consumers expect a similar experience in the store. This finding supports and completes those of Tyrväinen and Karjaluoto (2019), who determined that customers who had a good impression in-store expect the same quality on retailers' online platforms. Thus, we conclude that the experience online and offline can make or break a retailer's reputation. Further, expectations regarding in-store applications are higher towards established retailers. Their services are expected to be of higher quality due to their reputation in the eyes of consumers. Our results lead us to believe that the retailer's image is an important element for in-store applications expectations.

### 5.1.5 Communication

The interview findings show a gap in communication between retailers and consumers in regards to in-store applications. Prior to finding the applications themselves, our respondents did not know of the existence of the retailers' applications. Secondly, they expect more communication and transparency from retailers. They would like to know more about product origin, material/fabrics used for them. This gap is one of the elements in our initial theoretical framework discussed in the SERVQUAL model (Parasuraman, Zeithaml & Berry, 1985) described as gap 4. According to the model, this fourth gap arises when the service delivery does not match the promises in communication which leads customers to expect a higher service than they can receive. However, in our study, the gap arises from the lack of communication about the presence of the applications as well as a lack of information from retailers. We assume that retailers might not actively communicate about their in-store applications as they are under development or in a testing phase, for example, as the IKEA one.

The communication gap, according to our findings, is most relevant during pre-purchase and purchase phases. Customers often use applications for shopping preparation while they are at home. If there is an application available for making shopping preparation more convenient, they would like to be informed about that. According to Stein and Ramaseshan (2016), the communication element is especially important in the pre-purchase stage, but customers find it also relevant during purchase and post-purchase. Our findings show that the gap in communication is also due to the lack of information about products, for example, on sustainability, which customers expect to be available on application. We conclude that applications offer additional channels for retailers to communicate their sustainable approach towards their products and ingredients/materials.

The aspects of the communication gap provide some future opportunities for retailers. Retailers having in-store applications (also communicating them) are creating a good impression, have a better reputation and trust among customers according to our findings. Such retailers are seen as more innovative and attractive among young adults. Therefore, by communicating well developed in-store applications, the retailers could improve or strengthen their brand image.

#### 5.1.6. Other findings

The abductive approach to our study provided us with new results outside the initial theoretical framework that we find interesting to be discussed here.

Firstly, consumers see sustainability as an important aspect in using in-store applications as they do not need to get paper brochures delivered to home or use the ones available in stores. This finding follows a global consumer behaviour trend, just has not been previously studied in relation to in-store technologies. We believe that a sustainability trend creates new opportunities for retailers in communicating the benefits of mobile applications and therefore increasing the number of active users.

Another interesting finding outside our initial framework is that in-store applications for some consumers mean an increase in consumption as they get inspired to purchase more than they initially need. This confirms some previous literature findings that the perceived usefulness of in-store technologies affect purchase decisions and loyalty (Fernandes & Pedroso, 2017; Demirci Orel & Kara, 2014; Djelassi, Diallo & Zielke, 2018). However, our study findings suggest that not all customers feel loyal towards a specific retailer even if they are actively using its application. Often, applications are used to find the best (cheapest) offers, and it is the only deciding factor on where to do the physical shopping. We find the relation between the active usage of application and increase of purchase and loyalty to be an interesting topic for future research.

The usage of in-store applications brought another social aspect in our interviews. The users expressed their worries on the digitalisation trend in retailing as some consumers have a stronger need for human interaction than others. Previously mentioned findings of Dabholkar, Michelle Bobbitt and Lee (2003) and Anitsal and Flint (2006) also highlighted customers' willingness to interact with other humans and technology could not replace that. However, some customers prefer not to interact with staff while shopping and highly appreciate retailers enabling them to perform the self-service. We believe this finding brings both opportunities and challenges for retailers as it shows customers have varied needs and expectations and one concept might not work for everyone. Thus, it arises opportunities for some retailers to specialise in satisfying the needs of specific customer groups better.

