

## Bridging the valuescape with digital technology: A mixed methods study on customers' value creation process in the physical retail space

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### ABSTRACT

This mixed methods study investigated how value is created in the physical retail space and how the customer experience is influenced by digital technology. A cross-sectional survey, with both qualitative and quantitative components, was distributed across a heterogeneous sample of 832 customers. The results revealed an overarching model comprised of three interrelated clusters: customer, service provider, and digital technology. We propose that this model can be understood as a valuescape, where customers' specific goals, needs, and desires drive them to interact and co-create value with service providers in the physical retail space, with digital technology either enhancing or disrupting this value co-creation process. The results also show that the importance of aligning digital solutions with customers' drives increases at the same pace as reliance on technology. The findings offer guidelines on how to utilize digitalization to leverage customer experiences and thus strengthen the attractiveness of physical retail spaces.

### 1. Introduction

Digitalization has led to far-reaching changes for people and businesses (Hagberg et al., 2017). Due to the use of digital technology, often in the form of mobile devices, customers have adopted new ways of searching for information, evaluating competing offerings, interacting with other customers, making purchases, and engaging with firms on-site (Hänninen et al., 2018; Parise et al., 2016). Digitalization has even changed how customers socialize, communicate, and orient themselves physically and psychologically in the physical retail space (Hagberg et al., 2016). As a way of addressing the amplified adoption of digitalization, service providers have started integrating digital in-store technologies into their physical servicescapes, with the aim of offering new and improved service experiences (Roy et al., 2017).

The impact of digitalization on the customer experience has typically been addressed in relation to e-commerce (conceptualized here as the transaction of goods and services made online). However, the consequences of digitalization extend far beyond e-commerce and include the transformation of physical products into digital services (Hagberg et al., 2016; Pauwels et al., 2011) such as self-checkout desks, informational touch points, interactive displays, and applications for mobile devices

(Pantano and Timmermans, 2014). Furthermore, digital technology has recently been discussed through the lens of omnichannel strategy and is assumed to contribute to a desired state of seamless experiences from the customers' point of view (Alexander, 2019; Verhoef et al., 2015). Given that the enhancement of customer experience is a top priority in retailing and hospitality, several calls have been made recently for research on this topic in relation to digital technology (Grewal et al., 2017; Homburg et al., 2017; Rafaeli et al., 2017). For example, Alexander (2019) recommended that future studies incorporate customers' opinions regarding how digitalization affects the experience of the physical retail space.

Previous research on the digitalization of physical retail space has encompassed diverse fields, such as peripheral shopping centers (Ioniță, 2017) and in-store behavior (Fuentes et al., 2017). However, there is a lack of research regarding the impact of digital technology on the value creation process in the physical retail space. In order to obtain a more nuanced understanding of this phenomenon, it is important to investigate how customers relate to digital technology at a general level. As research regarding adoption and usage of digital technology has shown conflicting results with respect to age (Blut et al., 2016; Yusif et al., 2016), this demographic variable should be included in any model

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examining the experience of technology. Additionally, considering that digital technology leads to new forms of value co-creation (Akaka and Vargo, 2015; Balaji and Roy, 2017), it is necessary to understand what motivates customers to visit and interact with service providers in the physical retail space, and the role that digital technology plays regarding customers' value co-creation in this process. Therefore, the overarching aim of the present study is to investigate how customer experience is influenced by digital technology, how age is related to perceptions of digital technology, and how value is created in the physical retail space. The findings reported herein are discussed through a proposed value-landscape model, which can be used as a basis for understanding customer experience and serve as a tool for the development of new digital services.

## 2. Theoretical framework

### 2.1. Customer experience and value creation in the physical retail space

The advent of e-commerce saw many retailers add a second channel to their existing physical stores (Geyskens et al., 2002). This was followed by the development of the omnichannel approach to retailing, which focused on creating a seamless experience between the physical retail space and the multitude of online channels, including web stores and social media, as well as an eclectic mix of technological devices (Steinhoff et al., 2019). While there has been notable interest in studies pertaining to omnichannel marketing (Verhoef et al., 2015), there has been less focus on how customers experience the physical retail space in this new era (Alexander, 2019). Therefore, given the changes resulting from the omnichannel retail environment, it is necessary to revisit the physical retail space – whether it is a town center, a supermarket, a shopping center, or a bricks-and-mortar store – to understand the current customer experience.

The customer experience has traditionally been defined as the perceived outcome of the interaction between customer and firm during the service process (Johnston and Kong, 2011; Lemon and Verhoef, 2016). Today, the customer experience is viewed from a contextual and systemic perspective (Jaakkola et al., 2015), where customers co-create their experiences beyond boundaries or sometimes even completely independently of the underlying firm. There are a variety of empirical and theoretical approaches to the concept of value co-creation, which has been applied in a multitude of fields, including retailing (Pantano et al., 2018), marketing (Vargo and Lusch, 2008), and service design (Yu and Sangiorgi, 2018). This variation in approaches has led to several distinct definitions of co-creation. Following the work of Leclercq et al. (2016), the present article operationalizes the value co-creation process as a value-enhancing activity that occurs between actors, including such aspects as customer-to-customer communication (Minkiewicz et al., 2014) and online interaction (Bolton et al., 2018; Jaakkola et al., 2015; McColl-Kennedy, Cheung and Ferrier, 2015). This activity between different actors is a joint process during which value is reciprocally created due to the integrated resources of another actor (Leclercq et al., 2016).

While the customer experience can be described as a *customer journey* involving multiple touchpoints and interactions with different actors (McColl-Kennedy, Cheung, et al., 2015; Trischler et al., 2018a,b), a similar description applies to value co-creation. Value co-creation also involves several touchpoints and interactions, and the way they are experienced will either create or destruct value (Echeverri and Skålén, 2011; Gummesson and Mele, 2010; Vargo and Lusch, 2016; Vargo et al., 2008). As a consequence of this process, customers will experientially and subjectively determine value on the basis of contextual factors (Vargo and Lusch, 2008), including social aspects (Edvardsson et al., 2011).

