



This file was downloaded from BI Open, the institutional repository (open access) at BI Norwegian Business School <https://biopen.bi.no/>
It contains the accepted and peer reviewed manuscript to the article cited below. It may contain minor differences from the journal's pdf version.

Bolton, R. N., Gustafsson, A., Tarasi, C. O., & Witell, L. (2022). Designing satisfying service encounters: Website versus store touchpoints. *Journal of the Academy of Marketing Science*, 50(1), 85–107. <https://doi.org/10.1007/s11747-021-00808-9>

Copyright policy of Springer, the publisher of this journal:

"Authors may self-archive the author's accepted manuscript of their articles on their own websites. Authors may also deposit this version of the article in any repository, provided it is only made publicly available 12 months after official publication or later. He/ she may not use the publisher's version (the final article), which is posted on SpringerLink and other Springer websites, for the purpose of self-archiving or deposit..."

<http://www.springer.com/gp/open-access/authors-rights/self-archiving-policy/2124>

**DESIGNING SATISFYING SERVICE ENCOUNTERS: WEBSITE VERSUS STORE
TOUCHPOINTS***

Ruth N. Bolton

Professor of Marketing, W. P. Carey School of Business, Arizona State University,
Tempe, Arizona 85287-4106, USA. Email: ruth.bolton@asu.edu

Anders Gustafsson

Professor of Marketing, Department of Marketing, Norwegian Business School (BI), 0484 Oslo,
Norway. Email: Anders.Gustafsson@bi.no

Crina O. Tarasi

College of Business Administration, Central Michigan University Smith Hall 108F, Mount
Pleasant, MI 48859, USA. Email: crina.tarasi@cmich.edu

Lars Witell

Professor, Linköping University, Department of Management and Engineering and CTF,
Service Research Center, Karlstad University, Sweden. Email: Lars.Witell@liu.se

*Authors are listed in alphabetical order. All authors contributed equally to this work.

DESIGNING SATISFYING SERVICE ENCOUNTERS: WEBSITE VERSUS STORE TOUCHPOINTS

Abstract

This study investigated how touchpoints moderate the antecedents of customer satisfaction with service encounters by comparing online and in-store encounters. Construal level theory was used within the Touchpoint, Context, Qualities (TCQ) Framework (De Keyser et al. 2020) to integrate a comprehensive model of how touchpoints—websites or stores—influence the magnitude of customer responses to qualities of service encounters. A hierarchical linear model (HLM) was estimated using survey data describing the service encounters of 2.4 million customers with a global retailer. Online customers weighed cognitive and behavioral qualities more heavily than in-store customers, whereas they weighed emotional and sensorial qualities less heavily. Moreover, random effects in the HLM model indicated that each country and store would have unique clientele effects for specific qualities. Since each firm has limited resources, this research offers guidance on key qualities in designing satisfying service encounters for each touchpoint and how qualities should be standardized and customized in global omnichannel environments.

Keywords: Service, Strategy, Encounters, Relationship, Retailing, Satisfaction, Experience, Touchpoints, Multichannel, Context

Customers often interact with firms using multiple touchpoints, thereby challenging firms to create integrated and favorable service encounters (SEs) for diverse customers across different touchpoints (Sousa and Voss 2006). Researchers have built on Shostack's (1985, p. 243) definition of a SE as "a period of time during which a consumer directly interacts with a service." Today, SEs include diverse customer–firm interactions: actions, communications, and processes, including information-seeking and problem-solving. With the proliferation of technological options, marketers are interested in all interfaces and interactions between firms and their customers (De Keyser et al. 2020; Grewal et al. 2020b; Homburg, Jozić, and Kuehnl 2017). Consequently, firms seek to co-create value with customers at various touchpoints—stores, websites, and self-service kiosks—in order to yield satisfying SEs (Singh et al. 2017).

Managers design and manage SEs at each touchpoint (Bleier, Harmeling, and Palmatier 2019) to co-create value with customers in efficient and effective ways (e.g., Eroglu, Machleit, and Davis 2001). Theoretical and empirical work suggests that customers respond differently to their experiences depending on whether they take place on a website or in a store (Burke 2002; Noble, Griffith, and Weinberger 2005; Verhoef et al. 2009). Thus, managers are challenged to ensure that all touchpoints are integrated, effective, *and* thematically consistent (Kuehnl, Jozić and Homburg 2019). Today, marketers wrestle with the challenges of new technology, tools, and visual displays to effectively connect with customers (Grewal, Roggeveen, and Nordfält 2017; Kahn 2017). Firms need to account for contextual factors when designing SEs (Patricio, Gustafsson and Fisk 2018), but they lack guidance on how qualities of SEs should be customized for touchpoints and markets.

The purpose of this study is to understand how touchpoints moderate the effects of the experiential qualities of SEs on customer satisfaction. First, we investigate how two touchpoints—website and store—influence how customers weigh experiential qualities (e.g., ease-of-use or

attractiveness), in evaluating satisfaction with the service encounter. Contrasting the two touchpoints could yield important insights that would be difficult to grasp by studying one independently. Second, we examine the robustness and stability of customers' *responses* to experiential qualities across touchpoints to assess how firms should customize their marketing programs and SEs for various markets. By focusing on touchpoints, we contribute to research on service design and customer experience (CX) management as a key source of competitive advantage (Homburg, Jozić, and Kuehnl 2017; Verhoef et al. 2009).

Our findings offer four major contributions regarding the design of SEs at different touchpoints. First, a CX perspective requires firms to attend closely to the contextual factors—individual, social, market, and environmental—that moderate the effectiveness of marketing decision variables at a given touchpoint (De Keyser et al. 2020). We study the touchpoint as a key moderator of the effects of experience qualities on customer satisfaction with the SE. This approach to CX management is consistent with differentiated marketing strategies for services (Bharadwaj, Varadarajan and Fahy 1993). We found that customers weighed more heavily the sensory and emotional dimensions of CX during in-store SEs and cognitive and behavioral dimensions during online SEs. The magnitude of the fixed effects of different experience qualities can be very different. Moreover, our hierarchical linear model detected random effects at both the country and store levels, suggesting that the customization of SEs will be more complex because the qualities of SEs are not weighed equally at different touchpoints or in different markets. By identifying the moderating effects of the touchpoint, our paper provides guidance for blending the standardization and customization of SEs in global omnichannel environments.

Second, prior research has typically studied the qualities controlled by the firm, such as merchandise assortment, and their effects on customer satisfaction. In contrast, this study develops a theory-based model to describe how touchpoints moderate the effects of many experiential

qualities in the formation of customer satisfaction. Following the Touchpoint, Context, Qualities (TCQ) framework introduced by De Keyser et al. (2020), we develop a comprehensive theory-based model of how customers respond to five dimensions of CX—cognitive, emotional, sensorial, behavioral, and social—across two major touchpoints: websites and stores. We provide an empirical assessment of how different TCQ combinations (focused on touchpoints) influence customer satisfaction with the SE. According to De Keyser et al. (2020), the existing research has ignored market and environmental factors. To answer this call, this study provides a strong test of the moderating role of touchpoints for five dimensions of CX while controlling for individual, social, market, and environmental factors.

Third, we introduce construal level theory (CLT; Fiedler 2007; Trope and Liberman 2010) as an integrative perspective on how customers evaluate their satisfaction with SEs at different touchpoints. It helps explain the moderating effects of websites versus stores on the five CX dimensions on customer satisfaction with SEs. CLT provides a foundation for predictions about how different experiential qualities of the SE are moderated by touchpoints in distinct ways. For example, website customers weigh more heavily cognitive discrepancies from the (first-established) store touchpoint because it is a concrete and proximal referent. It also explains why customers weigh sensorial qualities more heavily when they align with the central features of the (concrete) store touchpoint. Our research shows that CLT can provide an integrative mechanism to explain why there are differences in how consumers experience SEs at different touchpoints, thereby stimulating future research on CX.

Fourth, given the pervasiveness of the multichannel environment, Bitner and Wang (2014) called for studies of qualities of SEs across multiple touchpoints. The current study considers a common situation in which a firm first established stores as touchpoints—serving as the customer’s primary reference point—and subsequently added online channels. We focus on

qualities of SEs that are of relevance to most touchpoints and firms and proceed to analyze an extremely rich database. Our study is the first of its kind as it does not look at variables and moderators in isolation; it analyzes the moderating effects of the touchpoint (website versus store) in the presence of all other contextual descriptors. This research design ensures that our insights about the customization of SEs at touchpoints are relevant to most touchpoints, firms, and regions; it also reveals variation in the importance of experience qualities across different markets. Based on these insights, we offer implications regarding omnichannel design and investments in specific touchpoint technologies that support SEs.

Next, the paper reviews the relevant literature and describes our integrative conceptual framework based on CLT (Trope and Liberman 2010). We then develop hypotheses about the moderating effects of touchpoints (website and store) on CX qualities and their influence on satisfaction with the SE. We test the hypotheses with data from a well-known global retailer's customer surveys about a recent SE through its website or store in 47 countries, which yielded 2.4 million observations. Since our model examined a single service firm operating in multiple markets with roughly identical offerings, we obtained robust findings on whether the effects of the qualities of SEs were larger or smaller, depending on the touchpoint, after controlling for contextual factors. We estimate a hierarchical linear model (HLM) that incorporated fixed and random effects and considered that customers are nested within websites or stores, which are themselves nested within countries. The model's (fixed) interaction effects captured how touchpoints moderate the effects of CX qualities on satisfaction with SEs. Our findings provide theory- and results-based guidance on how to create satisfying SEs for websites and stores.

SERVICE ENCOUNTERS ACROSS TOUCHPOINTS

An early view of the SE focused on the dyadic interaction between a customer and a frontline employee at a service provider (Solomon et al. 1985). Today, the context in which SEs take place

is often technology-enabled, with the SE unfolding both online and in the physical servicescape (Bolton et al. 2018; Grewal et al. 2020a; Ostrom et al. 2015). Recently, it was posited within the TCQ framework that there are three building blocks of CX in SEs (De Keyser et al. 2020). First, a SE takes place at a touchpoint or point of interaction between the customer and the brand/firm. Second, CX qualities (i.e., attributes) corresponding to the five CX dimensions reflect the nature of customer responses to SEs. Third, these experiences are influenced by the context, that is, situationally available resources at the touchpoint. According to De Keyser et al. (2020), linking qualities to evaluative judgements of the SE is a key issue in CX research that captures its multi-dimensional nature.

Omnichannel Research and Service Touchpoint Design

Neslin and Shankar's (2009) review article identified five steps in multi-channel customer management: customer analysis, multi-channel strategy development, channel/touchpoint design, implementation, and evaluation. Marketers have typically focused on two steps: customer analysis, especially studying the research shopper (e.g., Verhoef, Neslin Vroomen 2007), and multi-channel strategy development, such as showrooming and webrooming (e.g., Jing 2018). Omni-channel strategies—which require touchpoint integration—are necessary for retailers to create seamless CXs (Kumar et al. 2019; Verhoef, Kannan and Inman 2015) and leverage channel synergies (Kumar, Mehra and Kumar 2019). However, few studies have investigated the design step, especially for SEs within omni-channel environments. Rather than studying specific qualities and service design, some studies have compared online and offline preferences (e.g., Hult et al. 2019). In a conceptual article about customer engagement, Kumar et al. (2019) argued that retailers should focus on moderators in order to ensure consistency and favorable SEs, thereby enhancing CX. Studies that focus on the design of SEs as part of touchpoint integration are scarce. Table 1 summarizes relevant studies of both websites and stores.

** Table 1 here **

Main Effects of CX Qualities on Evaluations of SEs at Different Touchpoints

Field studies have shown that CX qualities (e.g., ease of transactions, quality assortment of merchandise, and atmosphere) directly influence customers' preferences for utilizing stores, websites, or catalogs (Baker et al. 2002). Most of these studies have examined a single touchpoint, primarily stores (Baker et al. 2002; Verhoef et al. 2009) or websites (Mathwick, Malhotra, and Rigdon 2002; Bleier, Harmeling and Palmatier 2019), with the exception of Burke's (2002) web-based study of customer perceptions of website and in-store shopping, which explored what shoppers want in both online and in-store environments. Frambach, Roest, and Krishnan (2007) compared pre-purchase, purchase and post-purchase stages and found that customers weighed qualities differently when forming their intentions to use a website versus a traditional bank branch. Shankar, Smith and Rangaswamy (2003) and Van Birgelen, de Jong and de Ruyter (2006) showed that touchpoint satisfaction moderated the relationship between overall satisfaction and loyalty. Finally, Hult et al. (2019) compared website and store shoppers' satisfaction with purchases across a range of service industries.

There is, however, limited evidence of moderator effects across websites and stores. What is usually researched is a single quality *in a single market*. For example, easy-to-obtain information has a larger effect on satisfaction delivered by a website versus a store (Shankar, Smith and Rangaswamy 2003); perceived price fairness has a stronger effect for store shopping than website shopping (Hammerschmidt, Falk, and Weijters 2016). There are no studies comparing customers' satisfaction with website and store SEs that provide a theoretical rationale concerning why their effects differ, describe empirical regularities for multiple qualities for multiple CX dimensions across markets, and offer managerial implications. Importantly, both Verhoef et al. (2009) and De Keyser et al. (2020) proposed that contextual or situational variables are important moderators in

the formation of customer assessments of their experiences, but they did not study them empirically. These knowledge gaps are surprising because CX researchers have argued that the magnitude of the effects of SE qualities depends on the customer's context.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Drawing on CLT, we build on the TCQ framework (De Keyser et al. 2020) to develop and test a theory-based conceptual framework of how customer touchpoints (website or store) moderate the effects of qualities in forming customer satisfaction evaluations about SEs. In our conceptual framework in Figure 1, the left side shows the main effects of experience qualities on customer satisfaction with a SE. Across the top, we distinguish underlying psychological distances drawn from CLT that create the moderating effects of touchpoints. The hypotheses concerning how the touchpoint moderates qualities are depicted by the arrows. While this framework incorporates the main effects of qualities on customer satisfaction, our paper focuses on the moderating effects of the touchpoint (website versus store). We control for the service brand and context, including individual, social, market, and environmental factors, as shown at the bottom of Figure 1.

** Figure 1 here **

To enhance our study's generalizability, we focus on the qualities of each CX dimension that are well established in prior research and relevant to SEs for many firms (Homburg, Jozic, and Kuehnl 2017). We study how the touchpoint moderates eight qualities corresponding to the five CX dimensions identified in the TCQ framework (De Keyser et al. 2020): cognitive (*favorable disconfirmation, price fairness*), emotional (*inspiration*), sensorial (*attractive environment, product appeal*), behavioral (*ease-of-use and catalog use*), and social (*service representative*). In prior research, the main effect of each quality has been widely acknowledged as a predictor of customer SE satisfaction in relation to both websites and stores (e.g., Shankar, Smith and Rangaswamy 2003). For example, an *attractive* website or store influences customers' touchpoint

usage and satisfaction (Kaltcheva and Weitz 2006). This section summarizes CLT and develops theory-based hypotheses about the moderating effects of touchpoints on the eight qualities of SEs. Since CLT is still under development, it integrates most (but not all) prior work concerning the judgment and decision-making underlying our hypotheses.