Finally, as our sample was such of diverse nationalities, we could see some cultural differences affecting the shopping in general and the usage of in-store applications. According to the respondents, some cultures are more in general used to human interaction while shopping and are actively looking for contact. In contrast, others avoid it and always see first if they can find the



answer themselves with the help of available technologies. Interview findings reveal diverse priorities for human versus machine interaction that might be related to the cultural background. However, our study data is not sufficient to generate a conclusion.

## 5.2 Revised theoretical framework

The above discussion reveals that our initial theoretical framework requires some adjustment based on the empirical findings. The revised theoretical framework is presented in Figure 3, and below we argue for the modifications suggested.

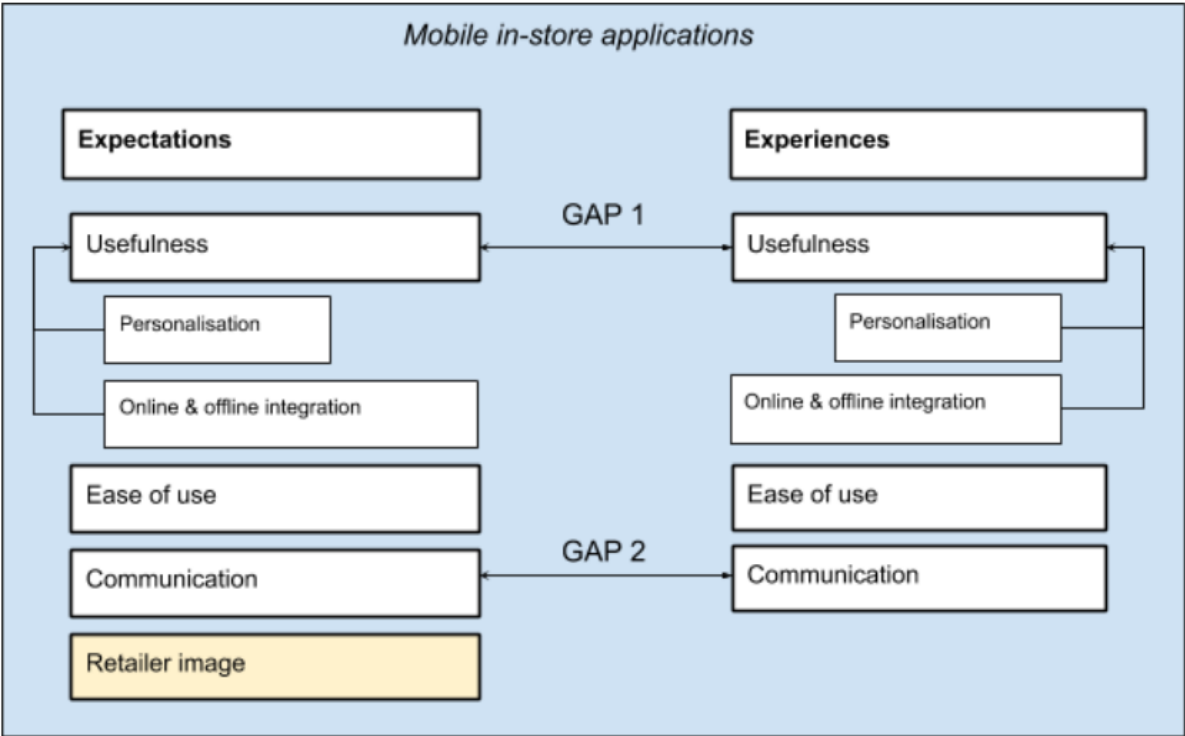


Figure 3. Revised theoretical framework

Our findings suggest that “enjoyment” is not an essential element for either customer experiences and expectations in relation to in-store applications. The reason might be because currently available in-store applications do not offer enjoyment benefits and therefore, customers cannot relate to this. Another reason could also be that in-store applications are simply seen as functional shopping tools.

“Other shopping elements” such as atmosphere, design and staff are crucial shopping satisfaction factors for consumers, and they are still more important than in-store applications. Our study found

that “other shopping elements” do not contribute to customers' expectations and experiences towards in-store applications. However, customers expect from a well-known retailer to have a well-developed in-store application of good quality. Customers' expectations for applications are higher for more prominent retailers with a positive image. Therefore, we conclude that a “retailer image” is a relevant element for expectations towards in-store applications in our modified theoretical framework.