### 2.2. Digitalization and the value creation process

Technological advancements have changed the dyadic firm–customer relationship into a ‘many-to-many landscape’ (Beirão et al., 2017; Teixeira et al., 2017; Trischler et al., 2018a,b). Such advancements enable firms to introduce new or change current touchpoints throughout the customer journey, with the aim of enhancing service delivery as well as the customer experience. Digitalization has changed how customers search for relevant information, evaluate competing offerings, make purchases, and engage with retailers and service providers (Hagberg et al., 2016). Digitalization has also altered how people orient themselves in the physical retail space, transforming it into a psychological place (Rosenbaum et al., 2017) that customers imbue (consciously or unconsciously) with meaning and value that is invisible to managers (Nilsson and Ballantyne, 2014; Rosenbaum et al., 2017). Thus, technological advancements make customers increasingly autonomous and change the way they collaborate and integrate resources during their value creation process (McColl-Kennedy, Gustafsson, et al., 2015; Teixeira et al., 2017). For example, smartphones make it quick and easy to read about products and stores, check availability, compare prices, and connect with other service users, either on the go or while in the store. This easy access flow of information causes changes in customer behavior, and service providers must find ways to respond to these quick changes in customer demands (Stephen, 2016). However, there is a digital paradox to consider, whereby digitalization may act as a hindrance rather than an enhancer in the value-creation process. Therefore, a prerequisite for successful implementation of smart technology is having insights into what adds to or reduces value and satisfaction for the customer (Roy et al., 2017).

### 2.3. Digitalization as a double-edged sword and the role of age

More and more users of digital technology, of all age groups, are constantly connected to a range of online activities, which provide opportunities for both users and service providers to satisfy individual needs (Reinecke et al., 2017). Retail technologies can provide customers with superior and personalized services and increase their sense of autonomy (Hoffman and Novak, 2015; Ostrom et al., 2015; Roy et al., 2017; Wunderlich et al., 2013). Important predictors of how digital technology is experienced include perceived ease of use, enjoyment, and the propensity to embrace new technology (Legris et al., 2003; Parasuraman, 2000), as well as the negative side effects resulting from using digital technology, such as intrusiveness and privacy concerns (Berendt et al., 2005; Miyazaki and Fernandez, 2001). Interestingly, previous research on the adoption and usage of digital technology has shown conflicting results with regard to age. For example, Yusif et al. (2016) showed age-specific barriers for technology adoption, while Blut, Wang, and Schoefer (2016) found no relationship between age and usage of self-service technologies. Therefore, it is important to investigate how age influences the general experience of digital technology and whether the role digital technology plays in the value creation process is age-contingent.

Moreover, since digital technology can be conceptualized as both beneficial and detrimental (Ninaus et al., 2015), more knowledge is needed regarding customers' acceptance of new technology and how digital information is handled. Giving personalized information to customers can both enhance and diminish their engagement and positive experience with the service provider (Brodie et al., 2013). Thus, customers may experience a risk of using digital technology due to the uncertainty and possible undesirable consequences (Lim, 2003). In addition, going through the often tedious and time-consuming exercise of differentiating between important and less important notifications, messages, and emails on a smartphone adds to irritation, perceived stress, and decreased satisfaction (Ninaus et al., 2015). Conversely, the perceived ease of using digital technology increases customer satisfaction (Roy et al., 2017).

Digitalization undoubtedly creates new opportunities for innovation, including new ways of creating value among customers (Akaka and Vargo, 2015; Maglio and Spohrer, 2013). Indeed, customers may go to malls to get out of the house, relieve day-to-day boredom and stress, talk to others shoppers or sales associates, or meet friends (Rosenbaum and Massiah, 2007). Customers also appreciate convenience, excellent service, and enjoyable shopping experiences. Here, digital technology can add new layers of experiences related to entertainment and sociability. Therefore, digitalization should be seen not as an alternative, but as an integrated feature of the design for customer experience in the physical retail space. However, in order to be able to reach this goal, knowledge is required regarding how digital technologies can enhance the experience and create value for visitors and customers, not only for the purpose of consumption, but to bring energy back to the physical retail space. Thus, insights into successful improvement in customers' perception of value and satisfaction leveraged by digital technology may lead to favorable outcomes for both customers and service providers (Cronin et al., 2000). In this context, age is an important factor, given that the responses and perceptions provided by today's young customers could act as a compass towards the future, with respect to how customers will use and perceive digitalization at a later point in time.

By applying a mixed methods design, the present field study elucidates how value is created in the physical retail space and how the customer experience is influenced by digital technologies through the following research questions:

RQ1: What are customers' drivers for co-creating value with service providers in physical retail space?

RQ 2: How does the usage of digital technology affect customers' co-creation of value in the physical retail space?

RQ3: Does age influence customer satisfaction with the usage of digital technology?

### 3. Method

In order to achieve a greater depth and breadth of the data, we adopted a mixed methods design. Such a methodological approach is particularly useful under circumstances similar to those surrounding the present investigation (for details, see Almalki, 2016). In our mixed methods approach we analyzed the quantitative and qualitative parts in parallel with an integration of the eventual results. This follows the concurrent mixed analysis as proposed by Teddlie and Tashakkori (2006). The mixed methods approach was used to capture and understand the investigated phenomena from a more heterogeneous viewpoint and to reach complementarity regarding the specific methodological paradigms utilized, thus increasing the study's credibility (Hussein, 2009; Sale et al., 2002).

