

Channels in the Mirror: An Alignable Model for Assessing Customer Satisfaction in Concurrent Channel Systems

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Abstract

Firms operating multiple channels as parallel routes to market face intense pressure to ensure superior customer satisfaction in their entire channel system. Relying on the structural alignment framework, the authors argue that to address this challenge, providers of concurrent channels should give priority to alignable channel attributes—attributes that have corresponding or “mirror” attributes in the other channels. These features are more salient to customers than nonalignable features and likely represent the origin of satisfaction evaluations in concurrent channel environments. Applying multigroup nested models using data from off-line and online shoppers, the authors empirically validate choice (assortment breadth and depth), charge (availability of fair prices), convenience (efficiency of the purchase process), confidence (security of transactions), and care (assurance of promised quality) as alignable channel facets. The resulting 5C model is superior to existing models in that it enables the unified capture of both off-line and online satisfaction, allowing a meaningful comparison across formats. Using alignable satisfaction facets enables managers to trace true differences in the satisfaction levels between channels. In particular, a channel’s share of investment should match its share of unexploited satisfaction potential. The 5C model also supports within-channel decisions by revealing the impact of the five facets on overall satisfaction with each format.

Keywords

multichannel retailing, retail services, channel satisfaction, structural alignability, cross-channel comparisons, invariance analysis

Many retailers operate concurrent channels in which customers can obtain similar offerings (Forrester Inc. 2014). In struggling to optimize tangible and intangible channel attributes in those parallel routes to market, sellers often end up jeopardizing overall customer satisfaction (Van Birgelen, de Jong, and de Ruyter 2006; Zomerdijk and Voss 2010). As an example, the multinational retailer Marks & Spencer (M&S) realized that a “frightening number of customers” seemed to be discontent with its online offerings and would not consider purchasing through the virtual channel (Parsons 2013). To surmount this challenge, M&S expended considerable effort in synchronizing its channels. The focus of this endeavor has been the development of comparable channel features by emphasizing editorial fashion content and lifestyle guidance in each of the channels (Montgomery 2014). Similarly, Best Buy very successfully redesigned its concurrent channel system, consistently focusing on exclusive product selections, greater shopping convenience, and improved shopper-friendly features across traditional and virtual stores (Matthews 2013).

Obviously, the decisive challenge multichannel providers face in ensuring superior customer experiences is to prioritize those channel attributes that are crucial to customer satisfaction, thereby avoiding misallocation of resources on irrelevant elements (Tax, McCutcheon, and Wilkinson 2013; Van Bruggen et al. 2010). Specifically, retailers must realize that, as in

the cases of M&S and Best Buy, customers are likely to focus on core aspects of an offering that are common across channels. This study seeks to support managers of concurrent channel systems by helping them pinpoint channel attributes that play a particular role for customer satisfaction formation in multi-channel systems.

Prior studies have shown that a comparison mind-set prevails when consumers make satisfaction judgments on multiple channels (Heitz-Spahn 2013; Noble, Griffith, and Weinberger 2005). Consequently, they tend to focus first on general features that are mirrored in the provider’s counterpart channel, such as product choice, price, and availability, before considering channel-specific features like waiting time in the off-line format and system stability in the online format. This reasoning corresponds with the structural alignment framework,

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according to which consumers do not make judgments using all available information but instead concentrate on attributes that are common across options (Kivetz and Simonson 2000; Zhang and Markman 1998). Consumers process those “alignable” attributes—attributes with value for all options—more efficiently than nonalignable attributes. Empirical evidence shows that alignable features are especially salient when consumers are making judgments in complex settings in which they can obtain similar offerings across alternative formats operated by the same provider (Chernev 2005; Xu, Jiang, and Dhar 2013). Such parallel channel environments prevail not only for retailers but for many service providers as they also typically use channels concurrently to facilitate all steps of a shopping process in any channel. A high complexity of decision making results in such settings because formats can be freely combined across the entire transaction process, requiring customers to compare channel alternatives and in turn select the optimal channel configuration (Van Bruggen et al. 2010). Therefore, customer satisfaction formation in a concurrent channel system is likely to entail a structural alignment process in which customers first assess channels according to related attributes and only subsequently (if at all) consider channel-unique attributes (Zhang and Markman 1998). Effective channel management should therefore focus on assessing and improving alignable facets as a primary task.

The general aim of this research is to improve understanding of satisfaction evaluation in multichannel settings by developing and applying an alignable channel satisfaction model. In undertaking this development, we make three major contributions to the literature. First, by accounting for shopping experiences that are relevant in both online and off-line formats, we add to a nascent stream of research on shopper marketing (Shankar et al. 2011). More precisely, previous literature has looked predominantly at customer satisfaction with either traditional channels (e.g., Evanschitzky, von Wangenheim, and Wunderlich 2012; Westbrook 1981) or electronic channels in isolation (e.g., Collier and Bienstock 2006; Parasuraman, Zeithaml, and Malhotra 2005). The valuable insights of these studies notwithstanding, an overarching model that is suitable for assessing satisfaction with parallel channels is missing. Accordingly, we distinguish two categories of shopping experiences that are equally meaningful for satisfaction formation regarding off-line and online stores (Chandon et al. 2009): (1) within-store and (2) out-of-store experiences. Although developed in a retail context, our model is applicable to all settings where customers can choose among channels of the same service provider through which they can obtain similar offerings, like banking, insurance, airlines, car rentals, and travel services.

Second, by establishing an alignable channel satisfaction model, we provide a tool for meaningful comparisons of customer satisfaction across channels. Thus, the model adds to the understanding of customers’ preference for concurrent channel use (e.g., Verhoef, Neslin, and Vroomen 2007). More specifically, applying alignable satisfaction facets ensures that detected differences in satisfaction between channels are

“true” and are not artifacts resulting from noncomparable criteria (Steenkamp and Baumgartner 1998). Tracing significant satisfaction gaps helps to better coordinate the various channels and hence to better manage the entire multichannel system. As a result, the risk of losing customers between channels can be reduced.

Third, by using multigroup nested model analysis for measurement invariance testing, we empirically prove that the measures for the satisfaction facets are fully alignable across channels. In following this approach, we transfer the invariance testing methodology widely established in cross-cultural (e.g., Steenkamp and Baumgartner 1998) and cross-brand studies (e.g., Noh and Lee 2011) to cross-channel research, as requested in the literature (e.g., Laroche et al. 2005). By establishing cross-channel invariance of our satisfaction model, we show that the model appropriately reflects the essential part of the satisfaction evaluation process in a multichannel context.