Construal Level Theory

We draw upon CLT to build an integrative model of customer satisfaction with the SE at a given touchpoint (Trope, Liberman and Wakslak 2007; Trope and Liberman 2010). CLT posits that people perceive events that vary according to types of psychological distance from the self (here and now): spatial distance, affective distance, hypotheticality (i.e., the likelihood of an event occurring), social distance, and temporal distance. Psychological distance affects how concrete or abstract people's thoughts are. When an event is psychologically distant (distal), people engage in high-level construal, which refers to abstract thought. When an event is psychologically close (proximal), people engage in low-level construal, which refers to concrete thoughts. For example, "warm" emotionally charged photos of an object are less psychologically distant than "cold" text descriptions of the same object (Fiedler 2007). Also, a hypothetically near event is one that is highly probable, whereas a hypothetically distant event is one that is highly improbable (Liberman et al. 2007). Highly likely events will be processed at low-level construals, and highly unlikely events will be processed at high-level construals. At high-level construals, people think about the gestalt and focus on central features, not details. At low-level construals, people think more concretely about secondary features and details. It is easier for customers to process mental representations that are congruent, that is, at the same construal level. The construal level influences people's interpretation and evaluation of their experiences (see different CLT

mechanisms across the top of Figure 1). There are only a few applications of CLT to SEs or touchpoint design (e.g., Ding and Keh 2017).

Fiedler (2007) observed that CLT provides an integrative framework for explaining a wide variety of judgment and decision-making phenomena across different domains, including preference reversals. Liberman, Trope and Wakslak (2007) speculated that psychological distance (especially spatial distance) may explain customers' responses to Internet shopping experiences, an issue that we investigate in this paper. We consider how customers' interpretation of website and store SEs are inference-based, potentially drawing on their prior knowledge and experience, which is psychologically distant from the particular SE and moderated by secondary features (Fiedler 2007; Verhoef et al. 2009). Many SE qualities are associated with each CX dimension and they may have different construal levels. Below, we summarize prior research concerning the main effects of the qualities of the SE that correspond to each of the five CX dimensions. We then discuss the theoretical mechanisms for the moderating effect of the website or store on each quality that influences customer satisfaction with a SE.

Cognitive Qualities and Spatial Distance

Service research has established that people do not necessarily respond to discrete elements of a SE but, rather, to their total configuration (Roschk and Hosseinour 2020). We believe that the first and well-established touchpoint is likely to serve as a primary (holistic) reference point for customers during a SE. For example, customers' primary referent for Amazon is its website, whereas their primary referent for Walmart is its store—although both firms serve customers through both touchpoints. When a customer's primary referent is the store and they visit the firm's website, the SE takes place at a greater spatial distance than during the store visit (Fiedler 2007; Liberman, Trope and Wakslak 2007). Spatial distance is also greater because websites serve customers in a large geographic region, whereas stores serve customers in a (smaller) trading area.

Since the website (store) is spatially distant (proximal), customers will rely on an abstract (concrete) construal process (Darke et al. 2016). In this paper, we begin by discussing how the touchpoint moderates two holistic (abstract) qualities of the cognitive dimension of CX—favorable disconfirmation and price fairness—due to spatial distance.

Holistic Favorable Disconfirmation. An important cognitive ingredient of satisfaction is overall expectancy-disconfirmation: the customer's comparison of their perceptions with expectations or prior beliefs about the service brand (Oliver 1997). Our survey follows common practice and measures it at the holistic level rather than the attribute-specific level, labelling it *favorable disconfirmation*. The main effect of this construct has been well established from decades of customer satisfaction research; satisfaction is high when customers perceive that service is better than expected. Customers' perceptions of SE qualities are influenced by their congruency with prior holistic beliefs, which serve as a reference point (Bosmans 2006). The elicitation of holistic favorable disconfirmation regarding a website SE will evoke an abstract construal process that highlights *overall* discrepancy or fit (Kim and John 2008). In contrast, a store SE leads to concrete mental construal arising from the customer's knowledge and experience about the primary referent (Hamilton and Thompson 2007). In this study, the primary referent for the cooperating firm is its store, so we believe that the effect of *favorable disconfirmation* on customer satisfaction with the SE will be larger when they visit the website than when they visit the store.

H_{1a} When the firm's first established touchpoint is the store, customers who visit the *website* will weigh *favorable disconfirmation* more heavily than customers who visit the store (positive moderating effect).

Holistic Perceptions of Price Fairness. There is a well-established main effect of price fairness on customer satisfaction; the customer's perception of *price fairness* is an important cognitive ingredient of satisfaction (Oliver 1997). With respect to moderating effects, pricing research has shown that the nature of the decision task influences the importance of price. For example, since

price information produces precise and easy-to-compute comparisons, it is relatively less important in overall evaluations than comparison-based tasks (Nowlis and Simonson 1997). A CLT explanation is that evaluations and preference formation weigh more heavily on (future) desirability, whereas choice tasks weigh more heavily on (current) feasibility (Liberman and Trope 1998; Sagristano, Trope and Liberman 2002).

A customer's holistic perception of *price fairness* will not be the same for SEs at two different touchpoints because he/she is exposed to different information displayed in different formats. From a CLT perspective, *price fairness* or judgments of equity (Oliver 1997)—unlike perceptions of price information—entail abstract (high level) mental representations that do not require immediate self-identification (Fiedler 2007). Since a website SE takes place at a greater psychological distance than a store SE (Darke et al. 2016), the (distal) website reinforces an abstract construal of *price fairness* in customers' overall SE satisfaction. These observations suggest a moderating effect that reconciles conflicting empirical findings; namely, customers evaluating website SEs will weigh *price fairness* more heavily than those evaluating store SEs due to the more abstract mental representations and high construal level of the former.

H_{1b}: Customers who visit the *website* will weigh *price fairness* more heavily in evaluating their SE satisfaction when compared with customers who visit the store (positive moderating effect).

Note that, if we studied a quality of the cognitive CX dimension that is construed at a low (concrete) level, we would expect a prediction in the opposite direction.

Emotional Qualities and Affective Distance

The retailing literature has long recognized the main effects of consumers' perceptions of utilitarian and emotional (i.e., hedonic) qualities on customer satisfaction with store and website SEs (e.g., Childers et al. 2001; Chitturi, Raghunathan and Mahajan 2008). This literature stream distinguishes between qualities that yield utilitarian versus emotional value, thereby satisfying

different motives. Fiedler (2007) has argued that affective distance is related but conceptually distinct from other distance dimensions where “warm” events are more proximal. Following this view, we consider emotional qualities to decrease affective distance where affect includes valence (pleasant/unpleasant) and arousal. Septianto and Pratiwi (2016) have shown that consumers with low-level construal evaluated an ad with an emotional appeal more favorably than an ad with a utilitarian appeal. Their study supports the notion that emotional (utilitarian) qualities are concrete (abstract) and proximal (distal) and are associated with a small (large) affective distance, such that consumers process these mental representations with low-level construal.

Since the website is spatially distant relative to the store, customers’ mental representations will be evaluated at a high construal level. However, CLT argues that different facets of psychological distance (e.g., affective distance) can compensate for another facet (e.g., spatial distance). We believe that this notion is very likely to be true when customers evaluate their SEs both on websites and in stores. Emotional qualities will reduce the psychological distance between the customer and the touchpoint so that they weigh these emotional qualities with a low construal level. Customers will rely on abstract (high) level construal and, consequently, weigh (concrete) emotional qualities less heavily in forming satisfaction with SEs through websites versus stores. In this study, emotional quality is represented by an affective measure, *inspiration*, which has both favorable valence and a high arousal level (Böttger et al. 2017). In particular, the cooperating firm promises that its brand provides *inspiration* and offers novel solutions. Customers’ perceptions of this emotional message lead to the following hypothesis:

H₂: Customers who visit the *website* will weigh the affective dimension (i.e., emotional qualities)—such as *inspiration*—less heavily in evaluating their SE satisfaction than customers who visit the store (negative moderating effect).

We distinguish affective measures of emotional qualities from discrete emotions (Kranzbühler et

al. 2020) because Liberman, Trope and Wakslak (2007) consider discrete emotions to be self-related CLT outcomes rather than a distance dimension. Thus, H₂ focuses on affect (*inspiration*). However, we investigate the potential moderating effects of the website on discrete emotions in our empirical work without proposing a parallel hypothesis.

Sensorial Qualities and Central Touchpoint Features

According to CLT, an event is psychologically distant when it is not part of the customer's direct experience (e.g., primarily intangible and lacking in sensorial qualities). The services literature has emphasized that the intangible nature of services (versus goods) directly influences customer SE satisfaction, in addition to the tangible qualities that engage all five senses. Since website SEs only engage sight and sound, sensory information is less available and reliable (Bosmans 2006), thus creating informational distance (Ding and Keh 2017; Fiedler 2007). A website can offer pictorial or text descriptions of haptic information, such as the softness of a fabric, but it is psychologically distant and less reliable than directly touching the fabric in a store (Elder et al. 2017). E-commerce research has typically studied intangible SE qualities such as efficiency, fulfillment, system availability, and privacy (e.g., Parasuraman, Zeithaml and Malhotra 2005). In laboratory and field studies, customers have relied on intangible qualities in forming their service evaluations under an abstract (high) construal level and tangible, sensorial qualities under a (low) concrete construal level (Ding and Keh 2017; Elder et al. 2017). Thus, intangible SE qualities evoke abstract construal, whereas sensory qualities are proximal and evoke concrete construal.

In considering a moderating effect of the touchpoint, people will use broader categories to classify objects for (distal) website SEs than (proximal) store SEs (Trope and Liberman 2010). Prominent visual cues and location effects, which are central features, moderate customers' preferences (Kahn 2017; Liberman, Trope and Waksak 2007; Trope and Liberman 2010). A CLT perspective on structural alignment theory indicates that, when a SE takes place at a store rather

than on a website, sensorial cues will be more salient and easier to process (Sun et al. 2019). Thus, we predict that customers will rely on abstract (high) level construal and weigh sensorial qualities less heavily in forming satisfaction with a website SE than customers evaluating a store SE. We study two well-established sensorial qualities that are common to websites and stores in order to test this hypothesis (Ganesh et al. 2010). First, website aesthetics are analogous to in-store atmospherics (Wang, Minor and Wei 2011)—we call this sensorial quality *attractive* environment. Second, merchandise or product *appeal* influences retail preferences (Simonson 1999). Both are part of the service brand promise made by the cooperating retailer.

H₃: Customers who visit the *website* will weigh the sensorial dimension of CX—such as (a) *attractive* environment and (b) product *appeal* — less heavily in evaluating their SE satisfaction when compared with customers who visit the store (negative moderating effect).

Behavioral Qualities

We consider two behavioral qualities: *ease-of-use* and use of the *catalog*. Different facets of CLT explain the moderating effects of the touchpoint for these two behavioral qualities. The moderating effect of the touchpoint on *ease-of-use* can be explained by the congruence of the touchpoint and the construal level (Zeithaml, Parasuraman and Malhotra 2002). In contrast, the moderating effect of the touchpoint on the customer's use of a catalog influences psychological distance by reducing hypotheticality. We believe that these two distinct mechanisms explain why the direction of the moderating effects of the touchpoint differ for these two qualities.

Ease-of-Use: Congruency. *Ease-of-use* in navigating a website or store is a quality associated with the behavioral dimension of CX that influences touchpoint usage and satisfaction (Montoya-Weiss, Voss, and Grewal 2003; Noble, Griffith, and Weinberger 2005). It is a high-level mental representation of an event (Trope and Liberman 2010) that is especially relevant to SEs through websites and stores (Zeithaml, Parasuraman and Malhotra 2002). E-commerce research has shown that the task–technology fit is positively related to customers' perceptions of websites as being

easy to use (e.g., Klopping and McKinney 2004), where *ease-of-use* influences overall evaluations of SEs (e.g., Goodhue and Thompson 1995) and subsequent behavior (e.g., Fisher, Gallino and Xu 2019; Rose et al. 2012; Weijters et al. 2007). *Ease-of-use* is also relevant in store SEs (Shankar, Smith and Rangaswamy 2003), where ease of navigation and interaction with the store environment—including store layout, information availability, atmospherics, and service convenience—create a satisfying SE (Berry, Seiders and Grewal 2002).

CLT emphasizes that it is easier for customers to process mental representations that are congruent, that is, at the same construal level. Thus, the construal level is an important moderator of the antecedents of customer evaluations (Cho, Khan and Dhar 2013). Customers' (distal) mental representations of website SEs will be at the same construal level as *ease-of-use*—a high (abstract) level—and, consequently, more relevant, salient, and easier to process in forming a satisfaction judgment. For this reason, we expect that customers engaged in evaluating website SEs will weigh *ease-of-use* more heavily than those evaluating store SEs.

H4: Customers who visit the *website* will weigh *ease-of-use* more heavily in evaluating their SE satisfaction when compared with customers who visit the store (positive moderating effect).

Catalog Use: Hypotheticality. Customers can consult the retailer's catalog before or during a SE at the store or on the website. *Catalog* use has a favorable main effect on customers' subsequent purchase behavior in stores and on websites (e.g., Verhoef, Neslin and Vroomen 2007). This retailer's catalog is extremely effective in co-creating value beyond its product presentations (similar to a Patagonia catalog). From a CLT perspective, a key feature of catalogs is their vividness—defined as that which is temporally proximal, physically proximal, or emotionally appealing. In retailing, vividness is often evaluated in terms of the quality of product presentations (Jiang and Benbasat 2007). It enhances customer involvement, imagery, and elaboration (Nisbett and Ross 1980) and increases the likelihood of message-based persuasion (Smith and Shaffer

2000), leading to enhanced retail sales (Grewal et al. 2020b). Vivid catalogs can depict products in future consumption contexts, reducing their hypotheticality so they seem more likely to occur (e.g., a family relaxing on patio furniture). Stores use technology and displays to convey rich information about consumption opportunities (Grewal et al. 2020a, 2020b). Displaying a product in a dynamic (versus static) visual format enhances information vividness, which increases consumer preference (Roggeveen et al. 2015). Thus, *catalog* use should make the consumption opportunity hypothetically near such that it is construed at a low level (Liberma et al. 2007).

