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Antecedents and Consequences of Customer Satisfaction:

Do They Differ Across Online and Offline Purchases?

Abstract

Retailers seek to utilize both online and offline purchase channels strategically to satisfy customers and thrive in the marketplace. Unfortunately, current multichannel research is deficient in answering what drives customers' satisfaction, and consequently their loyalty, differently when customers purchase online versus at a physical store. This gap in knowledge can be a significant concern for retailers due to the negative impact of having dissatisfied customers on their bottom lines. Using a version of the American Customer Satisfaction Index (ACSI) model, we demonstrate several important purchase-channel differences in the antecedents of customer satisfaction and its subsequent effect on customer loyalty. Specifically, we show that when retail customers buy electronic goods online they view purchase value as a significant attribute in rating satisfaction, and are more satisfaction-sensitive when making repurchase decisions than when they purchase offline. On the other hand, the overall quality of the purchase experience and customer expectations are stronger drivers of customer satisfaction in the offline purchases. We provide evidence that these differences between the channels generally persist across customer demographics (gender, age, and education) and broader product categories, and we also discuss the specific contexts where they do not. Our work offers actionable guidance to retailers seeking to enhance customer satisfaction and loyalty across both the online and offline channels.

Keywords: Customer Satisfaction; Loyalty; Online vs. Offline Purchase; Retailing; Multigroup Comparisons

Introduction

The retail industry today is a highly competitive business with a large economic footprint. With over 15 million people employed, retail sales in the U.S alone reached a whopping \$5.7 trillion in 2017, making retail one of the largest industries in the world.¹ Retailers strive to differentiate themselves from the competition by offering customers a positively differentiated shopping experience that will bring them back for more (cf. Hult et al. 2017; Katsikeas et al. 2016). Indeed, customer satisfaction and loyalty are the “holy grail” of modern retail (Coyles and Gokey 2005; Fornell 2007). A satisfied customer is not only a high return-low risk economic asset (Fornell, Mithas, Morgeson, and Krishnan 2006; Fornell, Morgeson and Hult 2016), but the de facto brand ambassador of a retail company (Wangenheim and Bayón 2007).

However, customers today are perceptive and demanding, in no small measure due to the affordances offered by advances in technology (Bell and Patterson 2011). As the recent bankruptcies of RadioShack and Toys “R” Us aptly demonstrate, old assumptions about customer satisfaction and loyalty are no longer valid as competitors shift strategies using newer technologies, causing big shifts in consumer buying behavior (Hartung 2017). The rise of electronic commerce means that contemporary consumers can choose to purchase the same product either online or at a physical store. What drives their satisfaction, and ultimately their loyalty, when they do so? Is it the same assortment of values in the online and offline environment? Surprisingly, the current retail literature does not offer a clear answer to these very pertinent questions.

Retailers acknowledge the relative merits of both online (e.g. convenience) and physical stores (e.g. sensory experience), and the importance of omnichannel strategies (Bell, Gallino, and

¹ <https://www.plunkettresearch.com/statistics/Industry-Statistics-US-Retail-Industry-Statistics-and-Market-Size-Overview/>

Moreno 2014). While traditional retailers with heavy equity in physical stores (e.g. Walmart, Macy's) have had to adapt to the online preferences of customers, many online retailers (e.g. Amazon, Bonobos) are conversely experimenting to enhance their offline presence by opening physical stores. In light of these heavy investments in building cross-channel capabilities by retailers at both ends, there is an exciting, yet untapped, opportunity to understand better how customers' purchasing experiences across channels influence their satisfaction and loyalty. Due to the inherent differences in the online and offline channels, customer perceptions and behaviors are likely to be very different when they purchase online versus offline, resulting in varied implications for the retail firms (Rajamma, Paswan, and Ganesh 2007). A deeper knowledge of how the antecedents and consequences of customer satisfaction differ in online versus offline purchase contexts can be crucial for retailers in designing effective strategies for operating across both channels, such as different pricing and marketing strategies tailored to the context.