#### 3.1. Setting and participants

To achieve sufficient variation of age groups and experiences with digitalization, data collection took place in three different settings in Karlstad, Sweden: Karlstad University, Karlstad city center, and a shopping mall in the outskirts of the city. At Karlstad University, students and teachers from upper-secondary schools from all over Värmland County were invited to a general information day about higher education. During breaks between sessions, they were asked to participate in a survey and some chose to do so. A total of 281 participants (61 percent female, age:  $M = 19.54$ ,  $SD = 4.75$ ) answered the questionnaire. In the second setting, in Karlstad city center, data collection took place on three different weekdays. Here, visitors at a central shopping mall were invited to participate and data were collected from 351 participants (52 percent female, age:  $M = 48.71$ ,  $SD = 21.32$ ). The third setting was a shopping mall located in the outskirts of the city. Here, the data included responses from 200 participants (50 percent female, age:  $M = 47.82$ ,  $SD = 20.70$ ).

#### 3.2. Measures and data analysis overview

To help answer the research questions, and based on earlier research into customer experience and digitalization, the survey consisted of 15 questions (see Table 1 for all items). The first part consisted of two basic demographic items: age and gender. The second part included four open-ended questions that aimed to qualitatively capture the value creation process. To ensure that the questions were answered on the basis of the intended context, we used a short scenario description. Specifically, participants were asked to imagine that they had traveled to the city center or a shopping mall in their spare time, and they were then asked to reply to questions related to this scenario. Participants could choose to give their responses directly via their smartphones or through a paper-and-pencil survey. The handwritten responses were inserted verbatim in an Excel document by one of the researchers. The responses made using smartphones ended up in "Survey and Report," which is an online survey tool, after which they were inserted in the same Excel file as the other data source. Subsequently, the qualitative data (more than 2000 responses) were transferred from Excel to NVivo for further analysis.

The remainder of the survey consisted of nine items that were rated on five-point Likert scales ranging from 1 (do not agree at all) to 5 (agree completely) and analyzed using quantitative methods. All nine items were based on previous research, but adapted to be more context-appropriate (Donovan and Rossiter, 1982) and the scales were shortened in order to minimize the time needed to fill out the questionnaire. Participants replied regarding how they experience their usage of digital technology (smartphone, different apps, social media, etc.). All nine statements were adapted from previous research into digitalization, where different constructs have been shown to be particularly powerful predictors of how digital technology is experienced (Müller-Seitz et al., 2009; Pantano and Servidio, 2012; Rese et al., 2014; Roy et al., 2017). For instance, previous research by Parasuraman defined people's propensity to embrace and use new technologies as technology readiness (Parasuraman, 2000). It has been suggested that technology readiness may be influenced by age, but may also be related to people's overall experience of digital technology (Lin and Hsieh, 2007; Lu et al., 2012; Parasuraman, 2000; Venkatesh and Davis, 2000; Wang et al., 2017). Thus, three of the nine items were aggregated into a single index, referred to as *Digital Keeness*, which refers to a person's perceived ease of use, enjoyment, and ease with catching up on new trends (Q3.3, Q3.4, Q3.8) (Legris et al., 2003). The second index, *Digital Averseness* (Q3.5, Q3.6, Q3.7), draws upon research showing that digital technologies may also lead to negative experiences, such as perceived stress or intrusion of privacy. This index addresses different aversive aspects with technology (Miyazaki and Fernandez, 2001), such as "the right to be left alone" (Berendt et al., 2005). Finally, the *Satisfaction with Digital Technology* index (Q3.1, Q3.2, Q3.9) enabled an investigation of how age relates to

**Table 1**  
Items used in the questionnaire.

Q1.1	Age
Q1.2	Gender
Q2.1	What do you usually do when you go to the city or a shopping mall?
Q2.2	What makes it a good visit?
Q2.3	How can digital technology make your visit better?
Q2.4	Is there anything you dislike regarding digital technology?
Q3.1	Digital technology makes it easier to function in everyday life.
Q3.2	I am satisfied with the way I use digital technology.
Q3.3	I quickly catch on new digital trends.
Q3.4	I think it is easy to use new digital technologies.
Q3.5	Digital technology takes up too much of my time.
Q3.6	I sometimes feel that digital technology intrudes on my private life.
Q3.7	I sometimes have a hard time to stop using digital technology even though I should.
Q3.8	It is fun to use digital technology.
Q3.9	Digital technology is important for my well-being.

satisfaction and how the other factors contribute to satisfaction. This index was created based on previous research showing that satisfaction is an important contributor to the customer experience in an age of digitalization (Bailey and Pearson, 1983; Ives et al., 1983; Wixom and Todd, 2005).

The analysis of the open-ended questions (questions Q2.1 to Q2.4) was conducted by following the six phases of thematic analysis (Braun and Clarke, 2006). The qualitative software used was NVivo (version 12.2.0.443), which helped keep the data organized and made the process of coding and analysis more transparent, thus adding to the credibility of the qualitative part of the study. The recommendations of Fielding and colleagues (Fielding et al., 2013) were used regarding how to open up open-ended questions.

The closed-ended part of the survey (questions Q3.1 to Q3.9) was analyzed using a Partial Least Square Structural Equation Modeling technique (PLS-SEM). A two-step process (Chin, 1998) was employed to validate the outer (measurement) models and the inner (structural) model on the full sample of 832 respondents. The results from these two tests allowed an examination of potential differences in the importance (weight) of the indicators used to measure each construct and in the relationships between the constructs.

## 4. Results

This section is divided into two parts. The goal of the qualitative part was to elucidate RQs 1–2, while the quantitative part mainly focused on RQ3, but also addressed certain facets of RQ2.

### 4.1. Qualitative analysis

We used open-ended questions (OEQs) to answer RQs 1–2. OEQs make it possible to collect data that cannot be captured through fixed-response formats. Therefore, the OEQs included in the survey were analyzed using the six phases of thematic analysis proposed by Braun and Clarke (2006).