Kim and John (2008, p. 118) argued that construal levels influence evaluations through a “preference for information, experiences or events that match the individual’s abstract or concrete mindset.” Hence, the moderating effect of a touchpoint on *catalog* use should be larger for the congruent touchpoint (i.e., with the same construal level). Both print catalogs and websites rely heavily on pictorial and verbal representations; therefore, there is congruency in the presentation medium and sensory information (Trope and Liberman 2010, p. 457; Trope, Liberman and Waksak 2007, p. 87). However, Griffith, Krampf and Palmer (2001) have shown that customers’ perceptions of print catalogs can only compare favorably with low-fidelity website experiences. The vividness of product presentations in SEs through stores and catalogs ensures that these depictions are perceived as hypothetically near; as such, they will be processed at a low level construal. Thus, catalog and store SEs are more congruent than catalog and website SEs. Catalogs and stores present products in vivid ways that reduce hypotheticality and increase preference for the displayed products. Hence, we predict that *catalog* SEs will be weighed less heavily for customers visiting websites versus stores.

H5: Customers who visit the *website* will weigh *catalog* use less heavily in evaluating their current SE satisfaction when compared with customers who visit the store (negative moderating effect).

Social Qualities: Service Representatives and Social Distance

In retailing studies, prior encounters with customer service representatives typically have a negative main effect on customer satisfaction (Bolton and Drew 1991). The reason is that the customer often interacts with the representative to resolve a problem, which is an unfavorable event. For this retailer, customer service requests require a telephone interaction between a customer and an employee. This feature is distinctive because the retailer's store and website place heavy emphasis on self-service. (Employees are most evident in the store at checkout.) Therefore, we consider a prior interaction with a customer *service representative* as reflective of a social CX dimension. CLT emphasizes that social distance is related to the influence of psychological distance on mental construal level and evaluations (Trope and Liberman 2010).

Kuehnl, Jozić, and Homburg (2019) argue that retailers can design effective customer journeys by enhancing customers' perceptions that touchpoints are thematically cohesive and consistent, in a context-sensitive way. In two empirical studies, the authors provide evidence that a thematically cohesive and consistent customer journey has a favorable effect on customer loyalty through brand attitude over and above the effects of brand experience. They posit that the *procedural* aspects of CX are more concretely construed whereas outcome aspects of CX are more abstractly construed. Their work points to the question of whether the concrete procedural aspects of the CX involving a *service representative* is consistent with a store SE, a website SE, or both. Store SEs are often social; customers interact with other customers as well as employees. For website SEs, customers sometimes interact with online service representatives or chatbots (i.e., automated social presence), but the CX for these SEs is spatially remote and partially automated. For this retailer, interactions with a customer *service representative* are more procedurally consistent with the store SE than with the website SE. As such, we predict that the effect of prior *service representative* interactions will be smaller for customers' evaluations of website SEs versus store SEs.

H₆: Customers who visit the *website* will weigh a prior interaction with a *service representative*

less heavily in evaluating their current SE satisfaction when compared with customers who visit the store (negative moderating effect).

As the above discussion indicates, CLT does not provide a clear-cut prediction regarding prior interaction with a customer *service representative* because multiple mechanisms may be at play. Interactions with a *service representative* in a telephone call center (often regarding a failure or problem) are highly distinctive in many ways and they take place in the past. Given spatial, social, and temporal distance, it is highly possible that a prior interaction with a *service representative* will have little effect on subsequent SEs at any touchpoint.

Model Specification for Satisfaction with Service Encounters

The preceding discussion developed predictions about how the touchpoint moderates eight qualities that influence customer satisfaction with a SE (see Figure 1). These considerations yield the following general model for customer satisfaction with a SE, where *Web* is a dichotomous variable that indicates whether or not the SE occurred online. The interaction terms represent our hypotheses in the order introduced.

$$\begin{aligned} \text{Satisfaction SE} = f & (\text{Web} \times \text{Disconfirmation}, \text{Web} \times \text{Price Fairness}, \text{Web} \times \text{Inspiration}, \\ & \text{Web} \times \text{Attractive}, \text{Web} \times \text{Appeal}, \text{Web} \times \text{Ease-of-Use}, \text{Web} \times \text{Catalog}, \\ & \text{Web} \times \text{Service Representative}, \text{Web} \times \text{Emotions}, \text{Qualities}, \text{Web}, \text{Emotions} \\ & \text{Individual}, \text{Social}, \text{Market}, \text{Environment}) . \end{aligned} \quad (1)$$

Our model will also incorporate covariates to control for contextual factors, which is explained in the next section. Thus, equation (1) includes vectors of *individual* customer descriptors, such as goals and loyalty program member; *market* factors, such as country-specific random effects; *social* factors, such as store clientele effects; and *environmental* factors, such as housing.

STUDY CONTEXT, DATA, AND METHODOLOGY

To operationalize and estimate our model, we obtained survey data from a cooperating retailer that operates websites and stores in 47 countries across North America, Europe, and Asia. The retailer

sells home décor, furnishings, accessories, and related services that bear its global brand name. It has an established position as a value store brand (i.e., good quality for low prices) in the global marketplace. The firm promises that visiting the store is an engaging experience for the whole family and includes, food, product design, and new ideas to bring home. By studying a single global retailer, we controlled for numerous marketing variables.

Survey Data

The retailer conducted an online survey of people who have experienced a SE in the past three months. It drew samples for each website and store in each country, using an identical methodology upon their visit to the website. The retailer provided quarterly survey data from the last quarter of 2010 through the spring of 2014. Each customer was included in the analysis once and randomly assigned to a touchpoint they visited in the last three months. From the 2.4 million responders, 2.2 million or 91% had no missing values for the variables of interest and were included in the analysis. The survey respondents were 79% female; 64% were between 25 and 50 years old; and 60% had enrolled in the company's loyalty program (see descriptive statistics in Table 2). We compared the characteristics of this sample of customers with those of an independent sample of the retailer's customers who were surveyed by telephone. The comparison showed no significant differences across samples for age, gender, income, and number of times the customer had visited the retailer's store. Hence, the online method of data collection used in this study does not seem to have affected the representativeness of the sample.

The retailer's survey measured all eight qualities using identical questionnaire items for both touchpoints across all countries. For example, website and store aesthetics were measured through the same survey item, "inviting and attractive environment," and ease of navigating the website or store was measured through the item "easy-to-use." It also used the same pictorial response scale, smiley faces, in all countries, except that *favorable disconfirmation* was measured using the

better/same/worse scale (typical in satisfaction research). Prior research has shown that adding smiley faces to scales in online satisfaction survey reduces the time respondents spend reading the question without changing the distribution of responses (Stange et al. 2018). The Web Appendix Part A shows the results of a separate online study. In it, Table W3 shows that these measures (with the exception of *catalog* and *service representative*, which we did not attempt to replicate) corresponded to the distinct and independent underlying factors identified through principal components analysis. The Web Appendix also provides additional information on methodological issues: (1) the robustness of smiley scales, (2) the dimensions of CX and associated measures, and (3) the replicability of key moderating effects and the magnitude of the effect sizes.

*** Table 2 here ***

Model Operationalization

The equations for SE satisfaction were comprehensive; they included predictor variables used in prior research on customer satisfaction in a retail setting (e.g., Baker, Levy, and Grewal 1992; Oliver 1997). The predictor variables included the eight qualities and 17 covariates when the interaction terms were included. We created a dichotomous variable, *web*, which took on the value of one for customers who visited the website and zero for customers who visited the store. We created interaction terms to test our hypotheses by multiplying each of the eight qualities by the *web* variable. Since we allowed for random effects for country and store for all experiential qualities, there were a total of 46 parameters. The following paragraphs briefly explain the theoretical rationale for the inclusion of the covariates, shown in the bottom half of Table 2.

Emotions. In addition to controlling for the main effects of emotions, we will investigate whether the website or store has a moderating effect on discrete emotions. The cooperating retailer's survey captured 16 discrete emotions, with a dichotomous self-report measure indicating whether or not the emotion was present. A principal component analysis, as described in the Web

Appendix Part B, showed that 14 of the emotion variables consistently loaded on four factors as follows:

1. *Frustration* included five items: complicated, stressful, frustrating, tiring, and annoying
2. *Boredom* included two items: boring and dull
3. *Control* included three items: informative, useful, and functional
4. *Excitement* included four items: exciting, fun, inspiring, and entertaining

We performed principal components analyses of emotions for different samples by country, touchpoint, and by pooling all the data. The factor loadings were consistent. Since there were no cross-national differences, this finding established measurement invariance for our emotions measures. Instead of using factor scores, we created an index for each of the four underlying emotions by averaging the relevant items. By using an average rather than a sum, each emotion could be measured on the same zero to one scale, which was easily interpretable.

Other Covariates. We recall that the model controlled for contextual factors: *individual* customer descriptors, such as goals and loyalty program member; *market* factors, such as country-specific random effects; *social* factors, such as store clientele effects; and *environmental* factors, such as housing. With respect to individual descriptors, the respondents chose from a list of goals related to buying, browsing, or searching for information or services available. Although customers often make visits with multiple goals in mind, we chose to analyze data from customers who reported that their primary goal was to buy or browse. Below, we elaborate on how we captured country- and store-specific phenomena through fixed and random effects.

Summary. The full model can be written algebraically as follows:

$$\begin{aligned}
 \text{Satisfaction } SE_{ijk} = & \beta_{00} + \beta_{0j} + \beta_{0k} + (\beta_{10} + \mu_{1j} + \mu_{1k}) X_{ijk} + \beta_{20} W X_{ijk} + \beta_{30} W + \beta_{40} W E_{ijk} \\
 & + \beta_{50} E_{ijk} + \beta_{60} W R_k + \beta_{70} R_k + \beta_{80} S_{ijk}
 \end{aligned} \tag{2}$$

Where i represents customer level; j represents store level; k represents country level; β_{0j} and β_{0k}

represent random intercepts at the store and country levels, respectively; μ_{1j} and μ_{1k} represent random coefficients at the same levels; X_{ijk} is a vector of variables capturing the main effects of *favorable disconfirmation, price fairness, inspiration, attractive, appeal, ease-of-use, catalog, and service representative* qualities, consistent with the TCQ framework (De Keyser et al. 2020). W stands for web; E_{ikj} represents the vector of emotions (*frustrating, exciting, control, and boring*); R_k represents the dummy variables for region (North America and Asia-Pacific); and S_{ijk} represents *individual* and *environmental* characteristics such as goal, loyalty behavior, and housing situation (see Table 2). Logically, stores are considered nested within countries (capturing *market and social* effects), as described below.

MODEL ESTIMATION AND RESULTS

All variables were mean-centered. The model was estimated using HLM, an ordinary least squares (OLS) regression-based analysis that can take into account that customers are nested within websites or stores, which are nested within countries. We used the Proc Mixed procedure in SAS. The HLM model includes fixed and random effects for the main effects of qualities as well as random intercepts for each level. The random effects capture variation across touchpoints and countries. Level one is at the country level, and it comprises customer characteristics, such as living conditions and loyalty program participation. Level two is the touchpoint, which is nested within the country level. Although the main effects of SE qualities have both fixed and random effects, the interactions with qualities are estimated as fixed effects only because there are insufficient degrees of freedom to treat them as random effects.

These random effects capture two types of variation. First, our survey measures were the same across countries, but customers in different countries could have responded to the scales in different ways. Thus, there was a need to create metric equivalence. Hultand, Baumgartner, and Smith (2018) distinguished among three post-hoc approaches to creating metric equivalence: (1)

explicit or implicit control of systematic error depending on whether the source of the bias can be identified and directly measured; (2) correction at the scale or individual item level; and (3) the specification of a single or multiple sources of systematic error with one or more method factors (see also Podsakoff et al. 2003; Podsakoff, MacKenzie, and Podsakoff 2012). Hence, in our model, we followed the third approach and controlled for metric differences across country by specifying a country-level random effect. The country-level random effect captured multiple unobserved country-level differences, including cultural differences. Second, for each customer, we knew the store that they had visited, so we incorporated store-specific random effects to capture unique clientele effects.

** Tables 3 and 4 here **

Model Development and Assessment

We built the model progressively by testing the appropriateness of including a random intercept for the country and store, followed by the fixed and random effects for SE qualities and then the control variables. Last, we included the interactions and tested their significance. Table 3 shows a series of nested model tests. Log likelihood ratio tests established that the following effects were statistically significant at $p < 0.05$: random intercepts for the country and store levels only, 19 fixed effects at the country level, eight random effects at country and store levels, and eight interactions. The final estimated model is presented in Table 4.

The model fit was good according to statistical criteria, such as the Akaike information criterion. The fixed main effects of all the predictor variables had the logical sign and were significant at least at $p < 0.0001$, with the exception of a covariate for living single ($p < 0.05$). In particular, all five dimensions of CX at the touchpoint—cognition, emotional, sensorial, behavioral, and social—influenced satisfaction with the SE. Also, random effects at the store level were always statistically significant at $p < 0.0001$, with the exception of *catalog* ($p < 0.01$), and

random effects at the country level were significant at least at $p < 0.01$. These random effects indicate that there were small but statistically significant differences in the coefficients of qualities across the countries and stores. We discuss the implications of these effects later. Last, customers who were browsing were characterized by slightly higher levels of satisfaction ($p < 0.0001$).

RESULTS

The fixed main effect of the website was negative ($p < 0.0001$), indicating that websites SEs were less satisfying than store SEs. The hypothesis tests of the moderating effects of the touchpoint (website versus store) were captured by fixed effects interaction terms shown at the top of Table 4. In addition to these tests, we replicated the key features of the model with a panel of consumers across firms using data collected by Qualtrics. We tested H_{1b} , H_{3a} and H_4 in an online customer survey regarding multiple home goods retailers in one market: the United States. We found the same moderations but with larger effect sizes because the study was conducted for three brands in a single market rather than a single brand across several markets. These results are summarized in Table 5, with more detail in Web Appendix A. A key take-away from this second study is that, beyond replication, the magnitude of the effect sizes can be larger in other study contexts. It also shows that the moderating effects were not an artifact of the time period of the main study.

Cognitive Qualities and Spatial Distance

Supporting H_{1a} , customers who visited the website weighed *favorable disconfirmation* more heavily than those who visited the store ($p < 0.0001$). Supporting H_{1b} , customers who visited the website weighed *price fairness* more heavily than those who visited the store ($p < 0.001$). Both findings are consistent with the CLT view that the distal website reinforces abstract construals of *favorable disconfirmation* and *price fairness* in customers' overall SE satisfaction. The magnitude of these moderating effects are likely to depend on customers' perceptions of similarity between the two touchpoints (Morales et al. 2005).