Structural Alignment Framework

According to research on consumer judgment and comparison processes, people rely more on alignable than on nonalignable attributes when making judgments (Markman and Medin 1995; Zhang and Markman 1998). Alignable attributes are shared across options, whereas nonalignable attributes belong to only one option and are absent from any others. That is, if consumers can find a corresponding attribute in the alternative options, the attribute is alignable. Most interestingly, alignable attributes are especially important in complex contexts, which demand greater cognitive effort for decision making (Kivetz and Simonson 2000). Businesses that are dominated by service aspects, such as retailing in particular, are typical for complex settings because they involve high levels of intangibility, heterogeneity, and consequently uncertainty (Homburg, Hoyer, and Fassnacht 2002; Murray and Schlacter 1990). Shopping at retailers offering the Internet or a catalog as an alternative to traditional stores is especially likely to be cognitively challenging for consumers, as for each step of the shopping process multiple channel options are available. Hence, a consumer has to choose the optimal alternative for each step, creating difficulty in closing a purchase (Hofacker et al. 2007; Sa Vinhas and Anderson 2005). In such situations, to minimize evaluation error and to facilitate decision making, consumers tend to prefer unambiguous, clear, and easy-to-evaluate criteria for making judgments (Kivetz and Simonson 2000; Xu, Jiang, and Dhar 2013). Alignable attributes represent such efficient criteria and thus require less processing effort and are more accessible in memory than nonalignable attributes (Meyers-Levy 1991). In addition, focusing on commonalities of choice options is a strategy for making options comparable (Johnson 1984). Thus, when using the same attributes consumers can easily determine and interpret differences between options and thus better decide which option is advantageous (Zhang and Markman 1998).

Applying the structural alignment framework to a multichannel context, we suggest that alignable channel features—

features that are equally meaningful for multiple retail channels—are more salient and are given superior weight by consumers than specific, nonalignable channel features. Thus, alignable features are likely to represent the starting point of consumers' satisfaction evaluations (Zhang and Markman 2001). In contrast, nonalignable channel features might become relevant aspects only in the later stages of satisfaction formation, if at all (Johnson 1988). Consequently, a universal satisfaction model that contains facets common to all channel contexts serves as a meaningful basis for retailers' satisfaction assessments and comparisons in a multichannel environment.

An Alignable Channel Satisfaction Model

Model Conceptualization

The shopping cycle as a starting point. To identify common aspects of customers' satisfaction evaluations of off-line and online channels, we draw on two comprehensive categories that researchers have proposed as adequately capturing major shopper experiences throughout the shopping cycle, regardless of whether off-line or online stores are used (Chandon et al. 2009; Inman, Winer, and Ferraro 2009). The first category encompasses experiences with services and functions provided within a store (i.e., in-store factors), representing the "first moments of truth" for shoppers (Inman, Winer, and Ferraro 2009, p. 19). The second category emphasizes experiences related to the actual consumption of the purchased offers (i.e., out-of-store factors) and constitutes "the second moment of truth" regarding satisfaction formation (Löfgren 2005, p. 110). Relying on the shopping cycle concept and previous research, we identify and provide labels for four in-store facets—choice, charge, convenience, and confidence—and one out-of-store facet—care—that likely affect customer satisfaction formation in multichannel settings.

Choice. Customers' attitudes toward a retail site are strongly related to their perceptions of the variety the site offers. Choice, which we define as the extent to which a store offers a deep and broad assortment, therefore is likely to influence customer judgment (Srinivasan, Anderson, and Ponnnavolu 2002; Westbrook 1981). Shoppers may evaluate selected items more positively when the assortment is more comprehensive (Morales et al. 2005). Moreover, as many consumers do not want to deal with multiple vendors, a rich assortment may decrease consumer search costs (Bergen, Dutta, and Walker 1992). To sum up, we propose choice as a first major facet of customer satisfaction in a multichannel environment.

Charge. This facet, defined as the extent to which regular discounts and fair prices are available, may represent another determinant of customer satisfaction with a retail channel (Gensler, Verhoef, and Böhm 2012; Voss, Parasuraman, and Grewal 1998). When visiting a physical or virtual store, customers learn prices of selected items and judge these prices against internal reference prices. For example, price reductions

from a store's regular price positively affect customers' overall image of that store (Alba et al. 1994; Van Heerde, Gijsbrechts, and Pauwels 2008). Apart from considering discounts, shoppers evaluate whether a fair exchange with the retailer can be expected such that the output received (e.g., quality of the offering) is congruent with the input invested (i.e., money spent or charge; Szymanski and Henard 2001). In view of this appraisal, we propose charge as a second satisfaction facet relevant in off-line (Voss, Parasuraman, and Grewal 1998) as well as online stores (Gensler, Verhoef, and Böhm 2012).

Convenience. Customer evaluations of convenience—defined as the extent to which the purchasing process is efficient and effortless—also tends to be a determinant of customer satisfaction with both off-line and online shopping experiences (Berry, Seiders, and Grewal 2002; Wolfenbarger and Gilly 2003). Consumers can direct the effort saved through a convenient shopping process elsewhere and gain more output with the same overall effort. Convenience mainly results from well-designed shopping facilities, fast and competent services with regard to information and decision support, and a practical layout, all of which help to conserve consumers' time and cognitive resources (Dabholkar, Thorpe, and Rentz 1996; Parasuraman, Zeithaml, and Malhotra 2005). Thus, we propose convenience as a third facet of channel satisfaction.

Confidence. As a final in-store facet, confidence—the extent to which transactions and payment methods are secure—is likely to positively affect customer satisfaction with retail channels (Forsythe et al. 2006; Parasuraman, Zeithaml, and Berry 1985). Literature on relationship marketing traditionally highlights confidence as an important relational benefit customers seek (Hennig-Thurau, Gwinner, and Gremler 2002). Increased confidence in a retailer may particularly result from efforts to diminish financial risk, as customers typically fear the potential net loss of money in service and retail transactions (Bendapudi and Berry 1997). As an example, consumers' insecurity regarding credit card use or privacy concerns regarding payment methods are major aspects when customers purchase in traditional stores (Parasuraman, Zeithaml, and Berry 1985) as well as online stores (Forsythe et al. 2006). Thus, we propose confidence as a fourth facet of channel satisfaction.