In the initial phase, all 832 respondents' answers to the four qualitative questions were entered into NVivo, yielding a total number of 2372 unique responses. These responses were read through carefully in order to create an overview, to provide the research team with familiarity of the data material, and to acquire a thorough knowledge base (Braun and Clarke, 2006). An initial coding attempt of the first 100 respondents was done by one of the authors and then presented to the other authors. The coding was done in such a way that all responses were coded into the same nodes without keeping the respective questions apart. The three researchers involved in the coding met frequently to discuss the evolving understanding of the material. As soon as anything was unclear, it was discussed until a consensus could be achieved regarding the coding.

During the second phase, all responses were systematically sorted into initial codes with preliminary names. Coding was made into existing codes whenever possible. However, if a response did not fit into an existing code, a new code was created. The purpose of this stage was to condense the data slightly along the coding process, which resulted in 81 initial codes.

The goal of the third phase was to look at the data material from a more generalized perspective. The 81 codes generated in the previous phase were scanned several times for overarching communalities and similar codes were sorted into initial themes (Braun and Clarke, 2006). As a result, 12 codes were removed from the material because they were beyond the scope of the research questions. The remaining 69 codes were collapsed into 19 generic codes and then organized into nine preliminary themes.

In the fourth phase, through iterations, the themes were reviewed, refined, and evaluated in terms of thematic fit and with respect to how well they represented the entire data set (Braun and Clarke, 2006). Based on the overarching goal of the study, the themes were then

structured into three preliminary clusters. These three clusters – technology, user, and servicescape – constitute the foundation of the initial thematic map, which outlines a narrative of the overall relationships between the themes.

The primary purpose of the fifth phase was to define the themes and the story they tell (Braun and Clarke, 2006). Following this procedure, iterations were made through the material, again refining the model, with the objective of identifying the essence of the themes. This process resulted in seven themes, which were organized into three interrelated clusters. Three themes (*goal-/fulfillment*, *relationships*, and *experiences*) were classified as belonging to the *customer cluster*; two themes (*physical venue* and *milieu*) were categorized as representing the *service provider cluster*; and the remaining two themes (*practical usability* and *intrusiveness*) were perceived as building blocks for the *digital technology cluster*.

Finally, in the sixth and final phase of the analysis, the themes were described verbally and organized into a thematic map in connection with the writing of the scientific report (Braun and Clarke, 2006). For a hierarchical representation of the relationship between the codes, themes, clusters, and the resulting thematic map, see Fig. 1.

### 4.2. Description of Clusters and corresponding themes

#### 4.2.1. The customer cluster

The Customer Cluster is a direct answer to RQ1: “What are customers' drivers for co-creating value with service providers in physical retail space?” The three themes in this cluster describe the motivational circumstances that drive the customer to initiate a customer journey in the first place. Thus, this cluster represents the customer's desires, needs, and goals, as well as the meaningful relationships and experiences encountered in the physical retail space, where co-creation of value with service providers is enabled. This cluster contains the themes of goal-/fulfillment, relationships, and experiences, which jointly describe and vivify the customer. As such, the cluster illustrates a customer as a social unit who has a need for relationships at different levels, while simultaneously looking for experiences, and has goals to fulfill. The themes surrounding this cluster are articulated in a more nuanced way below, and a number of coding references (NCR) are included.

*Goal-/fulfillment (NCR 968)*: When a customer interacts with a service provider, he or she has some sort of goal. Therefore, this theme consists of initial codes like “Shopping”, “To use a service”, and “A quick fix.” Descriptive quotes from the first to the last code include: “I'm there to do my shopping; clothes, for instance”, “I go to the library and visit museums”, and “I always have a plan when visiting the town center, preplanned visits at specific stores.”

*Relationships (NCR 1037)*: A large number of the answers contain references to social interactions. This theme refers to positive encounters and interactions with family members and friends, and how these relationships make the visit more pleasant. Examples of quotes are: “Having a nice time with friends or family,” “A good visit would be me meeting an acquaintance and having a chat,” and “Sometimes, I just stroll around with friends and talk about anything and everything.”

*Experiences (NCR 306)*: This theme revolves around the customer wanting to experience things. It consists of codes like “Strolling aimlessly”, “Surprise and inspiration” and “Emotional states.” An example quote is: “Walking around looking at people and enjoying the surroundings.” The customer also wants to be positively surprised and inspired, and “Preferably discover something new that attracts me.” In addition, there are many references to emotional states, such as: “That I have the right mental attitude for a positive experience” and “Taking my time without any stress.”

Taken together, the three themes of goal-/fulfillment, relationships, and experiences constitute the main drivers for customers to interact with service providers and co-create value within and beyond the physical retail space.



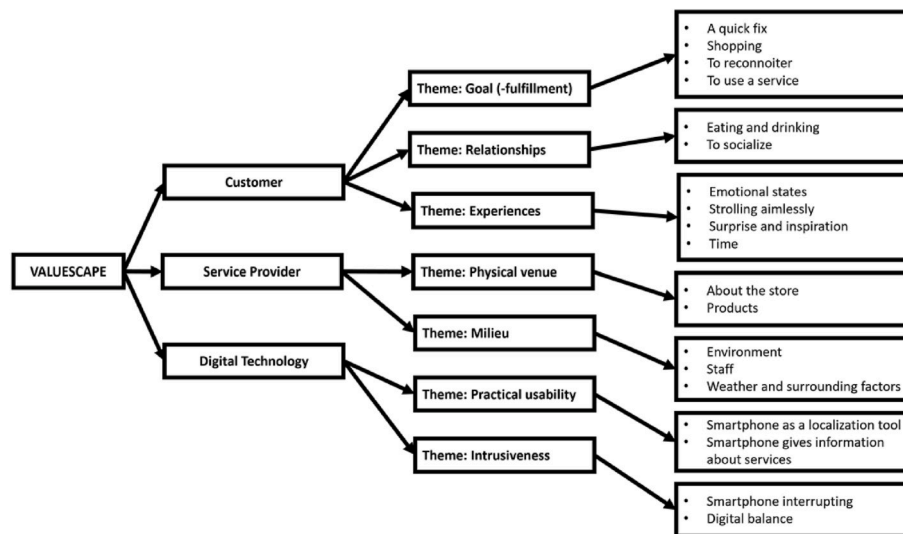


Fig. 1. Hierarchical tree structure of the relationship among codes, themes, clusters, and the final thematic map.