Emotional Qualities and Affective Distance

Emotional qualities were represented by *inspiration*, which has both favorable valence and a high arousal level (Böttger et al. 2017). Supporting H₂, customers weighed *inspiration* ($p < 0.0001$) less heavily for website SEs than store SEs. This finding is consistent with the CLT perspective that the (distal) website offsets the concrete construal of *inspiration* in customers' overall SE satisfaction because emotional qualities are associated with smaller affective distance such that consumers process its mental representation with low-level construal.

It was also useful to examine the effects of discrete emotions—*frustrating*, *exciting*, *control*, and *boring*—to determine whether they were the same or different from our affective measure (*inspiration*). First, as expected, *exciting* and *control* had favorable direct effects, while *frustrating* and *boring* had unfavorable main effects (see Table 4.) Second, in terms of absolute magnitude, the main effects of emotions are large and customers weighed negative emotions (*frustrating*, *boring*) more heavily than positive emotions (*exciting*, *control*). Third, the (distal) website negatively moderated both high arousal emotions, *frustrating* and *exciting*. Thus, combining the main and interaction effects, the (net) absolute magnitude of *frustrating* is larger online and the (net) absolute magnitude of *exciting* is smaller online. Fourth, the website positively moderated both low arousal emotions, *control* and *boring*. Thus, combining the main and interaction effects, the (net) absolute magnitude of *control* is larger online and the (net) absolute magnitude of *boredom* is smaller online. These findings suggest that the moderating effects of touchpoints on discrete emotions may depend on factors beyond arousal and valence. For example, customers have more freedom to avoid negative emotions and seek positive emotions in the store than on the website. The interactions of touchpoints and discrete emotions warrant additional research.

Sensorial Qualities and Central Touchpoint Features

As depicted in Figure 2, the size of the moderating effect of the website on the sensorial (H_{3a} , H_{3b}) dimension of the SE was large. Supporting H_{3a} and H_{3b} , customers who visited the website weighed sensorial qualities—*attractive* environment and product *appeal*—less heavily as they evaluated their satisfaction than those who visited the store ($p < 0.0001$). This result is consistent with CLT, which predicts that (concrete) sensorial qualities, unlike intangibles, are more closely aligned with (proximal) store SEs than with (distal) website SEs. The difference was especially large when the sensorial attribute level was high, implying that there was little “satisfaction payoff” for this retailer from improving sensorial qualities on the website versus the store.

Behavioral Qualities

Ease of Use: Congruency. Supporting H_4 , customers who visited the website weighed *ease-of-use* ($p < 0.0001$) more heavily than those who visited the store. This result is consistent with the CLT perspective that it is easier for customers to process mental representations that are at the same construal level, where both *ease-of-use* and website are at the same (abstract) construal level. It is also consistent with prior empirical work in which flow and ease-of-use were key drivers of customer satisfaction with online SEs (Weijters et al. 2007). As shown in Figure 2, the moderating effect of the touchpoint created a crossover effect, whereby high ease-of-use was associated with much higher SE satisfaction for the website versus the store. For this retailer, there was little “satisfaction payoff” from improving ease-of-use for the store versus the website.

Catalog Use: Hypotheticality. The results support H_5 , which predicted that customers who visited the website would weigh prior interactions with the *catalog* less heavily in their evaluation of their SE satisfaction than customers who visited the store ($p < 0.0001$). This result is consistent with the CLT perspective regarding the congruency of the presentation medium; *catalog* use was especially powerful in the less rich website environment.

Social Qualities: Service Representatives and Social Distance

We did not find support for H₆, which predicted that customers who visited the website would weigh prior interactions with *service representatives* less heavily as they evaluated their current SE satisfaction when compared with customers who visited the store. The coefficient of the interaction term had a negative sign, but it was not statistically significant. One explanation is that the two events were sufficiently different that the customer did not consider them as part of the same customer journey (Lasaleta and Redden 2018).

Control Variables: Individual and Market Characteristics

Although we did not propose hypotheses, there was a rich set of effects due to market and customer characteristics. Overall satisfaction levels were slightly higher in North America and Asia Pacific relative to Europe, but the difference was not statistically significant ($p > .05$), as indicated by the main effects shown in Table 4. However, the interaction effects show that website satisfaction levels were significantly lower ($p < .05$) in North America and Asia Pacific relative to Europe. The size of the interaction effects more than offset the weak main effects of the regional dummies, which indicates that customers considered the retailer's website performance to be worse than its overall performance. The retailer is headquartered in Europe, so these results suggest that it has been less successful at designing website SEs in overseas markets.

The model comprised 36 parameters capturing country- and store-specific random effects for our key predictors (*favorable disconfirmation, inspiration, attractive, appeal, price fairness, ease-of-use, catalog use, and service representative*). These parameters are shown in the columns on the right side of Table 4. They capture idiosyncratic country and store effects, which are different for each variable. For example, the random country effects for *attractive* environment and product *appeal* were twice as large as those for *price fairness* and *ease-of-use*. The likely reason is that high variability across countries in the random coefficients for *attractive* and *appeal* was due to

country-specific differences in the customers' preferences for sensorial attributes, whereas country-specific differences in preferences for cognitive or behavioral attributes were somewhat less differentiated.

The retailer competes in the home décor, furnishings, and related services category. Since its stores are located in urban areas worldwide, variation in customer satisfaction is primarily due to differences in urban living conditions captured by three variables: *house studio*, *house apt*, and *living single*. Satisfaction levels were higher when the customer lived in a studio or apartment with another individual—probably because space was an important consideration for home furnishings. After controlling for these differences, fixed effects of country descriptors such as the size and growth rate of the home furnishings category, disposable income, education, percentage of urban population, and Internet penetration were not statistically significant in our model.

DISCUSSION

The current study contributes to the marketing, service, and retailing literature by describing how touchpoints shape customers' perceptions and evaluations of their SEs. It extends and tests the TCQ framework (De Keyser et al. 2020) and provides CLT-based theoretically grounded knowledge about satisfaction formation for a SE at a touchpoint. It provides an integrated, in-depth description of how touchpoints moderate eight qualities that reflect the CX dimensions and provides initial evidence on how their importance varies across markets around the world. The findings further build a comprehensive model of how customers weigh experience qualities to evaluate satisfaction with the SE and how the satisfaction formation process differs across touchpoints. As summarized in Table 5, seven of our eight predictions were supported. We found moderating effects of the touchpoint (website versus store) for the following CX dimensions of the SE: cognitive (*favorable disconfirmation*, *price fairness*), emotional (*inspiration*), sensorial (*attractive environment and product appeal*), and behavioral (*ease-of-use*, *catalog use*)

dimensions. We found no moderating effect for the social dimension (prior interactions with a *service representative*).

- Insert Table 5 and Figure 2 about here -

Standardization versus Localization. This paper is based on 2.4 million customer experiences during SEs that occurred through websites and stores in 47 countries; it shows large and systematic differences across touchpoints. It demonstrates the robustness of the main and interaction effects of eight experience qualities for five CX dimensions across countries. In the HLM model, the effects of experience qualities were represented by fixed (stable) effects across countries and stores as well as random (unique) effects. Thus, there was sufficient stability across countries for the standardization of some experience qualities as well as sufficient variation to demonstrate a need for (some) localization or context adaptation. Prior work has detected touchpoint differences for a single experience quality (e.g., for a single website or store in one country). Our findings highlight the importance of customizing each service design quality at different levels (touchpoint, country, and store) to improve the satisfaction of the local clientele. Our study is unique because the HLM model detected fixed and random effects after controlling for individual, market, social, and environmental variables, as well as service brand.

Customers Use One Touchpoint as Their Referent

The cooperating retailer began as a traditional “bricks-and-mortar” brand that now has a global reach. It subsequently added websites in each country and (later) delivery services. Our study shows that the store’s holistic image is a powerful, concrete (proximal) referent for all customers. Although this global retailer is highly successful, there is a “dark side” to the strength of its store image as a primary referent. It supports customers’ in-store SEs, but when the SE takes place on the retailer’s (distal) website, the customer weighs cognitive discrepancies relative to prior beliefs based on the store referent (*favorable disconfirmation*). As shown in Figure 2, panel 1, when the

SE was worse than expected, satisfaction with the in-store SE was much higher than satisfaction with the website SE. These findings extend previous conceptual work on brand experience by showing that the retail brand strategy can shape customers' responses to SEs (Verhoef et al. 2009). They provide empirical evidence consistent with conceptual work on service strategy (Bharadwaj, Varadarajan and Fahy 1993) and service brand management (Berry 2000).

Online Customers Focus on Price and Ease-of-Use for Different Reasons

Customers who visited the website weighed *price fairness* more heavily than those who visited a store (see Figure 2, panel 2). They construed *price fairness* at a high (abstract) level, which was reinforced by the greater spatial distance of the website versus the store. Firms seek to differentiate their offerings on the basis of branded services to make customers more willing to pay a higher price for their differentiated value proposition. For most firms, the large effects of *price fairness* for website SEs versus store SEs indicate the importance of creating a strong online value proposition. It can be difficult for firms to differentiate CX on the website such that customers will view price fairness favorably.

Due to touchpoint congruency, customers who visited the retailer's websites paid more attention to *ease-of-use* than those who visited its stores. When perceived *ease-of-use* was low, the impact on satisfaction was much more negative on the website, and when it is high, satisfaction was higher on the website (See Figure 2, panel 6). This result surprised us (despite theory) because the cooperating firm's stores were extremely large (average of 300,000 square feet) and had grown consistently; they carried a wide assortment of 10,000 products. Customers found it challenging to navigate the store, find products and information, select items from storage areas, and then check out either using the self-checkout or a cashier. However, the results clearly showed that customers continued to weigh *ease-of-use* more heavily online.

Stores Magnify and Websites Dampen Emotional Responses

We studied the emotional quality *inspiration*, which has a favorable valence and a high arousal level. Customers who visited the cooperating firm's website weighed *inspiration* less heavily. This result is consistent with the CLT perspective that the (distal) website offsets customers' concrete construal of *inspiration* in customers' overall SE satisfaction. Interestingly, we found that the website had a mixture of moderating effects on discrete emotions. This finding suggests that it is difficult to create highly favorable and arousing emotional qualities online (versus stores). As technologies improve in terms of convenience and social presence (Grewal, Roggeveen, and Nordfält 2017), firms will likely be able to reduce the affective distance inherent in website SEs through virtual technologies such that customers respond similarly to how they respond to store SEs. The cooperating retailer takes every opportunity to increase customers' engagement with its emotional and sensorial qualities through advertising, videos, and catalogs. Our findings suggest that these efforts will more strongly enhance the store SE than website SE.

Sensorial Qualities Must Align with Central Touchpoint Features

Customers who visit a store weigh sensorial qualities—*attractive* environment *and* product *appeal*—more heavily than those who visit a website. This difference presents both opportunities and challenges for firms. As stores are better able to convey rich information about sensorial qualities (e.g., Gensler et al. 2017), what should be the SE design strategy for websites? Managers may be underestimating the importance of behavioral qualities, such as service convenience, when making technology investments to improve website SEs. Website SEs are inherently different from store SEs, especially when the firm delivers high performance on a structurally aligned CX dimension (See Figure 2, panel 4 and 5). During the COVID-19 pandemic, firms often emphasized websites or other technology-delivered SEs (e.g., via kiosks, cellphones). However, many customers chose to use in-store or outside store pick-up SEs, which provided sensorial qualities that reinforced the brand's trustworthiness (Elder et al. 2017). Our research shows that customers

did not pay as much attention to sensorial qualities on websites; therefore, firms must be more effective at other CX dimensions to convey trustworthiness. Firms that have differed on the basis of convenience both offline and online (e.g., Best Buy) have achieved superior business performance, whereas retailers who were late in differentiating their online service (Lord & Taylor, JCPenney, Neiman Marcus) have filed for bankruptcy.

Customer Journey across Touchpoints: Thematic Consistency as a Two-Edged Sword

Recently, marketers have become keenly interested in the customer journey across touchpoints and over time. Our findings suggest that thematic consistency across SEs during a customer's journey can be advantageous or disadvantageous for the firm. Customers connect their use of the retailer's catalog with their subsequent website and store visits. The magnitude of this effect is significantly smaller for customers who visit websites, which is likely due to less congruency with the catalog. Many retailers are discontinuing catalogs because they believe that the website serves as a substitute. However, websites are highly functional—they do not (yet) provide the high levels of emotional and sensory qualities at which some catalogs excel. When customers do not use the catalog, the retailer must design and co-create SEs with customers in order to be effective at all touchpoints without preparation. It may sometimes be difficult to vividly convey future shopping and consumption experiences, highlighting the importance of understanding how customer journeys unfold over time (Bolton 2019; Kuehnl, Jozić and Homburg 2019).

MANAGERIAL IMPLICATIONS

Our study can help managers decide how and where to allocate their resources. Its approach to analyzing CX dimensions through customer satisfaction data is straightforward for firms to implement. The challenge is no longer how to gather customer data; rather, it is how to analyze data, interpret the results, and make decisions. Expanding customer satisfaction models toward a detailed conceptualization of the SE provides a path toward effective service design (see, e.g.,

Bleier, Harmeling and Palmatier 2019). The CX dimensions (cognitive, emotional, sensorial, behavioral, and social) and the specific qualities used here should generalize to other firms, but depending on context, additional qualities may be relevant.

Omnichannel Design: Align Resources with the Central Features of the Touchpoint

Given resource constraints, managers should allocate resources that are compatible with how customers' use touchpoints to co-create satisfying SEs with firms. Many retailers manipulate the touchpoint environment to shape customer behavior (e.g., to spend more time in store by creating longer paths to follow). Marketing managers sometimes design touchpoints as a sequence of steps in a customer's journey, seeking to create a "purchase funnel." However, each customer will inevitably be influenced by the congruency of the service design and touchpoint with their task. Customers will pay attention to qualities that are intrinsic to the touchpoint. Managers should be careful about introducing digital resources (e.g., technology that enables customers to immerse themselves in virtual consumption experiences) into store environments in which sensorial dimensions are important. Similarly, they should be careful about introducing social resources (e.g., automated social presence) into website environments in which cognitive and behavioral dimensions are important (e.g., Steinhoff et al. 2019). When new qualities complement other qualities at the touchpoint, firms can leverage customers' natural construal processes. Advances in technology may eventually allow resources to substitute for each other (Bolton et al. 2018).

Traditional retailers often adopt in-store technology to compete with online stores—such as by leveraging Internet of things and/or RFID tags to conveniently access inventory and automate transactions (e.g., AmazonGo). This strategy, however, will be ineffective if retailers fail to enhance sensorial qualities to create an attractive and appealing servicescape—a high priority for customers visiting stores and websites (Roggeveen, Grewal and Schweiger 2020). Another example is facial recognition technology that enables retailers to identify customers entering a

store and even detect their emotional state. Ideally, the resulting customer profile information should be used to create a customized in-store SE rather than simply cross-selling or reminding them of what they should be buying. Virtual reality and (especially) augmented and mixed reality offer potential to enhance the cognitive, sensorial, emotional, and social dimensions of both in-store and online CX (Hoyer et al. 2020).