Given its high relevance, the research comparing online and offline purchasing has enjoyed a prominent role in the retail literature. Early studies by Degeratu, Rangaswamy, and Wu (2000) and Danaher, Wilson, and Davis (2003) (which was recently replicated by Saini and Lynch (2016)), showed that brand loyalty differs in online and offline purchasing contexts. Shankar, Smith, and Rangaswamy (2003) showed that the relationship between customer satisfaction and loyalty is stronger in the online than offline context due to the "cognitive lock-in" effect. Other studies have also utilized the online versus offline distinction to examine customers' behavioral intentions (Van Birgelen, Jong, and De Ruyter 2006), choice (Campo and Breugelmans 2015; Degeratu, Rangaswamy, and Wu 2000), transaction costs (Chintagunta, Chu, and Cebollada, 2012), price sensitivity (Chu, Chintagunta, and Cebollada 2008), response to promotions (Zhang and Wedel 2009), perceptions of retailer deception (Riquelme, Roman, and

Iacobucci 2016), dimensions of intangibility and their consequences (Laroche, Yang, McDougall, and Bergeron 2005), and price dispersion (Zhuang, Leszczyc, and Lin 2018).

Despite this rich foundation, we still do not fully understand the differences in how customer satisfaction is fostered in the first place, and in turn how it influences customer loyalty, across the online and offline purchases. This gap was recently highlighted by the *Journal of Retailing's* special issue on multichannel retailing, which reinforced the need to understand customers' shopping behavior across the two contexts (Verhoef, Kannan, and Inman 2015). The central question in this study is how do customers' perceptions regarding the quality and value of the purchase experience and their pre-purchase expectations influence their satisfaction, and ultimately their loyalty, differently when they purchase online versus offline? The answer to this question can be of significant interest to both scholars and practitioners of multichannel retail.

We explore this issue by relying on customer data collected for the American Customer Satisfaction Index (ACSI) model,² which is the most comprehensive, theoretically well-established, and widely used customer satisfaction index in the U.S (Fornell et al. 1996; Fornell, Morgeson and Hult 2016). The ACSI is the only existing measure that offers in-depth customer experience benchmarks across ten sectors and more than forty industries, including measurement of more than 350 companies.³ Many, if not all, large retail companies (including Amazon, eBay, Target, and Walmart) utilize ACSI's benchmarks to gauge customer perceptions to design policies and strategies that shape customers' behaviors, resulting in a concrete impact on their stock value, and ultimately, the U.S retail economy (Anderson, Fornell, and Mazvancheryl 2004; Fornell, Morgeson and Hult 2016). A major strength of our unique dataset is that it allows us to

² The ACSI model is a cause-and-effect model with antecedents of customer satisfaction (customer expectations, perceived quality, and perceived value), and outcomes of satisfaction (e.g. customer loyalty). <http://www.theacsi.org/about-acsi/the-science-of-customer-satisfaction>

³ <http://www.theacsi.org/about-acsi/unique-customer-satisfaction-benchmarking-capability>

generalize our findings across customer segments and broader product categories at once, leading to a comprehensive understanding of how the antecedents and consequences of customer satisfaction differ across the online and offline purchase platforms.

The paper is organized as follows: we first briefly describe the conceptual framework behind the ACSI model used in this study. By drawing on the multichannel retail literature, we suggest how the primary relationships in the model that directly relate to customer satisfaction and loyalty are expected to differ across the online and offline purchases. We analyze these differences using a random sample of 913 customers who made online or offline retail purchases at dedicated electronic goods stores to obviate any product category effects. Our results suggest that when retail customers buy online, they view value as a significant attribute in driving their satisfaction and are more satisfaction-sensitive when making repurchase decisions about suppliers. However, the overall quality of the purchase experience and customers' expectations are stronger drivers of customer satisfaction in offline purchases. Additional robustness checks demonstrate that these differences between online and offline contexts generally persist across customer demographics (gender, age, and education) and broader product categories. We also note the specific contexts where our results do not generalize. Finally, we discuss the implications of our work for research and the retail industry.

The ACSI Model in the Context of Online and Offline Retail Purchases

Our research is based on the theoretical framework provided by the ACSI model, which was first theoretically described more than 20 years ago (e.g., Fornell et al. 1996), and has been adopted by numerous academic research studies since that time (e.g., Morgeson, Sharma, and Hult 2015). As such, the constructs and the links in the ACSI model are based on a rich theoretical foundation and voluminous subsequent empirical validation, and the sum total of

these efforts will not be re-examined here. Briefly, the model suggests that the perceived overall quality and value of the purchase experience, and customer expectations are the three direct antecedents of customer satisfaction, with customer loyalty (i.e. repurchase intention) as its immediate consequence (Fornell et al. 1996).