Moreover, our in-depth interviews show that both “online and offline integration” and “personalisation” are part of perceived usefulness towards applications. Even though customers find mobile applications quite useful, their expectations for the integration and personalisation are not yet met. We conclude that there is a gap between customers' experiences and expectations towards the usefulness of mobile applications, at least within the sampled age group studied.

“Ease of use” is an expected and experienced element within current retailers' applications and our findings do not reveal any significant mismatch there. The results disclosed that some customers prefer basic and simple functionality, while others prefer more advanced features in in-store applications; therefore, personalisation is essential to satisfy different needs.

Customers currently experience a lack of communication from retailers regarding the presence of mobile applications as well as their features, and they expect to be informed instead of actively seeking such information themselves. At the same time, customers expect to receive more information through applications about sustainability, materials and other aspects. We conclude that “communication” is found as a second gap between experiences and expectations of in-store applications users.

## 5.3 Chapter Summary

By discussing our empirical findings in relation to the previous literature review, we conclude that usefulness, ease of use and communication are relevant elements in our modified framework for both customer experiences and expectations towards in-store applications. While comparing customer experiences with expectations, we found two significant gaps. The first gap is related to usefulness, where we saw that customers have unmet expectations towards better online and offline integration and personalisation. The second gap is related to communication, meaning that customers experience a lack of communication and expect to be better informed about in-store applications. Retailer image was found to be a relevant fourth element for in-store applications expectations. Besides the elements composing modified theoretical framework, our study revealed other findings related to sustainability, loyalty, human interaction and cultural background that call for specific future research.

## 6. Conclusion

Our research purpose was first to identify customer experiences and expectations towards in-store applications. By applying an abductive approach to our research, we were able to achieve the findings that fulfil this purpose. We conducted a qualitative study that brought a variety of perspectives of in-store applications users. In Chapter 5, we discussed each element of our theoretical framework, relating them to consumers' expectations and experiences with in-store applications. We conclude that customers' expectations towards in-store applications are formed by usefulness, ease of use, communication and retailer image. The experience follows the same aspects except for the retailer image. Finally, currently, there are two gaps between customer expectations and experiences with applications: usefulness and communications. The mismatch in regards to usefulness is created by lack of online and online integration and personalisation, to be able to experience a more convenient shopping and save time. While the communication gap is referring to the lack of communication from retailers in regards to the presence of in-store applications and additional product-related information. This chapter further discusses the theoretical and managerial contributions, ending with ideas for further research.

### 6.1 Theoretical contributions

Our theoretical contributions firstly enhance the knowledge in the area of in-store applications, customer shopping experience and customer expectations. We used a qualitative approach to understand better new phenomena of such technologies from a variety of individual perspectives. Following an abductive approach, we, firstly, apply and confirm or decline theoretical knowledge gained through other in-store technologies researched previously. Moreover, prior studies focusing on the use of mobile devices in-store have disregarded in-store applications (Fuentes & Svingstedt, 2017; Fuentes, Bäckström & Svingstedt, 2017; Grewal et al. 2018). Before us, there had been no study investigating consumers' experiences and expectations towards in-store applications. We, therefore, open the field of in-store applications that still is hardly researched in academic literature.

Inspired by the SERVQUAL model of Parasuraman, Zeithaml and Berry (1985), as well as the elements pertaining to the Technology Acceptance Model (Davis, Bagozzi & Warshaw, 1989), we conceived a theoretical framework. We modified the initial theoretical framework to represent our empirical findings that can serve as guidance for further research on in-store applications. We further contribute to the literature by disclosing key elements constituting customer experiences

and expectations towards the applications and also discussing currently existing gaps where customer experiences do not match the expectations.