Care. Given that customers do not buy goods and services but rather buy the benefits goods and services provide for them, experiences related to the actual consumption of the purchased offer should also play a major role in determining customer satisfaction (Löfgren 2005). In light of this, we define care as the extent to which a retailer makes certain that all items perform as promised after purchase (Dabholkar, Thorpe, and Rentz 1996; Srinivasan, Anderson, and Ponnnavolu 2002). As an out-of-store aspect, care corresponds to the outcome of the shopping process. Such outcome evaluations are equally applicable for both off-line (Dabholkar, Thorpe, and Rentz 1996) and online purchases (Parasuraman, Zeithaml, and Malhotra

2005). Therefore, we propose that care represents the fifth satisfaction facet.

Model summary. In view of the above, we conceptualize overall satisfaction with a channel as a construct formed based on customers' experiences with the distinct in-store and out-of-store aspects of an entire shopping cycle (see Figure 1). Thus, overall satisfaction is a summative appraisal of a channel. This understanding is consistent with prior work emphasizing that satisfaction is not a unitary construct but a multifaceted construct comprising all characteristics of the transaction between the firm and the customer (Geyskens, Steenkamp, and Kumar 1999; Hofacker et al. 2007). Overall, theoretical insight and empirical findings lead us to conclude that our model captures the major aspects of satisfaction with either an off-line or an online channel. As we view the five satisfaction facets (the 5Cs) as features contributing to overall satisfaction, satisfaction is conceptualized as a latent dependent variable (Reinartz, Krafft, and Hoyer 2004).

Hypotheses

The 5Cs of our satisfaction model encapsulate two generic categories of experiences during a shopping cycle, either within or out of the store (Shankar et al. 2011). The five facets entail a high level of abstraction and thus higher level representations of the alternative channel formats to ensure that both channels are represented and described by the same attributes. Hence, the facets of our satisfaction model focus on commonalities between channels and should enable consumers to register and process information in a way that allows them to compare the channel options (Johnson 1984; Xu, Jiang, and Dhar 2013). As alignability of the facets is a function of the level of abstraction and hence comparability (Johnson 1984), we expect the satisfaction model to be alignable across channels.

Formally, alignability entails three levels of measurement invariance (Cheung and Rensvold 2002; Deng et al. 2005; Steenkamp and Baumgartner 1998). First, configural invariance implies that specific indicators relate to the same aspects of satisfaction across channels (i.e., the factor structure is equal). Second, metric invariance implies that the relationship between specific indicators and their satisfaction facet is the same across channels (i.e., the item loadings are equal). Third, scalar invariance implies that at a given evaluation level of a feature, the indicators related to it are scored equally high (i.e., the item intercepts are equal). Therefore, we hypothesize:

Hypothesis 1: The proposed channel satisfaction model exhibits configural invariance.

Hypothesis 2: The proposed channel satisfaction model exhibits metric invariance.

Hypothesis 3: The proposed channel satisfaction model exhibits scalar invariance.

Once measurement invariance has been established, the facets of satisfaction can be meaningfully compared across channels. They may vary in two ways: performance and

importance. First, the facet means may differ across channels, indicating that customers differentially evaluate the *performance* of a certain feature across channels (e.g., because of damage during delivery, customers would perceive the quality of goods purchased online to be lower than those purchased off-line). Second, the facet weights regarding overall satisfaction may differ across channels, indicating that customers differentially evaluate the *importance* of a certain aspect across channels (e.g., customers would be less worried about financial security when shopping off-line compared to online). We do not put forward specific hypotheses related to the performance and importance of the satisfaction facets, but in our empirical analysis we examine channel differences in both performance and importance.

Empirical Study

Research Design and Procedures

Measures and preliminary qualitative research. We operationalized the 5Cs by drawing on a condensed pool of established items (e.g., Dabholkar, Thorpe, and Rentz 1996; Voss, Parasuraman, and Grewal 1998; Wolfinbarger and Gilly 2003). We believe this procedure was appropriate, as our goal was not to develop a substantially new scale for satisfaction but to select a preliminary set of potentially alignable items from existing measurement approaches. While we believe the selected items capture the generic shopping cycle steps, we additionally rely on qualitative research to adjust the items as necessary. This process ensured that each facet of satisfaction conveyed an identical meaning in both off-line and online settings.

In a first qualitative step, we conducted face-to-face interviews to solicit feedback from six off-line shoppers and six shoppers who also shopped online. These 12 respondents were a convenience sample consisting of acquaintances of the authors' colleagues. During the interviews, respondents first described a typical shopping experience (off-line or online) and how satisfied they were with it, and then indicated what aspects of the experience provided the main reasons for forming this judgment. This practice ensured that the consumers rather than the researchers conceptualized the distinct aspects of satisfaction with a shopping experience (Wolfinbarger and Gilly 2003).

Next, respondents were shown the preliminary set of items for our five satisfaction facets. Respondents were asked whether these aspects covered the main reasons to be (dis)satisfied with their experience and were asked to discuss the meaning of the items under study (including the specific meaning of each item and facet in the focal channel). The participants also indicated whether any important aspects of satisfaction were missing from our model. To structure the interviews and capture all relevant aspects of satisfaction with a shopping transaction, we relied on our shopping cycle concept. The exploratory interviews confirmed that we captured the scope of the construct well with the five facets of satisfaction covering in-store and out-of-store experiences.