Touchpoint Technology May Be More Effective as a Complement than a Substitute

Although the antecedents of SE satisfaction are the same for customers who visit websites and stores, customers weigh qualities very differently across these two touchpoints. Our findings help explain why prior research found that satisfaction and loyalty levels were different across touchpoints (Van Birgelen, de Jong, and de Ruyter 2006; Shankar, Smith, and Rangaswamy 2003). Our results can help firms interpret these data correctly, that is, attribute the differences to variations in satisfaction and loyalty that marketers can influence through the design of the SE.

Grewal, Roggeveen, and Nordfält (2017) classified retailer technologies along two dimensions—convenience and social presence—rather than according to CX dimensions. In-store technologies that rank high in both convenience and social presence include augmented reality, virtual reality, embodied robots, avatars, and smart displays. Brick-and-mortar retailers adopt these technologies as a way to compete more effectively with online retailers. Bolton et al. (2018), however, have cautioned that the digital and social dimensions of CX do not necessarily substitute for the sensorial dimension of an experience (Zaltman 1997). Retailers face resource constraints that encourage managers to treat digital and social resources as substitutes, such as trading off investments in productivity versus labor (Huang and Rust 2017; Rust and Huang 2012). Moreover, they may feel compelled to create equivalent experiences across touchpoints, but simply adding technology may not improve the SE. For example, firms have experimented with augmented/virtual reality and robots (e.g., American Express, Marriott), but only a few (e.g.,

North Face, Lowe's) have successfully integrated them in store SEs.

Firms will be more successful at co-creating superior SEs with customers when they leverage qualities and CX dimensions (cognitive, emotional, sensorial, behavioral, or social) that are most effective for a particular touchpoint. For example, virtual assistants, chatbots, and artificial intelligence can provide information (a cognitive quality) that reduces uncertainty (an emotional quality), enables transactions (a behavioral quality), and connects customers with other customers or employees (a social quality). From this perspective, automated social presence can enhance the CX both online and in stores. Also, augmented and mixed reality will be more effective when it helps people imagine future consumption experiences (cognitive and emotional dimensions) and simulates physical experiences (sensory qualities) such that they are less hypothetical. Edvardsson, Enquist and Johnston (2005) described how IKEA enhances CX by creating hyperreality in the prepurchase stage of CX through "experience rooms" that integrate physical artifacts, intangible artifacts, technology, customer placement, and customer involvement. They describe experience rooms as "hotpots" that stimulate all five CX dimensions.

FURTHER RESEARCH

Future work is needed in several areas. First, we analyzed data from a single retailer, and idiosyncratic factors (direct investments, solutions identified) might have influenced our findings. Future research might study the customer decision process across retail brands. The strength of our approach, however, is that we were able to keep the brand constant across a very wide number of contexts in order to spotlight the contextual factors. Second, our study investigated two major touchpoints: website and store. Future research could consider customer care centers, social media, kiosks, and other touchpoints. Third, our data enabled a comprehensive view of the different antecedents of the SE, but it did not include repeated measures from the same customer, and our cross-sectional data did not allow us to study customer journeys. Research that tracks

discrete SEs over time could improve firms' understanding of CX. Fourth, advances in technology are rapidly changing how SEs unfold at touchpoints, such that there are many new design opportunities that could extend findings on the touchpoint as a moderator. Finally, the current study showed that there were systematic patterns in how customers respond to SEs that are consistent across countries. However, future research could explore whether there are country- or market-specific factors that influence the impact of different antecedents on SE satisfaction.

REFERENCES

- Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly*, 55(2), 178–204.
- Baker, J., Levy, M., & Grewal, D. (1992). An experimental approach to making retail store environmental decisions. *Journal of Retailing*, 68(4), 445–460.
- Baker, J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of Marketing*, 66(2), 120–141.
- Berry, L. L. (2000). Cultivating service brand equity. *Journal of the Academy of Marketing Science*, 28(1), 128–137.
- Berry, L. L., Seiders, K., & Grewal, D. (2002). Understanding service convenience. *Journal of Marketing*, 66(3), 1–17.
- Bharadwaj, S. G., Varadarajan, P. R., & Fahy, J. (1993). Sustainable competitive advantage in service industries: A conceptual model and research propositions. *Journal of Marketing*, 57(4), 83–99.
- Bitner, M. J., & Wang, H. S. (2014). Service encounters in service marketing research. In R. T. Rust & M. H. Huang (Eds.), *Handbook of service marketing research* (pp. 221–243). Cheltenham: Edward Elgar Publishing Ltd.
- Bleier, A., Harmeling, C. M., & Palmatier, R. W. (2019). Creating effective online customer experiences. *Journal of Marketing*, 83(2), 98–119.
- Bolton, R. N. (2019). Service timing: Designing and executing service in a dynamic environment. In P. P. Maglio, C. A. Kieliszewski, J. C. Spohrer, K. Lyons, L. Patricio, & Y. Sawatani (Eds.), *Handbook of service science* (Vol. 2, pp. 13–33). New York: Springer.
- Bolton, R. N., & Drew, J. H. (1991). Mitigating the effect of a service encounter. *Marketing Letters*, 3(1), 57–70.

- Bolton, R. N., McColl-Kennedy, J. R., Cheung, L., Gallan, A., Orsingher, C., Witell, L., & Zaki, M. (2018). Customer experience challenges: Bringing together digital, physical and social realms. *Journal of Service Management, 29*(5), 776–808.
- Bosmans, A. (2006). Scents and sensibility: When do (in) congruent ambient scents influence product evaluations? *Journal of Marketing, 70*(3), 32–43.
- Böttger, T., Rudolph, T., Evanschitzky, H., & Pfrang, T. (2017). Customer inspiration: Conceptualization, scale development, and validation. *Journal of Marketing, 81*(6), 116–131.
- Burke, R. R. (2002). Technology and the customer interface: What consumers want in the physical and virtual store. *Journal of the Academy of Marketing Science, 30*(4), 411–432.
- Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing, 77*(4), 511–535.
- Chitturi, R., Raghunathan, R., & Mahajan, V. (2008). Delight by design: The role of hedonic versus utilitarian benefits. *Journal of Marketing, 72*(3), 48–63.
- Cho, E. K., Khan, U., & Dhar, R. (2013). Comparing apples to apples or apples to oranges: The role of mental representation in choice difficulty. *Journal of Marketing Research, 50*(4), 505–516.
- Darke, P. R., Brady, M. K., Benedicktus, R. L., & Wilson, A. E. (2016). Feeling close from afar: The role of psychological distance in offsetting distrust in unfamiliar online retailers. *Journal of Retailing, 92*(3), 287–99.
- De Keyser, A., Verleye, K., Lemon, K. N., Keiningham, T. L., & Klaus, P. (2020). Moving the customer experience field forward: Introducing the touchpoints, context, qualities (TCQ) nomenclature. *Journal of Service Research, 23*(4), 433–455.
- Ding, Y., & Keh, H. T. (2017). Consumer reliance on intangible versus tangible attributes in service evaluation: The role of construal level. *Journal of the Academy of Marketing Science, 45*, 848–865.

- Edvardsson, B., Enquist, B., & Johnston, R. (2005). Cocreating customer value through hyperreality in the prepurchase service experience. *Journal of Service Research*, 8(2), 149–161.
- Elder, R. S., Schlosser, A. E., Poor, M., & Xu, L. (2017). So close I can almost sense it: The interplay between sensory imagery and psychological distance. *Journal of Consumer Research*, 44(4), 877–894.
- Eroglu, S. A., Machleit, K. A., & Davis, L. M. (2001). Atmospheric qualities of online retailing: A conceptual model and implications. *Journal of Business Research*, 54(2), 177–184.
- Fiedler, K. (2007). Construal level theory as an integrative framework for behavioral decision-making research and consumer psychology. *Journal of Consumer Psychology*, 17(2), 101–106.
- Fisher, M. L., Gallino, S., & Xu, J. J. (2019). The value of rapid delivery in omnichannel retailing. *Journal of Marketing Research*, 56(5), 732–748.
- Frambach, R. T., Roest, H. C. A., & Krishnan, T. V. (2007). The impact of consumer Internet experience on channel preference and usage intentions across the different stages of the buying process. *Journal of Interactive Marketing*, 21(2), 26–41.
- Ganesh, J., Reynolds, K. E., Lockett, M., & Pomirleanu, N. (2010). Online shopper motivations and e-store attributes: An examination of online patronage behavior and shopper typologies. *Journal of Retailing*, 86(1), 106–115.
- Gensler, S., Neslin, S. A., & Verhoef, P. C. (2017). The showrooming phenomenon: It's more than just about price. *Journal of Interactive Marketing*, 38, 29–43.
- Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. *MIS Quarterly*, 19(2), 213–236.
- Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020a). The future of technology and marketing: A multidisciplinary perspective. *Journal of the Academy of Marketing Science*, 48, 1–8.

- Grewal, D., Noble, S. M., Roggeveen, A. L., & Nordfält, J. (2020b). The future of in-store technology. *Journal of the Academy of Marketing Science*, 48(1), 96–113.
- Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. *Journal of Retailing*, 93(1), 1–6.
- Griffith, D. A., Krampf, R. F., & Palmer, J. W. (2001). The role of interface in electronic commerce: Consumer involvement with print versus on-line catalogs. *International Journal of Electronic Commerce*, 5(4), 135–153.
- Hamilton, R. W., & Thompson, D. V. (2007). Is there a substitute for direct experience? Comparing consumers' preferences after direct and indirect product experiences. *Journal of Consumer Research*, 34(4), 546–555.
- Hammerschmidt, M., Falk, T., & Weijters, B. (2016). Channels in the mirror: An alignable model for assessing customer satisfaction in concurrent channel systems. *Journal of Service Research*, 19(1), 88–101.
- Homburg, C., Jozić, D., & Kuehnl, C. (2017). Customer experience management: Toward implementing an evolving marketing concept. *Journal of the Academy of Marketing Science*, 45(3), 377–401.
- Hoyer, W. D., Kroschke, M., Schmitt, B., Kraume, K., & Shankar, V. (2020). Transforming the customer experience through new technologies. *Journal of Interactive Marketing*, 51, 57–71.
- Huang, M. H., & Rust, R. T. (2017). Technology-driven service strategy. *Journal of the Academy of Marketing Science*, 45(6), 906–924.
- Hulland, J., Baumgartner, H., & Smith, K. M. (2018). Marketing survey research best practices: Evidence and recommendations from a review of *JAMS* articles. *Journal of the Academy of Marketing Science*, 46(1), 92–108.
- Hult, G. T. M., Sharma, P. N., Morgeson III, F. V., & Zhang, Y. (2019). Antecedents and

- consequences of customer satisfaction: Do they differ across online and offline purchases? *Journal of Retailing*, 95(1), 10–23.
- Jiang, Z., & Benbasat, I. (2007). Investigating the influence of interactivity and vividness on online product presentations. *Information Systems Research*, 18(4), 454–470.
- Jing, B. (2018). Showrooming and webrooming: Information externalities between online and offline sellers. *Marketing Science*, 37(3), 469–483.
- Kahn, B. (2017). Using visual design to improve customer perceptions of online assortments. *Journal of Retailing*, 93(1), 29–42.
- Kaltcheva, V. D., & Weitz, B. A. (2006). When should a retailer create an exciting store environment? *Journal of Marketing*, 70(1), 107–118.
- Kim, H., & John, D. R. (2008). Consumer response to brand extensions: Construal level as a moderator of the importance of perceived fit. *Journal of Consumer Psychology*, 18, 116–126.
- Klopping, I. M., & McKinney, E. (2004). Extending the technology acceptance model and the task-technology fit model to consumer e-commerce. *Information Technology, Learning, and Performance Journal*, 22(1), 35–47.
- Kranzbühler, A. M., Zerres, A., Kleijnen, M. H., & Verlegh, P. W. (2020). Beyond valence: A meta-analysis of discrete emotions in firm-customer encounters. *Journal of the Academy of Marketing Science*, 48(3), 1–21.
- Kuehnl, C., Jozić, D., & Homburg, C. (2019). Effective customer journey design: Consumers' conception, measurement, and consequences. *Journal of the Academy of Marketing Science*, 47(3), 551–568.
- Kumar, A., Mehra, A., & Kumar, S. (2019). Why do stores drive online sales? Evidence of underlying mechanisms from a multichannel retailer. *Information Systems Research*, 30(1), 319–338.

- Kumar, V., Rajan, B., Gupta, S., & Dalla Pozza, I. (2019). Customer engagement in service. *Journal of the Academy of Marketing Science*, 47(1), 138–160.
- Lasaleta, J. D., & Redden, J. P. (2018). When promoting similarity slows satiation: The relationship of variety, categorization, similarity, and satiation. *Journal of Marketing Research*, 55(3), 446–457.
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, 75(1), 5–18.
- Liberman, N., Trope, Y., McCrea, S. M., & Sherman, S. J. (2007). The effect of level of construal on the temporal distance of activity enhancement. *Journal of Experimental Social Psychology*, 43(1), 143–149.
- Liberman, N., Trope, Y., & Wakslak, C. (2007). Construal level theory and consumer behavior. *Journal of Consumer Psychology*, 17(2), 113–117.
- Mathwick, C., Malhotra, N. K., & Rigdon, E. (2002). The effect of dynamic retail experiences on experiential perceptions of value: An internet and catalog comparison. *Journal of Retailing*, 78(1), 51-80.
- Montoya-Weiss, M. M., Voss, G. B., & Grewal, D. (2003). Determinants of online channel use and overall satisfaction with a relational, multichannel service provider. *Journal of the Academy of Marketing Science*, 31(4), 448–458.
- Morales, A., Kahn, B. E., Mcalister, L., & Broniarczyk, S. M. (2004). Perceptions of assortment variety: The effects of congruency between consumers' internal and retailers' external organization. *Journal of Retailing*, 81(2), 159–169.
- Neslin, S. A., & Shankar, V. (2009). Key issues in multichannel customer management: Current knowledge and future directions. *Journal of Interactive Marketing*, 23(1), 70–81.
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*.

Englewood Cliffs, NJ: Prentice-Hall.