Despite the vast literature support and the maturation of the ACSI model over the years, there is a lack of a cohesive theoretical foundation in the literature to suggest conclusively which of the theorized paths in the model may differ when customers buy online versus at a physical store. Therefore, we empirically investigate how the purchase context alters the theorized links in the ACSI model by drawing on the fundamental differences between the online and offline environments discussed in the multichannel literature. Because the ACSI model regards customer satisfaction and loyalty as the main constructs of interest (Fornell et al. 1996), we focus selectively on the primary relationships in the model constituting the direct effects of the three antecedents of customer satisfaction (overall quality, perceived value, and customer expectations) and the effect of satisfaction on customer loyalty. Figure 1 presents the ACSI model in which the relationships of empirical interest in this study have been highlighted by solid lines. While the model fully incorporates nine theoretical relationships, focusing on how the four aforementioned principal relationships differ across the purchase contexts can help retailers fine-tune the specific drivers of customer satisfaction and loyalty depending on the channel. Furthermore, it allows us to contribute to customer satisfaction theory by incorporating a key moderating variable and lay the foundation for further theoretical development. We next discuss how the above-mentioned relationships may be expected to differ across the contexts.

--Insert Figure 1 about here--

Overall Quality → Customer Satisfaction

Overall quality is a measure of customers' overall assessments of the recent consumption experience, how well their personal requirements were met (customization), and the reliability of the product (and service), and is expected to positively influence customer satisfaction (Fornell et al. 1996). We expect customers' overall quality perceptions to play a stronger role in the offline purchases than online due to two reasons: (1) the possibility to interact with a human agent and a positive store environment, and (2) perceived reduction in shopping risk. The possibility of having a face-to-face interaction with sales or customer service representatives is a key ingredient in the offline context that allows customers to access personalized, trustworthy information and help in customizing the products (or services) on site (Laroche et al. 2005). Shopping at a physical store provides customers with an immediate "sensory or tactile experience" of the actual product they are considering, allowing them more certainty in judging the quality and reliability of its different aspects (Degeratu, Rangaswamy, and Wu 2000). The physical interaction with the product can enhance the salience of quality that customers attach to the purchase and thus allow retailers more leverage over customers' overall quality perceptions in the offline channel. Moreover, the emerging "retail therapy" literature highlights the role of shopping as a cathartic activity for many, and suggests that people often go to physical stores to enjoy, relax, and socialize (Rick, Pereira and Burson 2014). Thus, a positive store ambience can add to the perception of the overall quality of the purchase experience.

In contrast, customers perceive online purchases to be convenient and efficient but riskier than buying offline due to the uncertainty in the reliability of the product and service (Dai, Forsythe, and Kwon 2014). Online customers often worry about the quality and performance, and whether the product received will match the description or be in good condition. The spatial and temporal separation between the customer and the retailer means that customers have to

accept the possibility of loss due to late or failed delivery (Chiu et al. 2014). Many customers report transaction security and privacy-related concerns when shopping online (Nepomuceno, Laroche, and Richard 2014). These factors partly explain the phenomenon of “webrooming,” where customers seeking reliability search for prices online but purchase at a physical store where the perceived shopping risk is lower (Zhuang, Leszczyc, and Lin 2018).

Nevertheless, the decision to purchase at a store means that customers have to drive, park, walk and search to feel the products, push their carts around, spend time talking to the sales representatives about potential options, and stand in queues at the checkout, thereby incurring several types of transaction costs (Chintagunta et al. 2012). There is strong evidence that customers deem convenience to be a significant factor in making purchase decisions, and prefer goods or services that can help them reduce convenience costs (Anderson and Shugan 1991; Berry, Seiders, and Grewal 2002). In this vein, a recent report notes that the ability to purchase 24x7 in the comfort of their home is the main convenience-related reason why customers chose to purchase online.⁴ Thus, for the customers to purchase offline, their willingness to bear the convenience costs needs to be offset by the benefits offered by the overall quality of the purchase experience (Berry, Seiders, and Grewal 2002; Hult et al. 2018), which can further heighten the importance they attach to the perception of overall quality when shopping offline. The possibility of receiving custom products (or services) for their specific needs, reliability and reduced perception of shopping risk, a positive store environment, and the quality of service offered by the employees in satisfying customer concerns are all components of the overall quality of the offline purchase experience that are not easily replicable in the online context.