#### 4.2.2. The service provider cluster

The Service Provider Cluster contains two themes – physical venue and milieu – which relate to the places where customers interact with service providers. From a customer perspective, this cluster is a network of service providers, each situated within their own physical venue, which are accessible through and interlinked with the milieu. The difference between physical venue and milieu is the option to govern the environment and the interactions with the customers.

**Physical Venue (NCR 261):** The physical venue is the arena where the customer goes to interact with a service provider. It includes stores, restaurants, coffee shops, and the products and services they offer. Codes like “Products” and “About the store” make up the base of the theme. Defining quotes from these codes include: “A good selection of different products that I find neat and useable,” “That the range of products answers my needs,” and “That I know where to go with my errands.”

**Milieu (NCR 299):** This theme mirrors the Cambridge Dictionary’s definition of a milieu as “the people, physical, and social conditions and events that provide the environment in which someone acts or lives” (“Milieu,” n.d.). It consists of codes like “Weather and surrounding factors” and “Environment.” Some defining quotes from these codes are: “Nice weather often enhances the visit, but what’s most important is that things run smoothly, [and] that it is easy to park or get around,” “Nice environment, snugly cafés, accessibility of products, nicely arranged, colorful,” and “Interesting cityscape.”

The two themes of physical venue and milieu represent a canvas upon which the customer’s desires are projected and realized, resulting in co-creation of value. The permeation of digital technology has created novel ways to affect this value co-creation process, as illustrated by the third and final cluster.

#### 4.2.3. The digital technology cluster

This third cluster provides an answer to RQ2: “How does the usage of digital technology affect the customers’ co-creation of value with the service providers in the physical retail space?” The results of the quantitative part presented the PLS model and showed how people in general experience digital technology and how age is related to this experience. The Digital Technology Cluster connects these findings with the specifics of how digital technology may affect co-creation of value in a customer–service provider interaction. This cluster contains the two themes of practical usability and intrusiveness, as described below.

**Practical Usability (NCR 105):** This theme contains statements regarding the utilitarian aspects of technology in general and smartphones in particular. It consists of codes such as “Smartphones as a

localization tool” and “A smartphone gives information about services and saves time.” The former can be exemplified through statements of the type: “I use digital technology to localize good stores, shops and restaurants” and “Finding things easier in the store, for example the clothes you want.” The latter is illustrated by opinions such as: “An app with a shopping list that can be used in all stores,” “Book a table at a restaurant. Get an overview of available tables at specific times,” “My phone helps me in being informed about everything,” and “It facilitates and makes things take less time.”

**Intrusiveness (NCR 202):** The content of this theme relates to the customer’s perception of technology being a disturbing factor for some activities, such as having conversations with others, the problem of selecting which stimuli to attend to, and interacting with service providers. This theme also revolves around aspects such as how the customer evaluates his or her interaction with technology. It consists of the codes “Smartphone interrupting” and “Digital balance.” Examples of statements include: “People get somewhat distracted when they should be socializing. They dive into their smartphones,” “Usage of digital technology can ruin the visit all together, it influences how mentally present everyone is,” “I Put my smartphone in my purse/bag and try to forget that I have one,” “You don’t want digital technology when looking at new things,” and “I prefer less digital technology in stores. Otherwise I would do my shopping online.”

The two themes of practical usability and intrusiveness highlight the duality of digitalization: digital technology can make life easier, but can also be a nuisance.

#### 4.3. Creating a thematic map of the valuescape

The seven themes and the three interrelated clusters they form can be organized into a thematic map that shows how value can be co-created by customers and service providers, and the role of digitalization in this process. Thus, the drivers for customer interaction (goal/-fulfillment, relationships, and experiences), the arenas (milieu and physical venue), and the role of digital technology (practical usability and intrusiveness) for value co-creation can be understood as a *Valuescape* (see Fig. 2).

From a customer perspective, the results of the analysis show that there are three main drivers for interacting with service providers: goal/-fulfillment, relationships, and experiences. These interactions take place in the physical venue and milieu, where the former is more under the control of the individual firm and the latter symbolizes the constellation of offerings from a number of different actors. Furthermore, the thematic analysis shows that digital technology has the

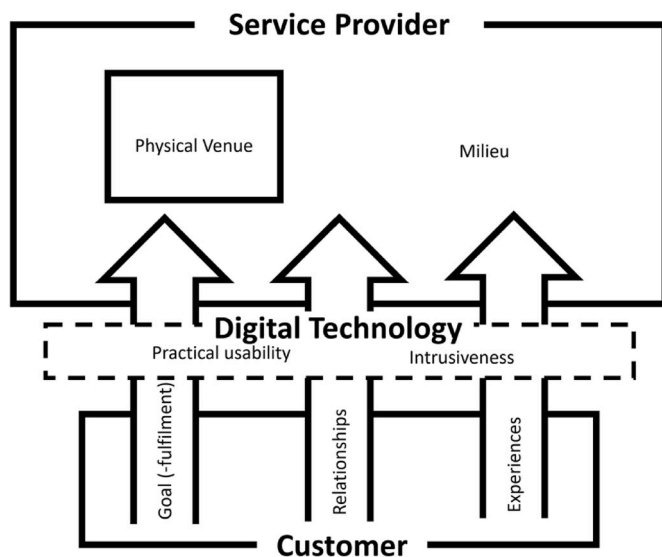


Fig. 2. Thematic valuescape map and the role of digital technology.

potential to moderate the value co-creation process between customers and service providers. As the responses from the theme “Intrusiveness” show, digital technology can sometimes have a negative impact in this value co-creation process. However, comments taken from the theme “Practical usability” highlight that digital technology may also enhance co-creation of value. Lastly, the thematic map pinpoints the role of the service provider in the valuescape and possible ways to utilize digital technology to enhance value co-creation. Taken together, the valuescape can be seen as a customer-centered concept that occurs when customers interact with service providers physically or through digital technology in such a way that value is co-created, experienced, and enhanced.