- Noble, S. M., Griffith, D. A., & Weinberger, M. G. (2005). Consumer derived utilitarian value and channel utilization in a multichannel retail context: Cognitive, affective and attribute bases of the satisfaction response. *Journal of Consumer Research*, 20(12), 418–30.
- Nowlis, S. M., & Simonson, I. (1997). Attribute-task compatibility as a determinant of consumer preference reversals. *Journal of Marketing Research*, 34(2), 205–218.
- Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: McGraw-Hill.
- Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patrício, L., & Voss, C. A. (2015). Service research priorities in a rapidly changing context. *Journal of Service Research*, 18(2), 127–159.
- Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-s-qual: A multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), 213–233.
- Patrício, L., Gustafsson, A., & Fisk, R. (2018). Upframing service design and innovation for research impact. *Journal of Service Research*, 21(1), 3–16.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569.
- Roggeveen, A. L., Grewal, D., & Schweiger, E. B. (2020). The DAST framework for retail atmospherics: The impact of in- and out-of-store retail journey touchpoints on the customer experience. *Journal of Retailing*, 96(1), 128–137.
- Roggeveen, A. L., Grewal, D., Townsend, C., & Krishnan, R. (2015). The impact of dynamic

- presentation format on consumer preferences for hedonic products and services. *Journal of Marketing*, 79(6), 34–49.
- Roschk, H., & Hosseinpour, M. (2020). Pleasant ambient scents: A meta-analysis of customer responses and situational contingencies. *Journal of Marketing*, 84(1), 125–145.
- Rose, S., Clark, M., Samouel, P., & Hair, N. (2012). Online customer experience in e-retailing: An empirical model of antecedents and consequences. *Journal of Retailing*, 88(2), 308–22.
- Rust, R. T., & Huang, M. H. (2012). Optimizing service productivity. *Journal of Marketing*, 76(2), 47–66.
- Sagristano, M. D., Trope, Y., & Liberman, N. (2002). Time-dependent gambling: Odds now, money later. *Journal of Experimental Psychology: General*, 131(3), 364–376.
- Septianto, F., & Pratiwi, L. (2016). The moderating role of construal level on the evaluation of emotional appeal vs. cognitive appeal advertisements. *Marketing Letters*, 27(1), 171–181.
- Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer satisfaction and loyalty in online and offline environments. *International Journal of Research in Marketing*, 20(2), 153–75.
- Shostack, G. L. (1985). Planning the service encounter. In J. A. Czepiel, M. R. Solomon, & C. F. Surprenant (Eds.), *The service encounter* (pp. 243–54). Lexington, MA: Lexington Books.
- Simonson, I. (1999). The effect of product assortment on buyer preferences. *Journal of Retailing*, 75(3), 347–370.
- Singh, J., Brady, M., Arnold, T., & Brown, T. (2017). The emergent field of organizational frontlines. *Journal of Service Research*, 20(1), 3–11.
- Smith, S. M., & Shaffer, D. R. (2000). Vividness can undermine or enhance message processing: The moderating role of vividness congruency. *Personality & Social Psychology Bulletin*, 26, 769–779.
- Solomon, M. R., Surprenant, C., Czepiel, J. A., & Gutman, E. G. (1985). A role theory perspective on dyadic interactions: The service encounter. *Journal of Marketing*, 49(1), 99–111.

- Sousa, R., & Voss, C. A. (2006). Service quality in multichannel services employing virtual channels. *Journal of Service Research*, 8(4), 356–371.
- Stange, M., Barry, A., Smyth, J., & Olson, K. (2018). Effects of smiley face scales on visual process of satisfaction questions in web surveys. *Social Science Computer Review*, 36(6), 756–766.
- Steinhoff, L., Arli, D., Weaven, S., & Kozlenkova, I. V. (2019). Online relationship marketing. *Journal of the Academy of Marketing Science*, 47(3), 369–393.
- Sun, J., Keh, H. T., & Lee, A. Y. (2019). Shaping consumer preference using alignable attributes: The roles of regulatory orientation and construal level. *International Journal of Research in Marketing*, 36(1), 151–168.
- Tellis, G. J., & Gaeth, G. J. (1990). Best value, price-seeking, and price aversion: The impact of information and learning on consumer choices. *Journal of Marketing*, 54(2), 34–45.
- Trope, Y., & N. Liberman (2010), Construal-level theory of psychological distance. *Psychological Review*, 117(2), 440–463.
- Trope, Y., Liberman, N., & Wakslak, C. (2007). Construal levels and psychological distance: Effects on representation, prediction, evaluation and behavior. *Journal of Consumer Psychology*, 17(2), 83–95.
- Van Birgelen, M., De Jong, A., & De Ruyter, K. (2006). Multi-channel service retailing: The effects of channel performance satisfaction on behavioral intentions. *Journal of Retailing*, 82(4), 267–77.
- Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to omni-channel retailing: Introduction to the special issue on multi-channel retailing. *Journal of Retailing*, 91(2), 174–181.
- Verhoef, P. C., Lemon, K. N. Parasuraman, A., Roggeveen, A. L., Tsiros, M., & Schlesinger, L. A. (2009). Customer experience creation: Determinants, dynamics and management strategies. *Journal of Retailing*, 85(1), 31–41.

- Verhoef, P. C., Neslin, S. A., & Vroomen, B. (2007). Multichannel customer management: Understanding the research-shopper phenomenon. *International Journal of Research in Marketing*, 24(2), 129–148.
- Wang, Y. J., Minor, M. S., & Wei, J. (2011). Aesthetics and the online shopping environment: Understanding consumer responses. *Journal of Retailing*, 87(1), 36–58.
- Weijters, B., Rangarajan, D., Falk, T., & Schillewaert, N. (2007). Determinants and outcomes of customers' use of self-service technology in a retail setting. *Journal of Service Research*, 10(1), 3–21.
- Zaltman, G. (1997). Rethinking market research: Putting people back in. *Journal of Marketing Research*, 34(4), 424–437.
- Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362–375.

Table 1 Studies comparing website and store service encounters

Authors	Study Context	Sample	Theory	Findings
Burke (2002)	Online panel	n = 2,120	None mentioned	Frequencies and percentages of behaviors and opinions.
Shankar, Smith and Rangaswamy (2003)	Two studies of the lodging industry	n1 = 144; n2 = 272	Prospect theory	Dependent variable: loyalty. The relationship between satisfaction and loyalty was stronger for the website than the store. In particular, easy-to-obtain information had a stronger effect on satisfaction for the website than the store.
Noble, Griffith, and Weinberger (2005)	Survey data from a nationwide random sample of consumers	n = 754	Rational choice theory under uncertainty, whereby customers maximize subjective expected value (perceived benefits and costs) during goal-directed activities (Tellis and Gaeth 1990).	Dependent variable: self-reported channel utilization. Main effects: Utilitarian values of information attainment, price comparison, possession, and assortment-seeking influence self-reported channel utilization across brick-and-mortar, catalog, and online retail channels.
Frambach Roest, and Krishnan (2007)	Face-to-face interviews with potential home mortgage purchasers	n = 300	Rational choice theory under uncertainty, whereby customers maximize subjective expected value (perceived benefits and costs) during goal-directed activities.	Dependent variable: intention to use a website versus representative. Moderating effect of purchase stage: Customers in pre-purchase, purchase, and post-purchase stages weighed perceptions of channel (e.g., <i>ease-of-use</i>) differently when formulating their intentions to use the website versus service representative (mortgage advisor) to obtain a mortgage.
Van Birgelen, de Jong and de Ruyter (2006)	Survey data from a retail bank.	n = 1,966	Use the appraisal-emotional response-coping framework (Bagozzi 1992)	Dependent variable: business-to-business purchase intentions. It identified how satisfaction with employees and the website influence the behavioral intentions of firms and estimated the model for routine and non-routine services.
Hammerschmidt, Falk, and Weijters (2016)	Survey of store and website shoppers of a grocery retailer	n = 731	Structural alignment of attributes theory from the judgment and decision-making literature	Dependent variable: satisfaction with the touchpoint: store and website. Main effects: The study identified five facets that are consistent across touchpoints: choice, charge, convenience, confidence, and care.
Hult, Sharma, Morgeson and Zhang (2019)	Survey data from ACSI on retailing.	n = 913	Utility functions that account for acquisition utility and transaction utility	Dependent variable: customer satisfaction with purchases. Moderator effect of touchpoint: perceived quality and expectations had a larger effect on satisfaction with in-store purchases; value had a larger effect on satisfaction with website purchases.
Present Study	Online survey of consumers	n = 2,400,000	Touchpoint, context, qualities (TCQ) framework and construal level theory	The results showed that, in evaluating service encounters, customers who visited the organization's website weighed the cognitive and behavioral dimensions of customer experience more heavily than customers who visited the store. In contrast, customers who visited the organization's stores weighed the sensorial and social dimensions of customer experience more heavily.

Table 2 Constructs, measures, and descriptive statistics†

Construct	Measure	Website		Store	
		Mean	Std. Dev	Mean	Std. Dev
Dependent Variable					
Satisfaction with SE	Overall opinion of the XXX Store/Website: rating scale of 1 to 5, where 1=☹; 5=☺☺☺☺☺	3.663	0.922	4.111	0.856
Focal CX Dimensions (Main Effects)					
Cognitive					
Disconfirmation	Compared to your expectations, your experience is much better (1) to much worse (5) – reversed coding	3.085	0.803	3.112	0.705
Price Fairness	XXX always provides un unbeatable good deal: scale of 1 to 5, where 1==☹; 5=☺☺☺☺☺	3.433	1.003	3.481	0.983
Emotional					
Inspiration	Giving ideas and inspiration on how to furnish my home: scale of 1 to 5, where 1=☹; 5=☺☺☺☺☺	3.713	0.964	3.979	0.885
Sensorial					
Attractive Environment	Inviting and attractive to look at: rating scale of 1 to 5, where 1=☹; 5=☺☺☺☺☺	3.696	0.953	3.634	1.023
Product Appeal	Offering products that really appeal to me: scale of 1 to 5, where 1=☹; 5=☺☺☺☺☺	3.629	0.923	4.057	0.840
Behavioral					
Ease-of-use	Ease of use: scale of 1 to 5, where 1=☹; 5=☺☺☺☺☺	3.623	0.991	3.581	1.037
Used catalog	Indicator variable, 1=used catalog	0.946	0.226	0.981	0.138
Social					
Service Representative	Indicator variable, 1=interacted with customer service representative, 0 otherwise.	0.052	0.223	0.147	0.354
Covariates (Main Effects)					
Emotions††					
Exciting	Average of four dichotomous variables: exciting, fun, inspiring, and entertaining	0.171	0.223	0.264	0.268
Frustrating	Average of five dichotomous variables: tiring, complicated, stressful, frustrating, annoying	0.042	0.118	0.074	0.152
Control	Average of three dichotomous variables: informative, useful, and control	0.316	0.278	0.328	0.273
Boring	Average of two dichotomous variables: boring, dull	0.026	0.123	0.011	0.079
Individual, Social, Market, and Environmental Effects					
Goal	A dichotomous variable assigned the value of one when the customer goal was browsing and zero otherwise (buying)	0.357	0.479	0.257	0.437
Shop only brand	Sliding scale 1=I shop only brand; 6=I never shop brand (reversed coding)	3.764	1.134	4.206	0.867
Loyalty program	1=Yes, 0=No	0.501	0.500	0.693	0.461
House - Apartment	1=Yes, 0=No	0.269	0.444	0.296	0.456
House - Studio	1=Yes, 0=No	0.023	0.151	0.022	0.147
Living - Single	1=Yes, 0=No	0.120	0.325	0.115	0.319
North America, Asia-Pacific	A dichotomous variable to indicate geographic region, where Europe is the base case.				
Store, Country	An identifying variable used to create random effects for each store and country.				

†There is also a dichotomous variable representing the touchpoint, where *Web*=1 for a website SE and 0 for a store SE. Interactions are not shown. ††The survey included an emotions inventory of 14 items used to develop the emotions indices. See Web Appendix.

Table 3 Comparisons of alternative HLM models†

Model	AIC	-2 Log Likelihood	Chi-Square Value	df	Critical Chi-Square (p=0.05)	Result
No predictors, random intercepts for country and store level only	6155857	6155849				Base model; intercepts significant; random model appropriate at country level
Add 19 fixed effects at country level	4323539	4323493	-1832356	19	96439.8	Reject null of no fixed effects
Add 14 random effects at country and store levels	4283309	4283239	-40254	14	2875.3	Reject null of no random effects
Add 8 fixed (hypothesized) interaction effects	4281425	4281331	-1908	8	238.5	Reject null of no hypothesized interaction effects
Add 6 fixed interaction effects for regions and discrete emotions	4279246	4279136	-2195	6	365.8	Reject null of no interaction effects for regions and discrete emotions

†Each model is compared to the model above it. The chi-square value is the difference between the -2 Log Likelihood values for the two models. The degrees of freedom are the difference in the number of parameters. The final model has 2,189,063 observations.