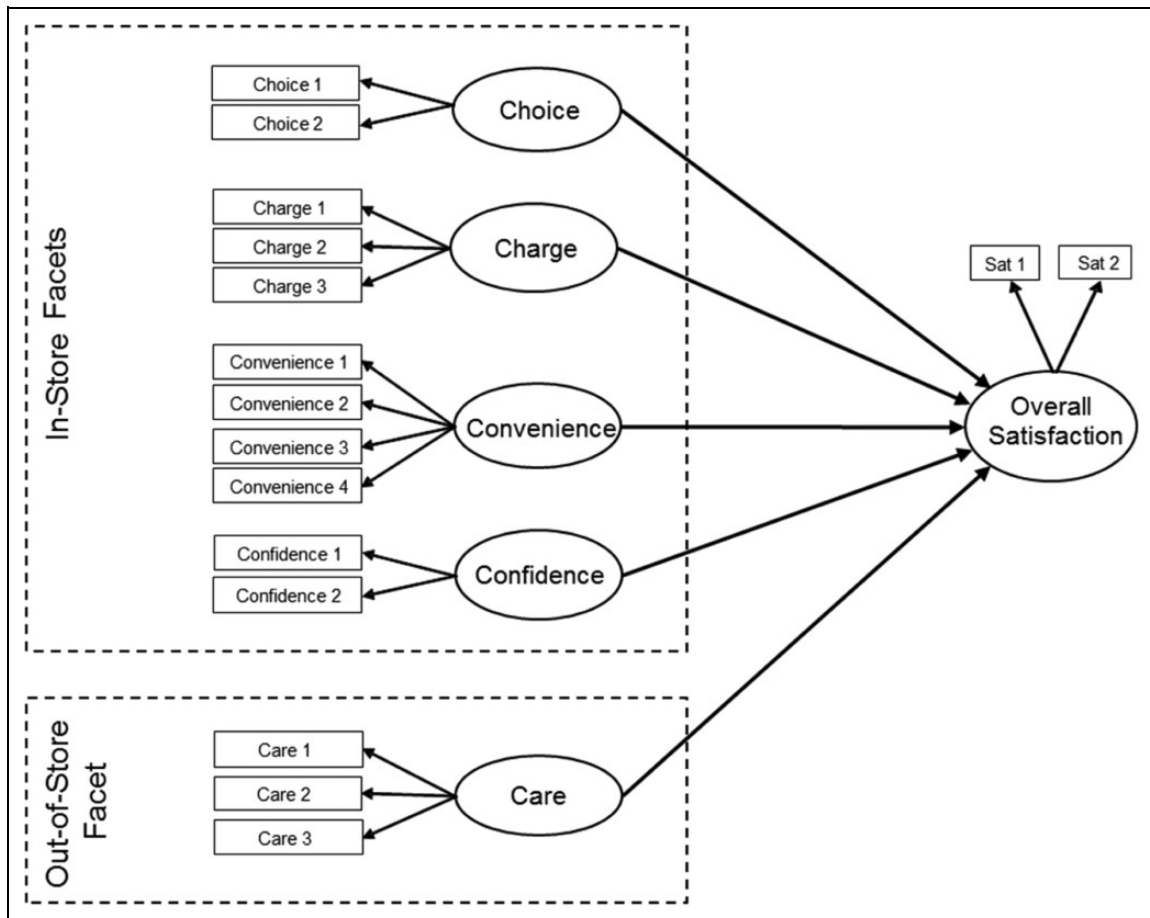


Figure 1. Alignable channel satisfaction model (5C model).

The second qualitative research step involved six marketing experts who are familiar with both off-line and online shopping, including three academic marketing researchers specializing in retail or satisfaction research, an applied market researcher with ample experience in satisfaction research, a consultant active in retailing, and a manager from the retail chain where we collected the quantitative data (Morse 1994). We first contacted the academic experts and then validated their input with the views of the more practice-oriented participants. The experts evaluated the extent to which the facets and items in our conceptual model were similar in meaning across off-line and online shopping experiences, whether specific items were irrelevant or redundant, and whether any key facets or items were missing.

To obtain the final scale, we complemented the preliminary item set by the results of our face-to-face interviews. Specifically, we added 2 items to the preliminary item set on the basis of the interview results (one for charge and one for care). Table 1 shows the operationalization of the satisfaction facets along the two categories of experiences during a shopping cycle. All facets and items transcend the retail context and provide a generalizable satisfaction model equally valid for the off-line and online channel.

To capture the items of the five satisfaction aspects, we used 5-point scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). We opted for performance-only measures of the satisfaction items, an operationalization that has proven superior to gap-based comparisons of separately collected expectations and performance perceptions of consumers (Cronin and Taylor 1992). Finally, for capturing overall satisfaction with the shopping experience in a channel, we used two reflective items measured on 5-point scales anchored by *very dissatisfied-very satisfied* and *very displeased-very pleased* (Szymanski and Henard 2001; Szymanski and Hise 2000).

Quantitative data collection and samples. The measurement items appeared in a survey of samples of off-line and online shoppers of a grocery retailer in a European country. All items were translated into the local language, back translated, and checked for functional and semantic equivalence. The retailer positions itself as a quality grocer with an extensive assortment of fresh vegetables, specialties, and wine and offers the same categories and brands in both off-line and online stores. The retailer charges similar prices across channels but charges an additional fee for home delivery for online shoppers. Our procedure has the advantage of using the same retailer for both samples, which reduces omitted influences and potential biases owing

Table 1. Measurement Items.

Facets	Items (Questionnaire Statements)	Sources
In-store facets		
Choice	“The number of offerings is sufficient” (Choice 1) “The variety of offerings is sufficient” (Choice 2)	Srinivasan, Anderson, and Ponnnavolu (2002); Westbrook (1981)
Charge	“Shopping here is affordable” (Charge 1) “There are interesting price discounts” (Charge 2) “The price level of the offerings is fair” (Charge 3)	Gensler, Verhoef, and Böhm (2012); Voss, Parasuraman, and Grewal (1998); qualitative interviews
Convenience	“It is fast to shop here” (Convenience 1) “It is easy to shop here” (Convenience 2) “I’m able to effortlessly find what I want” (Convenience 3) “The layout is practical with well-arranged categories” (Convenience 4)	Berry, Seiders, and Grewal (2002); Wolfenbarger and Gilly (2003)
Confidence	“The transactions are financially secure” (Confidence 1) “The method of payment is trustworthy” (Confidence 2)	Forsythe et al. (2006); Parasuraman, Zeithaml, and Berry (1985)
Out-of-store facet		
Care	“I know what I can expect from the products I buy here” (Care 1) “The quality of the products was as promised” (Care 2) “The products I buy here are completely OK and undamaged” (Care 3)	Dabholkar, Thorpe, and Rentz (1996); Srinivasan, Anderson, and Ponnnavolu (2002); qualitative interviews

to differences in products and services and enables us to focus on the effects of our five facets on overall satisfaction. Moreover, owing to the use of this procedure, no reasons exist to preclude measurement invariance a priori, such as different product selections or price levels (Shankar, Smith, and Rangaswamy 2003).

The grocery industry is an appropriate study context for three main reasons: (1) People can shop off-line without the need to use the online channel and vice versa, or they can combine both channels, (2) this industry has a strong and growing online presence, with online sales volume accounting for an ever-increasing share of overall sales (Bishop 2014), and (3) people can shop for the same products off-line and online.

We opted to survey separate samples of customers for each channel instead of one sample of customers evaluating both channels. Thus, the respondents in the off-line (online) sample were asked to assess only their off-line (online) experience. This approach has several key advantages. First, the use of two separate samples is a prerequisite for invariance testing, as otherwise the assumption of independent group means and covariance is violated and finding invariance (i.e., alignability) could be a methodological artifact (Cheung and Rensvold 2002; Steenkamp and Baumgartner 1998). Second, as the channels are evaluated by two separate samples, no method bias occurs that can spill over from evaluations of one channel to the other. Thus, the parameter estimates of the satisfaction model can be unambiguously interpreted as being related to one channel or the other (but not a mix of both). Third, respondent recruitment and data collection take place in a setting that optimally fits the channel of interest, which presumably increases response rates

since the data collection mode fits respondents’ preferred mode of interaction (Weigold, Weigold, and Russell 2013).