⁴ <https://www.pwc.com/sg/en/publications/assets/total-retail-2015.pdf>

Proposition 1: *The effect of overall quality on customer satisfaction is stronger (i.e., more positive) in the offline than online purchases.*

Perceived Value → Customer Satisfaction

Perceived value represents customers' assessments of the quality of the product (and service) being sought relative to its price, and is expected to positively influence their satisfaction levels (Fornell et al. 1996). More importantly, it taps into how customers utilize the online and offline channels to achieve the best balance between quality and price. A recent survey found that 91% American retail customers believe that products sold online have lower prices (Statista 2017), despite research that suggests that “within-retailer” prices for most consumer products (69% in the U.S) are generally similar across the online and offline channels (Cavallo 2017). However, when the prices do differ, the online channel typically offers cheaper prices.⁵ More importantly, the online channel enhances the reach of customers who can compare prices for the same product across multiple retailers to find better deals due to higher price dispersion online (Zhuang, Leszczyc, and Lin 2018). Access to broader offerings with different price points online allows them to find an offering that fits their budget more easily than at a physical store. Not surprisingly, customers commonly perceive purchase value as more important when purchasing online (Chiu et al. 2014). This partly explains the popularity of “showrooming” (Heitz-Spahn 2013), where customers find the product that meets their needs at a physical store and then go online to purchase it at a better price.

Customers can extract other benefits from purchasing online, such as lower search costs (Shankar, Smith, and Rangaswamy 2003), and the choice and efficiency in buying in the comfort of their home or office at any time of the day. They can easily save and retrieve their search and

⁵ http://www.anthemedge.com/sites/default/files/20150120_Online_v_Instore_Final.pdf

shopping histories for the next purchase (Degeratu, Rangaswamy, and Wu 2000). The online channel also allows customers to access detailed product information, reviews, tutorials, and the ability to customize their search process according to their preferences (Laroche et al. 2005). In addition, fast and uneventful home delivery adds to the sense of value of the online purchase (Campo and Breugelmans 2015).

The multichannel literature suggests that customers take into consideration a utility function that accounts for both the acquisition utility (i.e., product quality, promotions, and the costs associated with the purchase), and the transaction utility (i.e., benefits such as low search cost, shopping convenience, and fast home delivery) when making purchase decisions (Chintagunta, Chu, and Cebollada 2012). Online purchase allows customers to maximize the perceived value of the purchase experience by extracting both acquisition and transaction utilities relative to the price they pay for the product or service (c.f. Campo and Breugelmans 2015). These unique value offerings, especially those related to transaction utility in the online purchase context eventually set it apart from the offline context in terms of value extraction. This suggests that customers may allocate more weight to perceived value judgements when considering their overall satisfaction in the online purchase context than offline.

Proposition 2: *The effect of perceived value on customer satisfaction is stronger (i.e., more positive) in the online than the offline purchases.*

Customer Expectations → Customer Satisfaction

The expectations construct captures a customer's pre-purchase "experience with the firm's offering—including non-experiential information available through sources such as advertising and word-of-mouth—and a forecast of the supplier's ability to deliver quality in the future" (Fornell et al. 1996, p.9). Specifically, customers' expectations stem from three aspects:

their experience with the retailer, the retailer's reputation, and their belief in the retailer's future offerings. Thus, expectations are both backward and forward-looking, and reflect the anticipated quality and reliability of the offering (Anderson, Fornell, and Lehmann 1994). Ultimately, expectations serve as cognitive guides for customers to reduce uncertainty in purchasing.

As discussed above, because shopping risk is generally perceived to be higher online, we expect customers who are driven by stronger expectations of reliability and quality to prefer the relative certainty of offline purchasing and reduce the possibility of negative disconfirmation. Such customers may be more willing to bear the associated convenience costs (i.e. visit to the store) to pursue a reliable and risk-free experience. In contrast, customers who are more accepting of the shopping risks may be tempered in their expectations, and willing to try online purchase to gain other benefits such as value and convenience (Chiu et al. 2014; Zhuang, Leszczyc, and Lin 2018). Furthermore, customers often accept the uncertainty of online purchasing for potentially untried products that may not be available in physical stores within a driving distance (Donthu and Garcia 1999), which can further decrease the importance of customer expectations when rating satisfaction. These factors partially explain the higher return rates in the online retail compared to the offline retail (Saleh 2016).