4.4. Quantitative analysis

PLS-SEM was used for the quantitative part of the study. The PLS approach is a well-established technique for estimating path coefficients in structural models (Hair et al., 2017) that allows analysis with non-normal distributions. Direct effects, indirect effects, and total effects can be estimated along with the psychometric properties of the measurement model and the parameters of the structural model. PLS-SEM is a valuable tool for exploratory research (Hair et al., 2014) and is therefore applicable to our material.

4.5. Validity and reliability test

We initially analyzed the reliability and validity of the three indices Digital Keenness, Digital Averseness, and Satisfaction with Digital Technology. Requirements for correct estimates of the effects of the latent variables include reliability, convergent validity, and discriminant validity being acceptable. Initial analyses of convergent validity (the extent to which the indicator variable positively correlates with alternative measures of the same construct) revealed that all items reach satisfactory levels (>0.70); see Table 2.

The latent variables were robust with respect to their internal consistency reliability, as indexed by composite reliability (CR). The outer loadings, which represent the loadings of the reflective manifest variables (that is, time-consuming, intrusion of privacy, addictive, easy to function in every-day life, satisfied with usage, important for well-being, quick on new trends, fun to use, and easy to use new technology), with their respective latent variable (Digital Keenness, Digital Averseness, and Satisfaction with Digital Technology), assess convergent validity and exceed the recommended value of 0.7 (Roldán and Sánchez-Franco,

Table 2

Results from measurement model estimation (outer loadings, composite reliability, and AVE) for the latent factors Digital Keenness (DK), Digital Averseness (DA), and Satisfaction with Digital Technology (SDT).

	Manifest Variable	Outer loadings	Composite reliability	AVE
DK	Quick on new trends	.855	.888	.726
	Easy to use	.853		
	It is fun to use	.848		
DA	Addictive	.866	.888	.726
	Intrusive	.783		
	Time-consuming	.903		
SDT	Satisfied with usage	.719	.795	.565
	Easy to function in every-day life	.799		
	Important for well-being	.734		

2012).

The average variance extracted (AVE) for each measure also exceeds the recommended value of 0.5 (Fornell and Larcker, 1981). Table 2 shows the reliability and validity of the measured scales.

4.6. Results of model estimates

After confirming that the construct measures were valid and reliable, the next step was to evaluate a structural model. Assessment of the significance of the path model relationships among the constructs were made through bootstrapping procedure with a resample of 5000. The standardized root mean square residual (SRMR) (Henseler et al., 2016) was used to assess the approximate model fit. The calculated value of 0.09 is below the cut-off value of 0.1 (N.A., 2020), indicating an acceptable fit.

Table 3 provides the full estimation results for Age, Digital Keenness, Digital Averseness, the Digital Keenness × Digital Averseness interaction, and Satisfaction with Digital Technology (standardized estimates (β) and p values for total, direct, and indirect effects).

The overall results of the analysis showed an adjusted R<sup>2</sup> of 0.418 regarding Satisfaction with Digital Technology. This clearly shows that the constructs of Digital Keenness and Digital Averseness have high predictive properties regarding the estimation of Satisfaction with Digital Technology. Furthermore, the results revealed an interaction effect between Digital Keenness and Digital Averseness. Visual inspection through a simple slope spotlight analysis (see Fig. 3) found that the

Table 3

Standardized estimates (β), 95% and p values for total, direct, and indirect effects of all paths in the PLS-SEM. DA = Digital Averseness, DK = Digital Keenness, SDT = Satisfaction with Digital Technology.

	DA		DK		SDT	
	B	p	B	p	B	p
<i>Total effects</i>						
Age						
DA	-.539	<.001	-.462	<.001	-.175	<.001
DK					.019	.61
DK × DA					.659	.01
					-.072	.01
<i>Direct effects</i>						
Age						
DA	-.539	<.001	-.462	<.001	-.139	<.001
DK					.019	.61
DK × DA					.659	.01
					-.072	.01
<i>Indirect effects</i>						
Total: Age -> SDT					-.314	<.001
Age -> DA -> SDT					-.01	.612
Age -> DK -> SDT					-.304	<.001

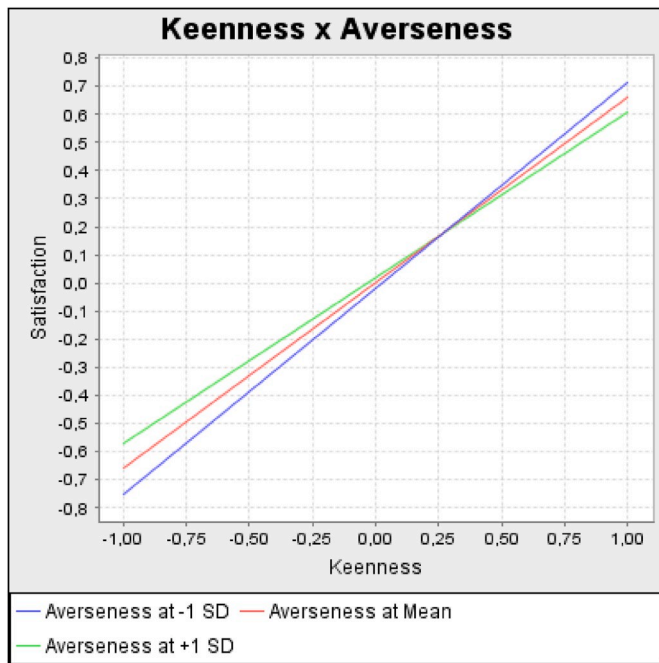


Fig. 3. Simple slopes analysis showing the moderating effect of Digital Averseness on the positive relationship between Digital Keeness and Satisfaction with Digital Technology.

positive relationship between Digital Keeness and Satisfaction with Digital Technology was moderated by Digital Averseness in such a way that this association was weaker at high rather than low levels of Digital Averseness. Finally, the results showed significant direct effects of Age on both Digital Keeness and Digital Averseness, as well as a significant total indirect and direct effect of Age on Satisfaction with Digital Technology.