Table 4 HLM model results†

Moderating Effects	Coefficient	SE	Hypotheses			
Web × Disconfirm.	0.0291***	0.0135	H _{1a} H _{1b} :(+) Website customers weigh (a) cognition (<i>favorable disconfirmation, price fairness</i>) more heavily.			
Web × Price Fairness	0.0089**	0.0028				
Web × Inspiration	-0.0264***	0.0033	H ₂ :(-) Website customers weigh emotional qualities less heavily than in-store customers.			
Web × Attractive	-0.0468***	0.0044	H _{3a} H _{3b} :(-) Website customers weigh sensorial qualities less heavily than in-store customers.			
Web × Prod. Appeal	-0.0844***	0.0034				
Web × Ease-of-Use	0.1497***	0.0039	H ₄ :(+) Website customers weigh behavioral qualities (<i>ease-of-use</i>) more heavily.			
Web × Catalog	-0.0496***	0.0072	H ₅ :(-) Website customers weigh prior service encounters with <i>catalogs</i> less heavily.			
Web × Cust. Service	-0.0003 ^{ns}	0.0050	H ₆ :(-) Website customers weigh prior contacts with <i>service representatives</i> less heavily.			
Main Effects	Fixed		Country Random		Store Random	
	Coefficient	Standard Err.	Coefficient	Standard Err.	Coefficient	Standard Err.
Intercept	3.7323***	0.0135	0.0055***	0.0013	0.0009***	0.0001
Disconfirmation	0.0594***	0.0035	0.0003**	0.0001	0.0005***	0.0001
Inspiration	0.0861***	0.0034	0.0004**	0.0001	0.0002***	0.0000
Attractive Env.	0.1714***	0.0041	0.0005**	0.0001	0.0005***	0.0001
Product Appeal	0.2165***	0.0035	0.0004**	0.0001	0.0003***	0.0001
Price Fairness	0.0852***	0.0027	0.0002*	0.0001	0.0002***	0.0000
Ease-of-Use	0.0829***	0.0032	0.0003**	0.0001	0.0004***	0.0000
Service Rep.	-0.0529***	0.0054	0.0009***	0.0002	0.0003***	0.0001
Catalog	0.1063***	0.0086	0.0014***	0.0005	0.0003***	0.0001
Control Variables						
Website	-0.2626***	0.0087	Not Applicable††			
Browse	0.0252***	0.0010				
Discrete Emotions			Not Applicable††			
Frustrating	-0.4501***	0.0045				
Exciting	0.1250***	0.0026				
Control	0.0337***	0.0024				
Boring	-0.1858***	0.0083				
Web × Frustrating	-0.2853***	0.0078				
Web × Exciting	-0.0562***	0.0041				
Web × Control	0.0774***	0.0035				
Web × Boring	0.1249***	0.0100				

Market and Demographic Variables		
North America	0.1124	0.0550
Web × North America	-0.1436***	0.0249
Asia Pacific	0.1227	0.0706
Web × Asia Pacific	-0.1617**	0.0558
Shop Only Brand	0.0369***	0.0005
Loyalty club member	0.0480***	0.0011
House - Studio	0.0126***	0.0031
House - Apt	0.0204***	0.0010
Living Single	-0.0028**	0.0014
-2 Log Likelihood, AIC (BIC)		4,279,136 4,279,246 (4,279,348)
# of observations		2,189,063

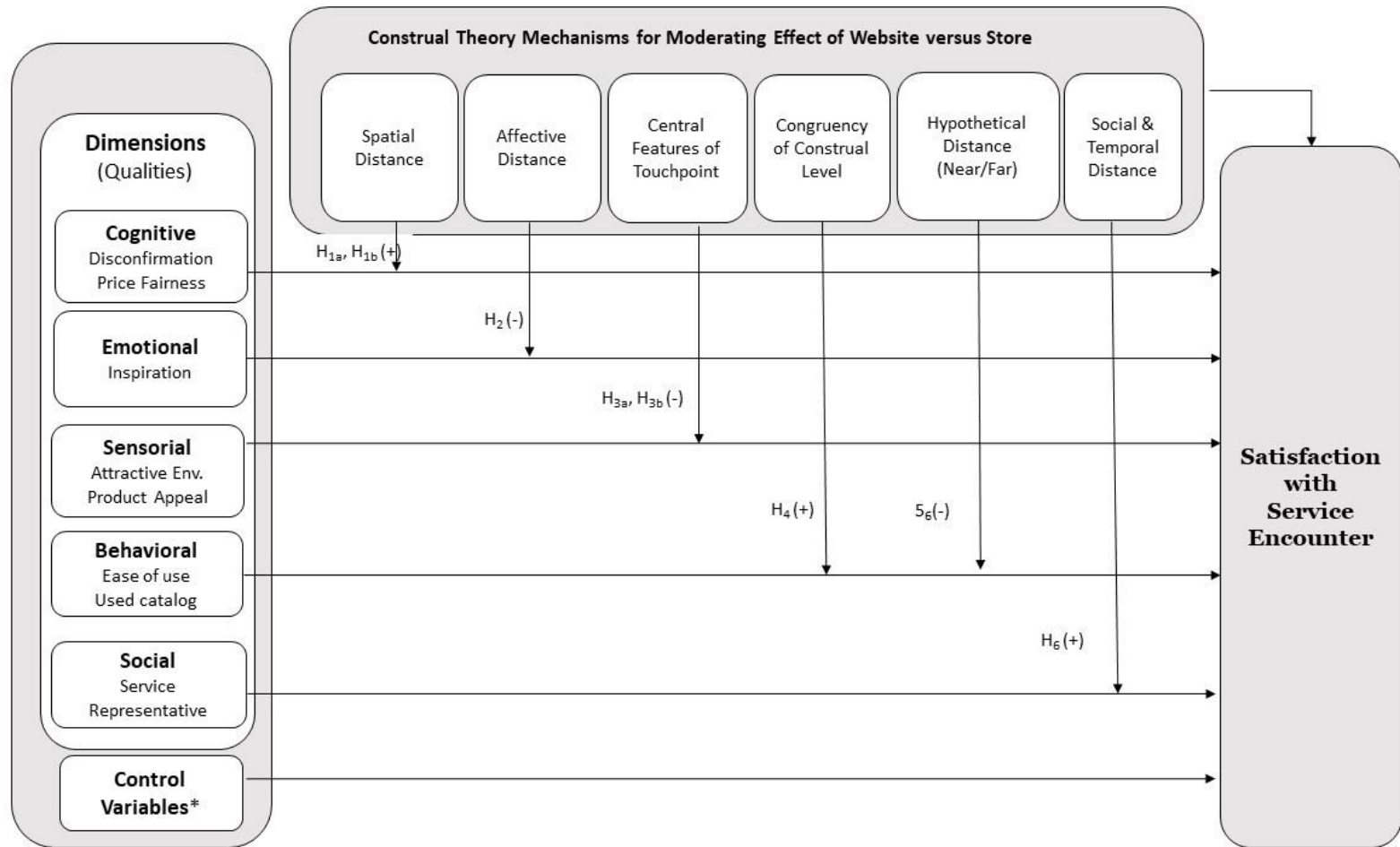
Not Applicable††

†All predictor variables were mean-centered. †† Binary variables had no random effects *** $p < .0001$, ** $p < .001$, * $p < 0.01$.

Table 5 Summary of findings

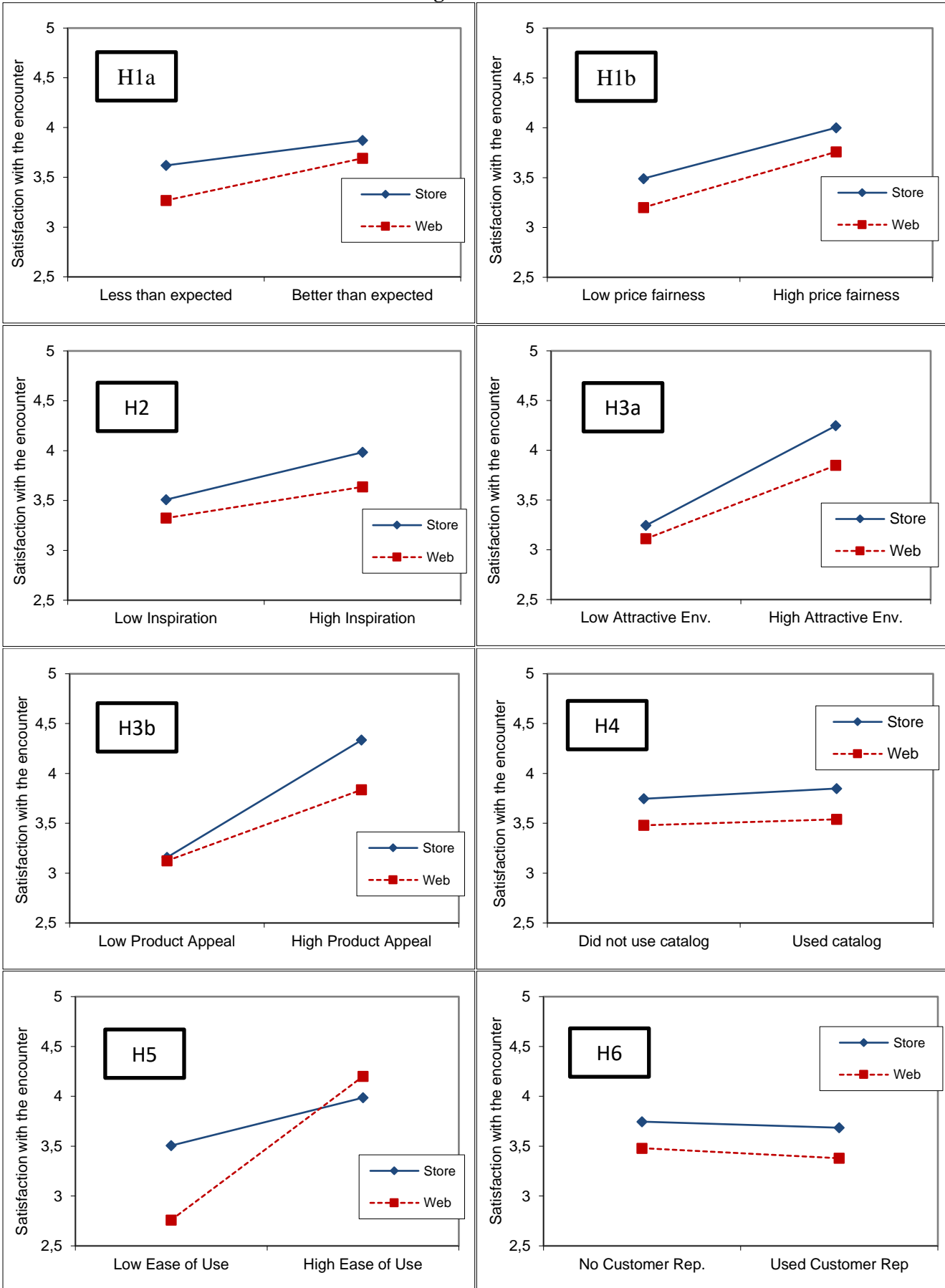
Proposition	Theoretical Mechanism	Findings	Conclusion
H _{1a} : When the firm's first established touchpoint is the store, customers who visit the website will weigh favorable disconfirmation more heavily than customers who visit the store.	Spatial distance. The store, as the first established and proximal touchpoint, serves as the (primary) holistic referent. The website is spatially distant such that (holistic) cognitive dimensions (<i>favorable disconfirmation, price fairness</i>) are weighed more heavily for website SEs than store SEs.	Positive moderator effect ($p < .0001$)	Supported
H _{1b} : Customers who visit the website will weigh price fairness more heavily in evaluating their SE satisfaction when compared with customers who visit the store (positive moderating effect).		Positive moderator effect ($p < .0001$). Replicated in second study ($p < .05$).	Supported
H ₂ : Customers who visit the <i>website</i> will weigh the affective dimension (i.e., emotional qualities)—such as <i>inspiration</i> —less heavily in evaluating their SE satisfaction than customers who visit the store.	Affective distance: The (distal) website evokes high-level construal, which offsets (proximal) concrete emotional qualities for website SEs versus store SEs.	Negative moderator effect ($p < .0001$)	Supported
H ₃ : Customers who visit the website will weigh the sensorial dimension of CX—such as (a) attractive environment and (b) product appeal—less heavily in evaluating their SE satisfaction when compared with customers who visit the store.	Central features of touchpoint: Customers use broader categories for mental representations of (distal) websites versus stores, so they weigh (concrete) sensory qualities less heavily for website SEs versus store SEs.	Negative moderator effect ($p < .0001$). Replicated in second study ($p < .001$).	Supported
		Negative moderator effect ($p < .0001$)	Supported
H ₄ : Customers who visit the website will weigh ease-of-use more heavily in evaluating their SE satisfaction when compared with customers who visit the store.	Congruency of construal level: Customers find it easier to process mental representations at the same construal level, and both website and <i>ease-of-use</i> are abstract mental representations	Positive moderator effect ($p < .001$). Replicated in second study ($p < 0.05$).	Supported
H ₅ : Customers who visit the website will weigh catalog use less heavily in evaluating their current SE satisfaction when compared with customers who visit the store.	Hypothetical distance: Websites and catalogs are less congruent than catalogs and stores with respect to vividness, which reduces hypothetical distance.	Negative moderator effect ($p < .0001$)	Supported
H ₆ : Customers who visit the website will weigh a prior interaction with a service representative less heavily in evaluating their current SE satisfaction when compared with customers who visit the store.	Social distance: The concrete procedural aspects of social experiences are not thematically consistent with website SEs, so they are weighed less heavily.	Negative moderator effect ($p > .01$)	Not supported

Fig. 1 Conceptual framework



*Control variables include individual (e.g., discrete emotions), social, market (country) and environmental (economic) factors.

Fig. 2 Interaction effects



WEB APPENDIX A: A Partial Replication of the Main Study across Firms

The purpose of Web Appendix Part A is to address the key methodological issues regarding (1) the use of smiley scales, (2) the dimensions of customer experience, (3) the replicability of key moderating effects, and (4) the magnitude of the effect sizes. In late 2020, we performed a partial replication as follows: We replicated the satisfaction survey for retailers in the same industry in the United States. The study sample consisted of 600 randomly selected U.S. consumers, aged 18 and over, from an online panel provided by Qualtrics. Forty-five of the respondents did not provide full responses, so the remaining sample size was 555. The participants were given a small monetary incentive for participating. We measured the variables in the same way as in our main study (see manuscript), except that we made a number of important additions, specifically intended to test the methodological issues mentioned above. First, we sampled 200 consumers from three firms: Walmart, Target, and IKEA. Second, we used the same response scale (using smileys) as in the main study, but we replicated four questions at the end of the survey using a numbered scale (1–5). Third, we used multi-item scales to measure the key qualities of our conceptual model (price fairness, inspiration, attractive environment, product appeal, and ease-of-use). The multi-item scales included the measures from our main study and additional measures from the same construct. The full scales used are provided in Table W3. A description of the sample is provided in Table W1.

Table W1 Overview of the replication study

	Replication Study
Sample Size (n)	555
Brand	Walmart – 192 Target – 180 IKEA – 183
Touchpoint	Online – 274 Store – 281

The Use of Smiley Scales. In the survey, we repeated a set of the same questions twice—widely separated—but with different response scales. For the survey targeting consumers shopping at Walmart (n = 190), the consumers answered the questions using smiley scales, and at the end of the survey, four questions were repeated using a numbered scale (1–5) to enable a comparison of the answers. These four questions concerned customer satisfaction, an easy-to-find, pleasant, and relaxing shopping environment, and unbeatable good deals. Using a paired t-test, there were no statistically significant differences between the answers to the same question using two types of scales (smileys versus numbers; see Table W2). This is consistent with Stange et al. (2018), who showed that there were no differences in how consumers process these two types of scales. However, Stange et al. (2018) concluded that the smiley scales worked better for consumers with lower literacy levels, suggesting that, for a cross-cultural study (as in our main study), smiley scales might be the better option.

Table W2 Comparison of two scales

Question	Smiley scale	Number scale	p-value
Based on your most recent visit to Walmart, how satisfied were you?	3.70 (1.1)	3.65 (1.1)	P=0.59
Products are easy to find at Walmart?	3.72 (1.0)	3.73 (1.1)	P=0.96
Walmart provides a pleasant and relaxing shopping environment?	3.45 (1.2)	3.41 (1.3)	P=0.70
Walmart always provides an unbeatable good deal?	3.58 (1.1)	3.59 (1.2)	P=0.92

Dimensions of Customer Experience. The main study used single items to measure different qualities of customer experience. In particular, measures for price fairness, inspiration, attractive environment, product appeal, and ease-of-use were used. To show that these qualities were distinct, we developed multi-item scales for five qualities representing four CX dimensions. We excluded *disconfirmation*, the measurement of which has been well established, and *catalog* and *service representative* because they were not widely available during the pandemic. We used 18

items to capture the five qualities (see Table W3). All of these measures were included in the replication study (n = 555). We conducted a principal components analysis (PCA) with Varimax rotation of the 18 items to ensure that the factors would be orthogonal. We specified five factors, and the PCA identified five clear factors explaining 74% of the variation in the data, as shown in Table W3. Factor loadings of 0.50 or higher are highlighted in bold. The factor loading patterns were consistent and the five factors, clearly corresponding to the five experience qualities, labelled in the manuscript: *product appeal*, *ease-of-use*, *attractive environment*, *price fairness*, and *inspiration*. (For readability, we bolded the first item in the scale for a given quality.)