For the off-line sample, we used a standardized questionnaire to collect the data through personal interviews. Respondents were recruited at the exit of four supermarkets of the same chain on four different days of the week, including a Saturday. In considering the natural environment (i.e., store location), respondents were asked to focus on evaluating their off-line experiences rather than their possible online channel experiences (Dabholkar, Thorpe, and Rentz 1996). Of 900 shoppers approached by the interviewers, 441 provided complete and valid responses (response rate = 49%). On average, respondents were 39.4 years old and had completed 15.1 years of formal education, and 42.2% of the respondents were men. The interviewers showed the questions to respondents and read them aloud, after which they wrote down the answers indicated by respondents. Although this method results in slightly different data collection modes in the off-line and online settings, we wanted to minimize respondents’ burden. The subsequent analysis verified that no reason exists to suspect measurement bias as a result of this difference.

For the online sample, the data collection was through an online survey. Respondents were recruited with a personalized e-mail linked to the survey. We sent 913 e-mails to customers who had purchased in the online store in the previous two weeks. A total of 290 people clicked through to the questionnaire (response rate = 31.8%). Of these, 202 respondents filled out the questionnaire completely and correctly (net response rate = 22.1%, some respondents merely surfed through the questionnaire without responding to it). On average, these

respondents were 40.9 years old and had 14.8 years of formal education, and 35.5% of respondents were men.

Cross-mode comparability. The online sample did not differ significantly from the off-line sample in terms of age or educational level, $t(571) = -1.108, p = .268$; $t(639) = 1.082, p = .280$, although the proportion of female online shoppers was significantly higher, $\chi^2(1) = 23.69, p < .05$. This difference seems unlikely to bias our results. The close match between samples enabled us to control for observable individual differences and compare the satisfaction of populations that differed with regard to the channel they use to make purchases.

We made a special effort to ensure the comparability of the data collected off-line and online: The item wording, order, and response options were identical across modes. Moreover, the interviewers in the off-line mode showed the questionnaire to the respondents so they could see the five response options for each item and the related labels. We explicitly tested for cross-mode differences in response styles (Weijters, Schillewaert, and Geuens 2008). In particular, we selected a pair of reversed items, which were correlated at $-.68$: “I knew exactly what I would buy beforehand” and “I decided what to buy while I was shopping.” With these items, we could identify acquiescent respondents (Winkler, Kanouse, and Ware 1982). Respondents who agreed with both statements had responded inconsistently and acquiescently and thus were excluded from the analyses. We also tested whether the off-line and online samples had similar proportions of acquiescent responders and found that they did. In the off-line condition, 56 (11.3%) of the initial respondents exhibited acquiescence, compared to 25 (11%) in the online condition. The final samples (441 off-line and 202 online) do not include these acquiescent responders. A χ^2 test also showed that the proportion of acquiescent responders did not differ significantly between the two groups ($p > .05$).

Thus, the differences regarding importance and performance of facets that we observed between the two samples are unlikely to be due to the different modes of data collection.

Test procedure. We engaged in two major stages of testing. First, we tested for measurement invariance of the model linking the satisfaction facets to their respective items. Second, drawing on the measurement invariant model, we compared the means and weights of the satisfaction constructs (i.e., choice, charge, convenience, confidence, and care).

We simultaneously fit the model displayed in Figure 1 to the off-line and online groups and tested a sequence of nested models to assess the three levels of measurement invariance corresponding to our three hypotheses. Specifically, the less restrictive model served as a baseline for the evaluation of the more restrictive one (Deng et al. 2005). In the first model (Hypothesis 1), configural invariance is tested. That is, the factor structure illustrated in Figure 1 is constrained to be identical in both groups such that the same items load on the same facets, but the item loadings and intercepts are free to differ between groups. In the second model (Hypothesis 2), metric invariance

is tested. Thus, in addition to the factor structure, the item loadings are constrained to be equal across groups. In the third model (Hypothesis 3), scalar invariance is tested. In addition to factor structure and item loadings, the item intercepts are constrained to be equal across groups.

To test whether subsequent levels of measurement invariance hold, we evaluated the model fit indices and the change in fit indices between nested models when adding invariance restrictions (Little 1997; Steenkamp and Baumgartner 1998), with a focus on the comparative fit index (CFI), a consistent Akaike information criterion (CAIC), and the root mean square error of approximation (RMSEA). First, we rejected an invariance hypothesis if the invariance constraint led to a decrease in CFI larger than .01 (Cheung and Rensvold 2002). In addition, and in line with previous calls (Baumgartner and Steenkamp 2006; Steenkamp and Baumgartner 1998), we used the CAIC and RMSEA in evaluating model fit. Both fit indices trade off closeness of fit against model parsimony. A major advantage of the CAIC is that it aids in selecting an optimal model—the model with the lowest CAIC value (Williams and Holahan 1994). RMSEA is a fit index for which confidence intervals can be constructed, providing a better sense of how close two alternative models are in terms of fit. Typically, models with $RMSEA < .05$ are said to fit the data well (MacCallum, Browne, and Sugawara 1996).

Results

Testing Hypotheses on Measurement Invariance

We ran the measurement invariance analyses in Mplus 7.11 using the maximum likelihood estimator. Table 2 shows the fit indices for the measurement invariance tests. As is apparent, all models show acceptable fit, with $CFI > .95$ and $RMSEA < .05$. Thus, the factor structure illustrated in Figure 1 was supported in both groups (i.e., the same items load on the same facets in the off-line group and the online group), providing evidence of configural invariance in support of Hypothesis 1. Next, comparison of the model with configural invariance and the model with metric invariance showed support for metric invariance (Hypothesis 2), provided by the small change in the CFI (not exceeding .01), the overlapping RMSEA confidence intervals, and the lower CAIC value when adding metric invariance restrictions to the model. Similarly, support for scalar invariance (Hypothesis 3) was provided by the small change in CFI and the overlapping RMSEA confidence intervals when the scalar invariance restrictions were added to the model, and also because the CAIC reaches its minimum for the scalar invariance model. To sum up, full measurement invariance is accepted.