Further, we used elements from studies on in-store technologies and applied them to in-store applications. According to the literature, online and offline integration and personalisation are key aspects to provide enhanced customer experience (Piotrowicz & Cuthbertson, 2014). Our findings confirm it and suggest that those aspects are key for the usefulness of applications. Thus, usefulness is seen as the most important reason for adopting both in-store technologies (Berry, Seiders & Grewal, 2002; Anitsal & Flint, 2006) and applications. Furthermore, there is no clear view in academics whether the enjoyment is a relevant element for in-store technologies. The findings show that for some types of in-store technologies it is more important than others (Childers et al. 2001; Lee et al. 2003; Barkhi & Wallace, 2007; Li & Huang, 2009; Kim et al. 2017). Our study findings do not confirm that enjoyment is currently an important element for customer expectations or experiences towards in-store technologies. Finally, ease of use is an essential element for all in-store technologies according to literature (Dabholkar, Michelle Bobbitt & Lee, 2003; Anitsal & Flint, 2006; Elliott, Meng & Hall, 2012), as well, to in-store applications according to our findings.

Secondly, during our empirical study, we actively looked for new insights that are specifically important for in-store applications. We found that communication which is part of the SERVQUAL model (Parasuraman, Zeithaml & Berry, 1985) is an important element for customer experiences and expectations towards services. It has not been previously researched in connection to any in-store technologies or applications. Also, we found that retailer image is forming customer expectations towards the in-store applications. This confirms the finding of Tyrväinen and Karjaluoto (2019) that customers have high expectations for online platforms if they have a good in-store impression.

## 6.2 Managerial implications

We see our study being valuable for retailers who currently have or are planning to develop their in-store applications. Firstly, we present both experiences and expectations towards such technologies, which can be applied when planning, designing and further developing such applications. Customers expect applications to be useful to make their shopping convenient and faster and retailers can achieve this by striving for a better online and offline integration and personalisation. The applications are experienced and expected as easy to use, although some of the customers are eager to see more advanced functionality. However, part of the users who would like to keep them simple and basic; therefore, when adding new features to the existing applications, retailers should aim to maintain simplicity. Our findings also suggest that retailers could strengthen their brand and sustainability image, by communicating more about their applications and providing additional information about their products, ingredients, materials and

many more. Finally, we see that more prominent retailers and brands have higher expectations towards in-store applications and therefore should not underestimate the importance of it.

The identification of the existing gaps provides specific focus areas for in-store application improvement for retailers to improve customer shopping satisfaction. The first area is usefulness, and it is related to the functionality of the applications. Our interviews revealed many suggestions for enhancement which can be further investigated by retailers. The second area for improvement is communication, where more communication is expected than currently experienced in regards to the applications and the retailers could consider that in their marketing and communication activities.

### 6.3 Areas for future research

While fulfilling the research purpose and answering its questions, our study has some limitations. Due to its qualitative nature and COVID-19 situation, there are limitations for generalisability and transferability of our study. To address such limitations, a new study, including data triangulation with, for example, observations also a quantitative study could be performed to validate our findings. As an example, our findings suggest that usefulness is the most important aspect for adopting in-store technologies, while enjoyment is not a relevant element. The reason could be that current applications are not offering features generating enjoyment or it is simply not relevant for in-store applications. Again, a quantitative study could help to investigate the aspect of enjoyment further.

Our empirical study respondents present various cultural backgrounds. However, our study does not aim to explore cultural similarities and differences in regards to experiences and expectations towards in-store applications. According to the respondents themselves, the cultural background has an impact on their shopping behaviour and the usage of in-store applications and willingness for human interaction. Therefore, future research could focus on a cross-cultural study of customers' willingness to adopt such technology as in some cultures, in-store applications might have better potential than others.

Another area that requires further research is the exploration of the relationship between loyalty towards retailers and active usage of its in-store applications. Our empirical findings suggest contradictory results as some respondents feel as if they are buying more due to applications. In contrast, others use them for finding the best deals among retailers only. Further research could reveal if in-store applications can be used to increase customers loyalty.

Finally, it might be interesting in the future to research non-users of applications to see if their reasons for not adopting the technology are the gaps found in our study: lack of usefulness and lack of communication, or if there are any other reasons. We experienced challenges in finding active

in-store applications users. Therefore, we believe that there is a larger group of non-users that is interesting to explore further.