Table W3 Principal components analysis with Varimax rotation of qualities

Factor and Label→ Variable↓	1	2	3	4	5
Walmart always has many products that I like	.217	.226	.262	.693	.228
Walmart has products that are well finished with attention to detail	.275	.254	.239	.585	.379
Walmart has many styles of products that suit my taste	.299	.193	.244	.717	.167
Products are easy to find at Walmart	.218	.181	.629	.472	.087
It's easy and convenient to shop at Walmart	.118	.260	.752	.268	.196
It is easy to pick items and check-out at Walmart	.263	.199	.743	.135	.271
Walmart provides a pleasant and relaxing shopping environment	.284	.135	.493	.176	.629
Walmart provides an enjoyable shopping environment	.319	.190	.329	.253	.697
Walmart has an attractive decor	.359	.242	.132	.312	.650
Walmart has better prices than their competitors for the quality offered	.221	.808	.236	.164	.051
Walmart always provides an unbeatably good deal	.237	.721	.208	.249	.201
Walmart sells good quality furnishings at low prices	.366	.684	.158	.182	.293
Walmart provides ideas and inspiration on how to furnish my home	.643	.281	.081	.277	.368
My visit at Walmart made me discover something new	.669	.335	.190	.224	.187
My visit at Walmart inspired me	.743	.233	.166	.246	.218
My visit at Walmart stimulated my imagination	.792	.174	.095	.127	.273
My visit at Walmart unexpectedly and spontaneously gave me new ideas	.823	.136	.197	.139	.165
My interest in furniture and design increased through my visit at Walmart	.796	.158	.216	.187	.075

As shown in Table W3, the five orthogonal factors corresponded to four of the five dimensions, which we labelled as follows: emotional (Factor 1: *inspiration*), cognitive (Factor 2: *price fairness*), behavioral (Factor 3: *easy-to-use*), sensorial (Factors 4 & 5: *Product appeal* and

attractive environment, respectively). These factors were consistent with the CX qualities identified in many prior studies of online and in-store retail (e.g., Roggeveen et al. 2020).

Replicability of Key Moderating Effects and the Magnitude of Effect Sizes. We estimated a general linear model for customer satisfaction with the SE, replicating as close as possible the model used in the main study (see description of the main study in the paper). We did not replicate all aspects of the model because the new study entailed fewer measures and much fewer observations. In the model, we included the main effects of six of the qualities used in the main study: *disconfirmation*, *inspiration*, *attractive environment*, *product appeal*, *price fairness*, and *ease-of-use* (see Table W4 for correlations). We excluded prior encounters with the catalog and customer service.

Table W4 Correlation table

Variables	Mean	SE	1.	2.	3.	4.	5.
1. Disconfirmation	3.46	1.12					
2. Inspiration	3.50	1.22	.28				
3. Attractive Environment	3.79	1.09	.24	.48			
4. Product Appeal	3.97	0.984	.32	.45	.54		
5. Price Fairness	3.66	1.10	.25	.50	.48	.47	
6. Ease-of-Use	3.85	1.05	.27	.43	.53	.54	.49

We tested the touchpoint as a moderator for three qualities because we wanted to avoid over-parameterizing the model with too many interactions. We chose to include three interactions: one cognitive (*price fairness*), one sensorial (*attractive environment*), and one behavioral (*ease-of-use*). We included additional control variables, but the non-significant control variables were excluded from Table W5. The model explained 59% of the variation in customer satisfaction. Importantly, it replicated the moderating effects of the touchpoint for price fairness, attractive environment, and ease-of-use. The results are consistent with H_{1b} (which predicted that website customers would weigh *price fairness* more heavily), H_{3a} (which predicted that website

customers would weigh sensorial qualities less heavily than in-store customers), and H₄ (which predicted that website customers would weigh *ease-of-use* more heavily than in-store customers).

Table W5 Model results

Moderating Effects	Coefficient	SE	Hypotheses
Web × Price Fairness	0.138	0.070*	Website customers weigh <i>price fairness</i> more heavily.
Web × Attractive Environment	-0.319	0.072***	Website customers weigh sensorial qualities less heavily than in-store customers.
Web × Ease-of-Use	0.153	0.073*	Website customers weigh behavioral qualities (<i>ease-of-use</i>) more heavily.
Main Effects			
	Coefficient	Standard Err.	
Intercept	3.92	0.029	
Disconfirmation	0.104	0.031**	
Inspiration	0.197	0.037***	
Attractive	0	0.054	
Product Appeal	0.363	0.040***	
Price Fairness	0.207	0.048***	
Ease-of-Use	0.112	0.051*	

†All predictor variables were mean-centered, so the coefficients represent the effect sizes. *** $p < .001$, ** $p < .01$, * $p < 0.05$.

This new study demonstrates three important findings. First, the moderating effects of the touchpoint were valid for the firms (Walmart, Target, and IKEA) in this new supplementary study as well as the firm in our main study. Second, the new study shows that the effects were not an artifact of the time period of the main study; the moderating effects of the touchpoint (website versus store) remained valid in 2020, despite advances in technology. Third, it shows that the effect sizes in this study (estimated across brands at the respondent level) were much larger than the corresponding effect sizes in the main study (for a single brand across stores and countries; see Table W5). Thus, this new study shows that the magnitude of the moderating effects was relevant for today’s business managers. Our goal was to ascertain that the results would hold for retailers, in general, and for the cooperating firm in the main study, in particular. Since the main study looked at effect sizes across markets, we aimed to show that the moderating

effects of the touchpoint would be larger across brands within a single market than for a single brand across markets.

WEB APPENDIX B: Principal Components Analysis of Emotions Variables

There is a longstanding debate about whether common emotions apply in most or all consumption contexts (Oliver 1997; Ortony et al. 1988). Izard (1991) identified 10 discrete emotions and proposed a measurement scale that has been incorporated into many studies of consumption-based emotions and satisfaction (e.g. Richins 1997). The cooperating retailer's survey included an emotions inventory containing 16 items drawn from Izard (1991), Richins (1997), Westbrook (1987), and Oliver (1997). Emotion indices were developed based on a principal components analysis that identified four orthogonal factors. The indices were formed, rather than using factor scores, so that the measures would be easily interpreted. This appendix describes the preliminary analyses that led to this measurement procedure.

Discrete emotions were measured by dichotomous (yes/no) answers to a list of 16 emotions. As the current study focused on retail SEs, the survey's list of emotions was not exhaustive. (Some emotions, such as shame, were unlikely to have been evoked by a retailer.) The goal of our analysis of these data was to find a parsimonious and robust way to represent discrete emotions experienced during the SE at a touchpoint. An important requirement was that the method for measuring emotions had to be consistent across goals, touchpoints, and countries so that these emotions could be represented in our satisfaction equations.

We began by conducting a PCA with Varimax rotation of the 16 emotion variables. We conducted separate PCAs for observations from each touchpoint and identified four orthogonal factors with eigenvalues greater than one. The results of these analyses are shown in Table W1. Factor loadings of 0.50 or higher are highlighted in bold. The results are remarkably similar across

touchpoints. The four factors explain 40% of the variance in the 16 variables for *website* and *store*. The factor loading patterns are consistent.

1. Factor 1, labeled *excitement*, had high loadings for exciting, fun, inspiring, and entertaining.
2. Factor 2, labeled *frustration*, had high loadings for complicated, stressful, frustrating, tiring, and annoying.
3. Factor 3, labeled *control*, had high loadings for informative, useful, and functional.
4. Factor 4, labeled *boredom*, had high loadings for boring and dull.

We found the same factor structure when we analyzed the emotions data by country and touchpoint. *Interesting* and *successful* did not load consistently on any of the items and did not exceed 0.5, so they were not included in further analyses.

As an aside, in Factor 1, *inspiring* is a dichotomous variable from a scale that measures 16 emotions that might have been experienced during the SE. Note that this construct and measure is entirely different from *Inspiration*. (See Table 1.) The latter measures an emotional quality that reflects affective distance; it is measured as “Giving ideas and inspiration on how to furnish my home.”

Consistent with environmental psychology (Mehrabian and Russell 1974), stores have been shown to evoke emotions characterized by two underlying dimensions: pleasure and arousal (Donovan and Rossiter 1982). These same dimensions of emotion have been found in both Internet and traditional retailing (Menon and Kahn 2002) and are also consistent with the satisfaction literature (Oliver 1997, pp. 291–325). Following pleasure–arousal theory, *excitement* (Factor 1) corresponded to high pleasure/high arousal; *frustration* (Factor 2) with low pleasure/high arousal; *control* (Factor 3) with high pleasure/low arousal; and *boredom* (Factor 4) with low arousal/low pleasure. We used the term *control* as a label for the items about informative, useful, and functional

feelings because Mehrabian (1996, pp. 287-288) identified *control*, or the individual's sense of having an ability to affect the environment, as a third underlying dimension of emotions and a major emotional factor underlying people's preferences, judgments, and evaluations. It was consistent across cultures and languages (cf. Bradley and Lang 1994, pp. 49-50). In some studies, *control* was referred to as calmness, relaxation, or contentment. Our goal was to generate a consistent way of measuring emotions for all touchpoints, goals, and countries. Thus, we did not use factor scores in the current study. Instead, we simply averaged the dichotomous variables with high loadings on each factor. We used the average instead of the sum so that the coefficients would be comparable when used in the data analysis. We did not consider consumers' responses to the questions about successful and interesting because there was no strong theoretical or empirical reason to include them in the satisfaction equations. We presented the touchpoint-based results using the entire dataset, without the missing values for emotions. We performed the above analyses at the country/touchpoint level (as well as the aggregate level reported herein), and the results were highly consistent.

REFERENCES

- Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: The self-assessment manikin and the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry*, 25(1), 49–59.
- Donovan, R., & Rossiter, J. (1982). Store atmosphere: An environmental psychology approach. *Journal of Retailing*, 58(1), 34–57.
- Izard, C. E. (1991). *The psychology of emotions*. New York: Springer Science & Business Media.
- Mehrabian, A. (1996). Pleasure-arousal-dominance: A general framework for describing and measuring individual differences in temperament. *Current Psychology: Developmental · Learning · Personality · Social*, 14(4), 261–92.

- Mehrabian A., & Russell, J. A. (1974). *An approach to environmental psychology*. Cambridge (MA): The MIT Press.
- Menon, S., & Kahn, B. (2002). Cross-category effects of induced arousal and pleasure on the Internet shopping experience. *Journal of Retailing*, 78(1), 31–40.
- Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: McGraw-Hill.
- Oliver, R., & Westbrook, R. A. (1993). Profiles of consumer emotions and satisfaction in ownership and usage. *Emotion*, 6, 12–27.
- Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions*. New York: Cambridge University Press.
- Richins, M. L. (1997). Measuring emotions in the consumption experience. *Journal of Consumer Research*, 24(2), 127–146.
- Roggeveen, A. L., Grewal, D., & Schweiger, E. B. (2020). The DAST framework for retail atmospherics: The impact of in- and out-of-store retail journey touchpoints on the customer experience. *Journal of Retailing*, 96(1), 128–137.
- Stange, M., Barry, A., Smyth, J., & Olson, K. (2018). Effects of smiley face scales on visual process of satisfaction questions in web surveys. *Social Science Computer Review*, 36(6), 756–766.
- Westbrook, R. A. (1987). Product/consumption-based affective responses and postpurchase processes. *Journal of Marketing Research*, 24(3), 258–270.

Table W6 Principal component analysis with Varimax rotation of emotions variables

Factor Loadings for Store Data				
Factor & Label→ Variable↓	Factor 1 Excitement	Factor 2 Frustration	Factor 3 Control	Factor 4 Boredom
Exciting	0.6509	0.0467	0.0805	0.0073
Fun	0.6773	-0.0878	-0.0301	0.0206
Inspiring	0.5214	0.0021	0.3154	-0.0778
Entertaining	0.6486	-0.1140	-0.0154	-0.0220
Complicated	0.0016	0.5781	-0.0344	0.0034
Stressful	-0.0462	0.6719	-0.0297	-0.0409
Frustration	-0.0232	0.5882	-0.1402	0.0971
Tiring	-0.0299	0.5477	0.0852	-0.0299
Annoying	-0.0427	0.6059	-0.0750	0.1194
Informative	0.2710	0.0547	0.5311	0.0122
Useful	0.0189	-0.0394	0.6969	-0.0347
Control	-0.0464	-0.0380	0.6510	0.0741
Boredom	-0.0471	0.0110	-0.0130	0.7486
Dull	-0.0030	0.0841	-0.0294	0.7142
Successful	0.1057	-0.1153	0.3455	-0.0834
Interesting	0.4928	0.0029	0.3543	-0.0553
Eigenvalue	2.4464	1.7489	1.1880	1.0770
% Variance Explained	15	11	7	7
Factor Loadings for Website Data				
Factor and Label→ Variable↓	Factor 1 Excitement	Factor 2 Frustration	Factor 3 Control	Factor 4 Boredom
Exciting	0.6202	0.0359	0.0449	0.0428
Fun	0.6609	-0.0405	0.0052	0.0327
Inspiring	0.5861	-0.0365	0.1821	-0.0922
Entertaining	0.6269	-0.0796	-0.0594	-0.0322
Complicated	-0.0370	0.5693	-0.1118	0.0137
Stressful	0.0215	0.6233	0.0263	0.0139
Frustration	-0.0856	0.5470	-0.2456	-0.0800
Tiring	-0.0022	0.5430	0.0302	0.2486
Annoying	-0.0571	0.6226	-0.0735	0.0052
Informative	0.0117	0.0058	0.6320	-0.0386
Useful	0.0366	-0.0948	0.6521	-0.1081
Control	0.0538	-0.0903	0.5867	0.0307
Boredom	-0.0624	0.0384	-0.0410	0.7439
Dull	-0.0324	0.0599	-0.0744	0.7120
Successful	0.1779	-0.0914	0.3879	-0.0227
Interesting	0.4963	-0.0302	0.2304	-0.1088
Eigenvalue	1.8575	1.7363	1.4982	1.1677
% Variance Explained	16	10	7	7