Table 3 shows the item loadings and composite reliabilities. In the final model, all composite reliabilities exceed .70, in support of convergent validity. We checked for discriminant validity of the satisfaction facets using Fornell and Larcker's (1981) test, which revealed that each construct's average variance extracted (AVE) is greater than its squared correlation with any

Table 2. Model Fit Indices for Measurement Invariance Tests.

Models	χ^2	df	CFI	CAIC	RMSEA	RMSEA 90% CI	
						Lower	Upper
H1: configural invariance	277.7	178	.979	1,092.6	.042	.032	.051
H2: metric invariance	286.1	188	.979	1,036.4	.040	.031	.049
H3: scalar invariance	329.1	198	.972	1,014.6	.045	.037	.054

Note. χ^2 = chi square; df = degrees of freedom; CFI = comparative fit index; CAIC = consistent Akaike information criterion; RMSEA = root mean square error of approximation; CI = confidence interval.

Table 3. Item Loadings and Composite Reliabilities of Satisfaction Facets.

Facets	Item Labels	Content	Standardized Loadings			Composite Reliabilities		
			Average	Off-Line	Online	Average	Off-Line	Online
Choice	Choice 1	Number of offerings	.84	.83	.85	.84	.82	.86
	Choice 2	Variety of offerings	.86	.84	.88			
Charge	Charge 1	Affordability	.77	.71	.83	.77	.74	.81
	Charge 2	Price discounts	.60	.61	.59			
	Charge 3	Price fairness	.82	.77	.86			
Convenience	Convenience 1	Shopping time	.67	.65	.68	.80	.77	.82
	Convenience 2	Ease of use	.75	.75	.75			
	Convenience 3	Efficiency	.72	.68	.76			
	Convenience 4	Layout	.69	.62	.75			
Confidence	Confidence 1	Security	.90	.89	.91	.94	.94	.93
	Confidence 2	Privacy	.98	.99	.96			
Care	Care1	Expectation	.77	.76	.77	.79	.77	.80
	Care2	Quality	.74	.74	.74			
	Care3	Delivery	.72	.67	.76			
Overall satisfaction	Sat 1	Very (dis)satisfied	.89	.87	.92	.85	.83	.87
	Sat 2	Very (dis)pleased	.83	.82	.84			

other construct in the model. In our data, the squared correlations between constructs range from .06 to .32 (mean squared correlation = .18). Moreover, AVE ranges from .50 to .88. In sum, discriminant validity of the satisfaction facets is convincingly demonstrated. The R^2 of overall satisfaction averages 62% ($R^2 = 58\%$ in the off-line group and 65% in the online group), which indicates that the facets in the model capture a significant amount of the variance in the overall satisfaction (Szymanski and Henard 2001; Szymanski and Hise 2000).

Comparing Means and Weights of the Satisfaction Facets

As the results showed that the measurement model is sound, we compared the performance and importance of the satisfaction facets in the off-line and online samples. The means indicate the level of performance of each facet expressed on a scale from 1 (*low*) to 5 (*high*), with 3 as the neutral point (we fixed 1 item intercept per facet to 0 to scale the facet means). The standardized regression weights indicate the importance of each facet to overall satisfaction, controlling for the other facets, and we expect the weights to range from close to 0, indicating *low importance*, to close to 1, indicating *maximal*

importance. Figure 2 displays the channel-specific weights. Table 4 displays the relevant estimates of means and weights as well as a significance test for the between-channel difference in the estimates. The difference between the means for the off-line and online channels indicates which aspects of satisfaction are rated higher or lower (*performance* differences). The difference between the weights for the off-line and online channel indicates which facets are more important in explaining overall satisfaction (*importance* differences).

As Table 4 shows, some similarities, but also several notable differences, exist between the off-line and the online channels. Choice, while moderately important in both channels, clearly exhibits a lower performance rating in the online channel. Charge is of no importance to online shoppers but is fairly important to off-line shoppers. Although both groups evaluate the performance level of charge as being moderate, with one exception this facet scores lowest in terms of performance compared to all other facets. Convenience is among the most important satisfaction facets for both formats and is evaluated highly in both channels. Confidence is rated high in both channels but is not important to off-line customers, whereas it is of some importance to online customers. Finally, care is very important in both channels and is positively evaluated in both channels.

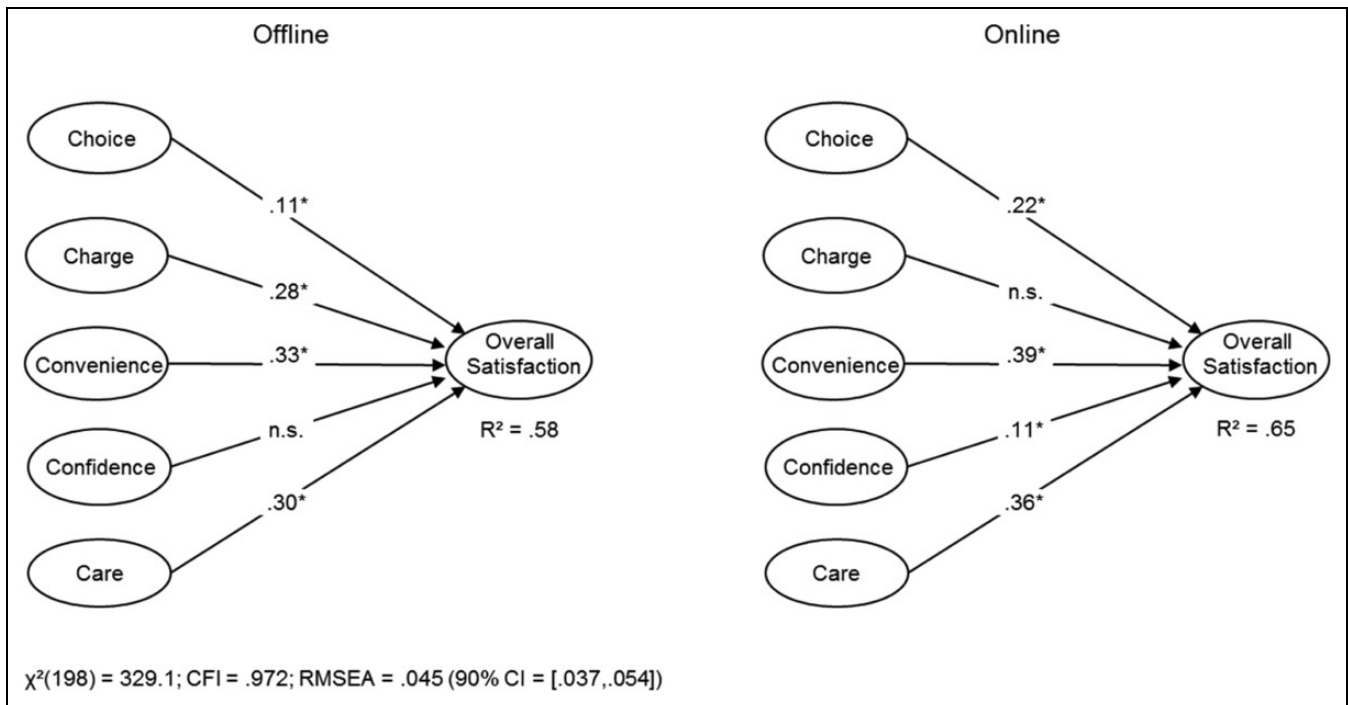


Figure 2. Alignable channel satisfaction model (5C model) with channel-specific weights.
 Notes. * = $p < .05$ (one-sided); n.s. = non-significant.