## 5. Discussion

This mixed methods study provides a comprehensive view of customer experiences and the impact of digital technology on customers' co-creation of value in the physical retail space. By combining quantitative findings regarding the overarching role of digital technology and qualitative results on customers' experiences in the physical retail space, the current research presents a valuescape model that captures the customer, the service provider, and digital technology, as well as their interrelated linkages, activities, and the corresponding value co-creation process. The next three sections concern the main results corresponding to RQs 1–3, in the same order as these RQs appear in the end of the theoretical framework.

### 5.1. The valuescape model

The valuescape model provides a new conceptualization of customer experience that goes beyond the service provider sphere, with a more pronounced "customer first" perspective and a wider view of the physical retail space. As such, it departs from prior dyadic experience frameworks (e.g., Bitner et al., 1990) and research on customer journeys, which has typically focused on how to propel the customer forward towards conversion (see, e.g., Lemon and Verhoef, 2016). Within the valuescape model, the customer is not just a "shopping robot" who jumps from touchpoint to touchpoint along a customer journey. Instead, the valuescape vivifies the customer as a person with meaningful relationships at different levels, goals to fulfill, and experiences to encounter. This perspective is more in line with service design, starting with the specificities surrounding the customer's value creation process

(Jaakkola et al., 2015; Trischler et al., 2018a,b). The perspective also aligns with recent retail and service research, which has highlighted the importance of relational resources in forming favorable customer experiences (Friman et al., 2018; Rosenbaum et al., 2020).

According to the valuescape model, the three customer cluster themes of goal/-fulfillment, relationships, and experiences can be understood as drivers that support the interaction with the service provider that is necessary to complete the value creation process, with the physical venue and milieu themes connected to the service providers' offerings. A physical venue is where a given service provider, such as a store or restaurant owner, has the most direct control. This theme is closely aligned with the physical evidence as a key component of the service blueprint (Bitner et al., 2008). The customer visits physical venues not only to fulfill his or her shopping goals, but also to build relationships and have direct contacts with service providers, which is a key to gaining a competitive advantage in today's business environment (Grönroos, 2009). The milieu theme contains all the spaces a customer needs to pass in order to get to a specific physical venue. This includes other service providers, features like public transportation, parking opportunities, and the layout of the city in general. The milieu highlights that a customer does not consume one service offering in isolation, but a constellation of offerings from a number of different actors (Patrício, Fisk, Falcão e Cunha and Constantine, 2011; Pinho, Beirão, Patrício, & P. Fisk, 2014); this is consistent with a Gestalt perspective, where the totality is greater than the sum of the parts (Köhler, 1970; Rock and Palmer, 1990). As such, the milieu has the potential to affect the customer's mindset and desire to interact with service providers. Consequently, service providers need to consider the full network of stakeholders involved in co-creating value and understand the customer's unique desires to interact in this value co-creation process. The specific way in which the customer's usage of digital technology affects co-creation of value with service providers must also be taken into consideration.

### 5.2. The role of digital technology in the value creation process

The quantitative part of this study documented a positive relationship between Digital Keeness and Satisfaction with Digital Technology, moderated by Digital Averseness. This relationship shows that the aversive aspects of technology has a detrimental impact on the customer experience, such that Digital Averseness diminishes the positive association between Digital Keeness and Satisfaction with Digital Technology. The duality in the perceptions of digital technology is corroborated by the findings of the qualitative analysis, where the themes of practical usability and intrusiveness highlight that digital technology can take two distinct forms. On one hand, smartphones and other digitalized devices have become highly appreciated practical tools that are used in a multitude of situations. On the other hand, the omnipresence of technology and its interruptive properties divert customers' attention in an unwanted and disruptive way. Specifically, the results show that, in the valuescape, digital technology plays a pivotal role in the co-creation of value in that it may both enhance and disrupt the customer's perception of value. Furthermore, the results indicate that the practical usability aspects of digital technology are perceived more as a necessity than a novelty, but that such aspects will be perceived positively as long as they support the customer's needs in some way. Thus, goal/-fulfillment activities may benefit from digitalization and enhance customers' experiences, while activities that are more strongly related to relationship building run a greater risk of being impeded by digital technology.

### 5.3. Age differences as a future-focused forecast

The findings from the quantitative part of this study demonstrate that age is a significant predictor of both Digital Averseness and Digital Keeness, and that age has a significant indirect effect on Satisfaction

with Digital Technology. While the moderating effect of Digital Averseness on this mediation *per se* might not be surprising, it is, as far as can be ascertained, the first time this relationship has been documented based on field data. What is slightly more surprising is the negative relationship between age and Digital Keeness and also regarding Digital Averseness. This pattern could be due to familiarity aspects, with younger customers being more familiar with digital technology and more frequent users of it (Andone et al., 2016; Prensky, 2009; Reinecke et al., 2017). Consequently, they experience higher levels of intrusiveness (Rotondi et al., 2017). Previous research has highlighted the difference between younger and older customers' use of and interest in digital technology, and how digital technology has become a defining part of how younger individuals communicate, socialize, learn, and behave (Homburg et al., 2017; Prensky, 2001; Reinecke et al., 2017).

Customers who are young today will continue to use digital technology. Therefore, an implication of the latter finding is that as reliance of digital technology continues to increase, so will the importance of utilizing this technology in a way that is beneficial for the customer's unique value co-creation process taking place within the valuescape.