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# Appendix A

Table 1 Reference List

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# Appendix B

## Questions for semi-structured interviews

Personal information	<ul style="list-style-type: none"> <li>● Name</li> <li>● Age</li> <li>● Gender</li> <li>● Nationality</li> </ul>
Shopping behaviour	<ul style="list-style-type: none"> <li>● Describe what a normal shopping day looks like (from discovering a need to purchasing the products)             <ul style="list-style-type: none"> <li>○ For example, food, clothes?</li> </ul> </li> <li>● Why and when would you go to a physical store?</li> <li>● What in-store technologies do you use in physical stores?</li> <li>● What do you think of in-store applications in general? (explain the concept - mobile applications)             <ul style="list-style-type: none"> <li>○ Why do you think so?</li> </ul> </li> </ul>
Experiences	<p><b>Usefulness, ease of use, enjoyment</b></p> <ul style="list-style-type: none"> <li>● How do you use mobile applications when you are in the store?             <ul style="list-style-type: none"> <li>○ In what way does it help you to shop?</li> </ul> </li> <li>● What do you think of the current in-store applications you use?             <ul style="list-style-type: none"> <li>○ Why do you think in-store applications are good/bad?</li> </ul> </li> <li>● What reasons do you have for using the applications in store?             <ul style="list-style-type: none"> <li>○ How important are in-store applications for you?</li> </ul> </li> </ul> <p><b>Other shopping elements</b></p> <ul style="list-style-type: none"> <li>● What are other things that you find important to have a good shopping experience? (atmosphere, personnel, design)             <ul style="list-style-type: none"> <li>○ How does it affect your experience with the in-store app?</li> </ul> </li> </ul> <p><b>Online and offline integration</b></p> <ul style="list-style-type: none"> <li>● Where do you shop most often (online, offline)?             <ul style="list-style-type: none"> <li>○ If you switch between online and offline, what are the reasons behind it?</li> </ul> </li> <li>● How do you experience the shift from one channel to another?</li> </ul> <p><b>Personalisation</b></p> <ul style="list-style-type: none"> <li>● What do you think of personalised offers from retailers?</li> <li>● How personalised are the offers you receive from retailers? Do they meet your needs?</li> </ul>

Expectations	<ul style="list-style-type: none"> <li>● When you go to a store, what do you want to find there (information about products, your usual products, offers on products) <ul style="list-style-type: none"> <li>○ And what do you expect regarding in-store applications?</li> </ul> </li> <li>● If you could decide on how an application looks like, what functions would you like to have?</li> </ul>
Wrap-up	<ul style="list-style-type: none"> <li>● In what way have mobile applications changed (if it did) the way you shop?</li> </ul>

# Appendix C

## Video Interview Consent Form

### **Master thesis: In-store applications - expectations, experiences and resulting gaps**

Thank you for agreeing to participate in a video interview as part of our Master thesis project. The purpose of the research is to provide customer experiences and expectations towards in-store applications and compare those in order to see if there are any gaps. This research is conducted by Inesa Stockunaite and Yannick Lindqvist, who are Master programme students at Lund University School of Economics and Management in Lund, Sweden. By signing this form, I confirm that I have read all information and approve the following:

- I have been given the opportunity to ask questions about the research and my participation.
- I volunteer/receive 100 SEK to take part in this research project and understand that I can stop the interview at any time or refuse to answer any question.
- I agree that this interview will be audio-recorded and only used for the purpose of this research. Access to the interview transcript will be limited to the researchers and academic staff at Lund University.
- Any information used from this interview will be anonymised in the final research paper. Any direct quotations from the interview, that are made available through academic publication, will be secured against identification through the use of pseudonyms so that an individual person cannot be identified. Any information that could identify me will be protected and deleted when no longer needed.
- I understand that this research has been reviewed and approved by Lund University. For any further questions regarding this research, please contact the researchers Inesa Stockunaite, email: in3052st-s@student.lu.se and Yanick Lindqvist, email: ya4733lis@student.lu.se

Please read and sign this form as a confirmation that you agree with its content together with the participation in the video interview.

Participant Name \_\_\_\_\_

Participant Signature \_\_\_\_\_

Date \_\_\_\_\_