Table 4. Means and Weights of Satisfaction Facets.

		Off-Line		Online		Off-Line-Online	
		Est.	SE	Est.	SE	Difference	SE
Means	Choice	4.44	.03*	3.16	.07*	1.28	.08*
	Charge	3.54	.04*	3.48	.05*	0.06	.06
	Convenience	4.08	.04*	3.65	.06*	0.43	.06*
	Confidence	4.66	.03*	4.37	.05*	0.28	.05*
	Care	4.35	.03*	3.96	.05*	0.40	.06*
Weights	Choice	0.11	.06*	0.22	.08*	-0.09	.09
	Charge	0.28	.05*	-0.06	.07	0.28	.09*
	Convenience	0.33	.06*	0.39	.08*	-0.09	.12
	Confidence	-0.05	.05	0.11	.06*	-0.17	.09*
	Care	0.30	.07*	0.36	.07*	-0.10	.12
R ²		.58		.65			

Notes. For means, the midpoint 3 is the test value. Est. = estimate; SE = standard error. * $p < .05$ (one-sided).

Discussion

Summary

The alignable channel satisfaction model developed and validated in this study contributes to a better understanding of how customers evaluate shopping channels in settings where the Internet store typically is an online version of the brick-and-mortar store (Van Bruggen et al. 2010). Although validated in the retail context, our model is readily applicable to the large range of service providers that use their own direct channels as parallel routes to the market. In such interchangeable channel

systems, customers can obtain similar offerings in each channel. According to recent studies, operating such parallel routes is inevitable for most providers of “retailable” services like banking, insurance, car rentals, or travel services (Ackermann and von Wangenheim 2014).

Our research responds to calls for the introduction of a channel satisfaction model that fits these new market realities and relies on channel attributes that are most relevant for customers’ judgments of the shopping experience in such settings (Van Birgelen, de Jong, and de Ruyter 2006). Here, for each stage of the shopping cycle any channel is available and a customer has to choose the most appropriate channel for each stage. This task can result in the use of either the online or the off-line channel for an entire shopping transaction or in mixing both channels across the stages of a transaction. In any case, such channel settings inherently involve a cognitively effortful comparison frame (Jindal et al. 2007). Such a frame emphasizes channel attributes that have “mirror” attributes in the counterpart channel, resulting in a high salience of these features for channel evaluation (Rayport and Sviokla 1995).

Drawing on the shopping cycle concept (Shankar et al. 2011), we propose five facets that are alignable—that is, equivalent and consistent in meaning across channels and thus representing the most salient criteria for channel evaluations: choice, charge, convenience, confidence, and care. These alignable facets collectively reflect customers’ holistic evaluation of a sales channel and enable a sound assessment of and comparison between customers’ off-line and online channel satisfaction. These findings have important implications for theory and practice.

Implications for Multichannel Research

This study makes three important contributions to prior literature. First, and in line with structural alignment theory (Zhang and Markman 1998), we conjecture that generic attributes that are shared across different channels represent the most relevant aspects of customers' channel satisfaction. Our results empirically support this notion, as our alignable channel satisfaction model explains a high share of the variance in customers' overall satisfaction with the off-line as well as the online channel. More specifically, the average R^2 of our model was 62% across channels, with an R^2 of 58% in the off-line channel and an R^2 of 65% in the online channel. This share is on par with the explanatory power regarding customer satisfaction reported in the off-line context (Dabholkar, Thorpe, and Rentz 1996) and in online settings (Parasuraman, Zeithaml, and Malhotra 2005; Wolfinger and Gilly 2003), and it is considerably higher than the explained variance yielded by other models (Evanschitzky et al. 2004; Szymanski and Hise 2000; Westbrook 1981). Hence, our alignable satisfaction facets represent the major sources for reliably predicting overall customer satisfaction. Most importantly, our model is able to capture off-line and online satisfaction simultaneously, whereas the benchmark models are channel specific and hence not applicable across channels. In other words, our alignable satisfaction model accounts for generic shopping attributes that customers seem to use across channels when forming satisfaction judgments. Such a channel-spanning approach sustainably extends present knowledge of multichannel satisfaction, which has traditionally focused on separately assessing off-line or online satisfaction (e.g., Collier and Bienstock 2006; Evanschitzky et al. 2004; Fassnacht and Koese 2006; Westbrook 1981). However, as indicated by the high R^2 values of our alignable model, considering channel-specific or unique attributes might represent only the secondary step in a hierarchical satisfaction formation process (Chernev 2006; Johnson 1988).

Second, the empirical results presented in this study help to improve the understanding of the reasons for customers' channel preferences and use (e.g., Verhoef, Neslin, and Vroomen 2007). More precisely, despite equivalence in the facets' conceptual meanings across channels, evaluations (as reflected in the mean differences) as well as importance (as reflected in differences in weight of each facet for overall satisfaction) can vary (see Table 4). For instance, convenience refers to consumers' perceptions of the time and effort they invest in shopping, irrespective of the channel. Nevertheless, the achievement of convenience may differ across formats.

For example, a major reason for channel use in terms of Internet search \rightarrow store purchase has been explained by the fact that consumers simply find the Internet less attractive for purchase (Gensler, Verhoef, and Böhm 2012; Verhoef, Neslin, and Vroomen 2007). Our results shed further light on this issue, as low attractiveness might lie in significant performance differences regarding aspects of satisfaction, such as convenience and care (see Table 4). For both aspects, the off-line channel seems to be superior to the Internet channel, given the

significant differences in the respective mean evaluations ($M_{\text{Convenience off-line}} = 4.08$, $M_{\text{Convenience online}} = 3.65$; $M_{\text{Care off-line}} = 4.35$, and $M_{\text{Care online}} = 3.96$). However, without comparability of satisfaction facets, researchers cannot discern whether observed differences in satisfaction truly reflect a disruption between channels or are simply artifacts due to unequal measurement. Confusion about the true nature of cross-channel satisfaction discrepancies can lead to erroneous conclusions and implications. With this study, we provide a unified instrument that allows unbiased cross-channel comparisons of customer satisfaction.