#### 5.4. Theoretical implications

From a theoretical viewpoint, our valuescape model differs considerably from the servicescape framework, which has a more company-centered conceptualization. The servicescape framework takes its point of departure in what firms can do "to facilitate achievement of organizational as well as marketing goals" (Bitner, 1992, p. 57). Thus, although Bitner (1992) acknowledged the unique needs of ultimate users as a cornerstone to secure competitive advantage, the focus is still on the company rather than the customer, and the servicescape is theorized as a facilitator that, through seamless experiences, can help customers (and employees) fulfilling their goals. Such a view will arguably lead to a more prominent focus on omnichannel retailing and, eventually, to the majority of customers' purchases being made online through smartphones, laptops, and other digitalized devices, given the cost-efficient nature of such strategies from a company perspective. In the long run, this may lead to the death of retailing in physical stores. Similarly, the customer journey's focus of moving customers from touchpoint to touchpoint, with conversion as the ultimate goal, does not explicitly acknowledge the need to strengthen the physical retail space in ways that go beyond consumption as the primary purpose. In contrast, our proposed valuescape model emphasizes customers' value-creation processes as a fundamental aspect influencing their responses in any given consumer context (offline as well as online). Importantly, the valuescape model attempts to apply such value-creation aspects in relation to digitalization, not to replace retailing with digitalized offerings and online shopping, but rather to use digitalization as a new medium to communicate the added value customers get from visiting physical venues where consumption can take place, without always being the ultimate goal. Therefore, by incorporating the value-creation aspects of visiting real retail stores in companies' digitalization efforts, our valuescape model provides a way to make customers more inclined to frequent such physical settings instead of making the majority of purchases online. Given our obtained age differences – which should be viewed more as a compass towards the future than a simple comparison between older and younger consumers – the way retailers promote physical venues through digitalized technology will arguably be crucial for the survival of physical retail stores. Reliance on the valuescape model, and its various value-creating components, provides retailers with a first step in ensuring a fair future for their physical stores.

#### 5.5. Managerial implications

The results of this study offer important insights for retailers and managers working in service and hospitality industries. The current focus on omnichannel strategies with seamless customer experiences

carries a risk of driving customers towards e-commerce at the expense of the physical retail space. In order to use digital technology as a means of attracting customers back to the physical venues where consumption can take place, companies should base their value propositions on the drivers presented in the valuescape model.

It is important to note the dual impact of digital technology on the drivers within the valuescape. Indeed, digital solutions that facilitate goal fulfillment are perceived as value-enhancing, but such solutions become aversive when the value creation process focuses on relational resources and less task-oriented activities. From a managerial perspective, these results suggest that digital technology can be beneficial for practical purposes linked to customers' task-oriented goal fulfillment (such as finding a product, parking lot, or the way to a service provider), but that this type of technology should be used with caution in more relationship-relevant contexts, due to its interruptive effects in such social settings. Moreover, it is crucial to consider the perceived intrusiveness of digital solutions (Högberg et al., 2019). Therefore, based on findings of the present study, service providers should avoid running the risk of making customers feel pushed into digital technology and allow them to actively opt in rather than out when it comes using digital solutions (Högberg et al., 2018).

The results reported herein also show that value is not only created in the specific physical venue where consumption can take place (that is, the service provider's servicescape, in the words of Bitner). The milieu, or the landscape around the servicescape, also has an impact on customers' experiences and value creation processes. This finding is consistent with the view advocated by Arnould et al. (1998), who suggested that customers perceive the environment holistically, and has implications for how service providers influence and control their own retail space. By maximizing collaboration with other actors within the milieu (such as center managers, property owners, politicians, and other public figures) and coordinating the retail space with the external infrastructure and its availability in mind (such as public transport, parking availability), service providers can design more appealing offerings and create greater value for themselves and their customers. Taken together, by adapting digital strategies to the value creation process, as outlined in the valuescape model, service providers can amplify the appetitive aspects of the physical retail space.

#### 5.6. Limitations and future research

Given that participants responded to all survey items at a single point in time, there is a risk of common method bias, which may threaten the validity of the data (Reio Jr, 2010). However, this error source can be reduced by collecting data that capture measures in different ways (that is, by minimizing common scale properties). In order to mitigate this issue, the present study adopted a mixed methods design, including both quantitative and qualitative measures. Nevertheless, since it cannot be explicitly concluded that the quantitative part is free from common method bias, future studies could counterbalance the order of the items and/or spread out the measures; for instance, by introducing a time lag between the predicting and criterion variables.

Another limitation relates to customers' actual usage patterns of digital technology. The argument proposed in the present research is that usage of digital technology leads to Digital Keeness and Digital Averseness, which should affect Satisfaction with Digital Technology. Such an interplay seems plausible according to the presented PLS model; however, in order to be able to elucidate this relationship with certainty, future studies should also measure participants' real use of digital technology, rather than solely relying on self-report data.

Finally, although the mixed methods approach generated a relatively broad knowledge base of customers' value co-creation process and the role of digitalization in the interplay between different actors, future research could use other methods to enable an even deeper investigation of these phenomena. For example, future studies could follow consumers for a longer period of time using consumer diary methods (see,



for example, Williams et al., 2012) in order to capture the specific behaviors and activities, as well as the cognitive and affective processes, that characterize the customer within the valuescape.

## 6. Conclusion

The valuescape model presented in this article describes a conceptualization in which value co-creation emerges when contact (physical and/or digital) arises between customers and service providers in the physical retail space. Digital technology can contribute to increased value during and between such contact points, but can also reduce value depending on how it is implemented and received from the customer's point of view. Value creation is likely to occur when digital technology supports the customer's current goals or desires, facilitates meaningful interpersonal relationships, and enhances the customer experience. Therefore, adequate use of digital technology by service providers can strengthen the customer's willingness to visit or return to physical retail spaces. This will favor physical retailing in a world where more and more brick-and-mortar stores are failing due to online competition.

## Declaration of competing interest

None.

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jretconser.2020.102161>.

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