Third, we contribute to the further development of invariance testing procedures within multichannel research by applying multigroup nested model analysis to our off-line and online channel samples. We suggest that testing configural, metric, and scalar invariance is necessary not only for analyzing groups of consumers divided with respect to culture or brand use but also for analyzing groups that differ in terms of channel use.

Implications for Multichannel Providers

While providing a superior customer experience has become the primary goal of almost all firms, our study highlights the challenges associated with delivering excellent offerings in multiple channels. Broadly speaking, our results suggest that the success of multichannel management depends on managers' ability to comprehensively understand and in turn properly compare customers' evaluations of channels. Providers must also allocate resources to the right channel elements (Rigby 2011). Findings from our study can help chief channel officers or multichannel program managers—executives responsible for designing the multiple channels and increasingly prevalent in firms—to tackle these challenges.

First, managers should use our scale to regularly monitor the performance of off-line and online formats with respect to the fundamental aspects of a shopping transaction. Armed with an instrument that contains alignable measures, managers can meaningfully compare satisfaction in their off-line and online channels, allowing channels to be used as benchmarks for each other.

Second, comparing levels of satisfaction between channels reveals how to allocate marketing resources *across* channels. Our findings show that for four factors of satisfaction (choice, convenience, confidence, and care), the mean values are significantly lower online, implying a high unexploited satisfaction potential (see Table 4). Large cross-channel discrepancies in satisfaction may erode overall evaluations of the channel system, probably undermining profitability (Rangaswamy and Van Bruggen 2005). In accordance with the proportionate allocation rule, a channel's share of investment should approximate its share of unexploited satisfaction potential (Lilien, Kotler, and Moorthy 1995). Therefore, when profitability is the goal, managers should invest greater marketing effort in the online channel to balance the satisfaction levels of both

channels and promote a superior omnichannel experience. As the most striking cross-channel disruptions emerge with regard to choice, multichannel providers should concentrate on improving customer perceptions of the Internet offering first, for example, by displaying products in 3-D animations or presenting service benefits through interactive videos instead of static website lists. The second highest discrepancy relates to convenience. To enhance this facet, providers could offer dynamic cascading menus with multiple layers of information or mouse-over menus to improve the “ease-of-use” component of convenience and present avatar-guided walk-through tours based on a customer’s tracked purchase history to improve “efficiency.”

Third, our study suggests that as long as significant disruptions across channels exist, providers should at least predict the ability of the superior channel to attract customers that are migrating from the inferior channel (the so-called conquest power of the superior channel). This prediction requires assessing satisfaction with the two channels in an equal manner. The greater the customer’s satisfaction with a specific channel relative to satisfaction with the counterpart, the greater the channel’s power to compensate for low satisfaction in the counterpart channel (Gensler, Dekimpe, and Skiera 2007). Off-line satisfaction with most facets is higher (see Table 4), suggesting that a significant portion of “floating” online customers can be caught by the off-line channel and hence retained within the firm’s own multichannel system. Otherwise, customers might be lost, because they would have no incentive to migrate to a firm’s other channel format and might instead use the same format (online channel) offered by a competitor (Ackermann and von Wangenheim 2014).

Finally, after cross-channel allocation decisions have been made, managers should fine-tune budget allocation to marketing instruments *within* each channel by comparing the relative importance of satisfaction facets in a particular channel. For example, the importance of charge is low online, whereas the importance of confidence is higher (see Table 4). Consequently, more resources should be invested in ensuring that customers’ personal details and transaction history will be secure in the virtual channel rather than focusing on online price promotions. As a prominent example, the travel agency TUI Travel has recently experienced a steady growth in sales, partly because TUI has increasingly offered price packages in its brick-and-mortar branches while removing web discounts (Hayhurst 2013). Interestingly, discounts were not a prevalent driver to book online, as online customers seemed to emphasize security and other web features that enable a smooth user experience, which the company therefore upgraded.

Limitations and Implications for Further Research

Some limitations of the current study suggest interesting opportunities for future research. First, while our results support the high relevance of alignable facets, in some settings channel-unique (i.e., nonalignable) features might play a more important role in channel evaluation, particularly when providers

unbundle channel offerings so that for each step of the shopping process a specialized channel is available (Sa Vinhas and Anderson 2005). Unique features are also relevant if highly sophisticated expert shoppers are the target group, as is typically the case for niche players (Nam, Jing, and Lee 2012).

Second, as our study was restricted to grocery retailing, investigating how our findings generalize to other industries would be interesting (Evanschitzky et al. 2004; Szymanski and Hise 2000). Cross-validating the measurement model in sectors other than retailing might shed light on the robustness of the model across domains. However, given our focus on alignable facets, we believe that our channel satisfaction model is likely to transcend the retail context. In obtaining alignable items, we took special care to use generalizable terminology and hence to use items with a high level of abstraction. Thus, our items are equivalent in meaning and hence easily applicable across many other service contexts. Nevertheless, we acknowledge that our choice of industry may have affected the final scale and particularly the care items, which relate to providers that deliver physical products. For pure-service providers (e.g., banking or financial service providers), the care items would need modification. For example, the item “The quality of the products was as promised” could be replaced by the corresponding item “Service performance was as promised” (Fassnacht and Koese 2006).

A further limitation was our focus on two channels owned by the same firm. However, channel journeys across several firms are growing more common (Tax, McCutcheon, and Wilkinson 2013). Therefore, interesting insights could result from investigating the satisfaction scale’s applicability to multi-firm service delivery networks responsible for providing connected service components.

Finally, the test of our satisfaction model used two single-channel groups of shoppers. For simplicity, we tested the model in a grocery setting, where shoppers typically do not engage in extensive information search prior to their shopping trip. This setting leads to well-delineated groups of shoppers (i.e., off-line vs. online). An interesting goal for future research would be to test invariance with a set of consumers that simultaneously use both channels by accomplishing one step of the transaction process online and the other step off-line. The most common mixed-channel situation would be one in which shoppers evaluate offerings and prices online before shopping in an off-line store (Verhoef, Neslin, and Vroomen 2007).

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