Proposition 3: *The effect of customer expectations on satisfaction is stronger (i.e., more positive) in the offline than the online purchases.*

Customer Satisfaction → Customer Loyalty

The ACSI model posits customer loyalty (i.e., intention to repurchase from the retailer) as the direct consequence of customer satisfaction. In accordance with Shankar, Smith, and Rangaswamy (2003), we expect customer satisfaction to play a stronger role in determining customer loyalty in the online channel for two reasons. First, as we discussed earlier, online

shopping systems enable customers to save and retrieve their prior search and purchase histories and customize their screening and search process (Degeratu, Rangaswamy, and Wu 2000; Shankar, Smith, and Rangaswamy 2003). Many online retailers now provide single-click ordering systems. These features lower the costs associated with future purchases (Lynch and Ariely 2000), increase customer confidence (Shankar, Smith, and Rangaswamy 2003), and eventually “lock” the customer to the retailer (Johnson, Bellman, and Lohse 2003). Thus, as long as customers are satisfied with their prior experience with the retailer, they are likely to come back and make future purchases due to the reduced cognitive effort and efficiency of purchase (Van Birgelen, Jong, and De Ruyter 2006). Secondly, because the switching costs are much lower when customers shop online, customers can easily choose another retailer when they feel dissatisfied with their purchase (Jones, Mothersbaugh, and Beatty 2000; Zhang, Cheung, and Lee 2012). In other words, satisfying customers’ needs plays a more important role in retaining their future patronage in the online purchases.

Proposition 4: *The effect of customer satisfaction on customer loyalty is stronger (i.e., more positive) in the online than the offline purchases.*

Data

We utilized the survey data collected by the ACSI to test the differences between online and offline experiences. The theoretical and conceptual differences between the original ACSI model set forth by Fornell et al. (1996) and the model we test here are minimal but important. While the original ACSI model asked three questions about just the product, just the service, or the undifferentiated combination of the two, we aggregate consumers’ quality perceptions into an *overall quality* construct. The respondents are asked questions regarding both the product and the service quality perceptions during the purchase, including questions on overall product and

service quality perceptions, and the customization and reliability of both the product and the service (six questions in total). This is appropriate in the retail setting where both the (distinct) product and the (distinct) service quality dimensions are relevant and experienced by the customer. This nearly simultaneous experience is incorporated in the “reflective” construct (*overall quality*). Also, since consumers are more likely to comment on their global impressions and general experiences during a purchase (Jiang and Rosenbloom 2005), the model estimates the overall quality perceptions of customers’ purchase *experience* with the retailer in its entirety.

The survey instrument used by ACSI to collect the data analyzed in this study is a standardized questionnaire designed for the estimation of a single, common statistical model (the ACSI model) for maximum applicability and comparability across a diverse range of companies and industries. This approach – from the perspective of both the generalized survey instrument and the common statistical model – facilitates comparison of the analyzed data between both similar and dissimilar customer experiences (Fornell et al. 1996). Because the questionnaire seeks customer feedback regarding a general set of perceptions that apply equally well across diverse product and service categories, rather than specific customer experience attributes unique to individual industries, it has a broad appeal and applicability. In total, 16 questions and resulting variables are produced during interviewing to be included in the modeling process. In addition to these model variables, several demographic questions are included during data collection and are used as control variables in our analysis. More details regarding the constructs and their measurement are presented in Table 1.

--Insert Table 1 about here--

The ACSI interviews U.S. customers of large-cap, large market share consumer-focused companies. More than 100,000 interviews are conducted during each annual cycle of the ACSI

study. Given our study focus, rather than analyze and model data for the entirety of the ACSI universe, we specifically focus on customers who made online or offline retail purchases at dedicated electronic goods stores. The reason for this sample selection is to obviate any product-category specific effects. Also, this specific category selection results from the fact that among all product categories in the retail industry, this category has formed the most balanced consumer purchase preferences between online and offline according to PwC's 2017 Total Retail Survey.⁶ Thus, these balanced preferences can help reveal more established and mature distinctions between online and offline retail contexts. Additionally, to limit the possibility that the idiosyncrasies from any specific period might influence the results of our analysis, our sample was restricted to customer purchases over a two-year window (2013-2014). Based on the above specifications, a total sample of 913 unique customer perception surveys (497 online and 416 offline) were available for analysis.⁷ Table A1 (in the web appendix) presents the demographic breakdown of respondents included in our sample.

Statistical Analyses and Results

Partial Least Squares (PLS) modeling – a multiple-indicator latent variable approach – was used to test the model. PLS has been the technique of choice for previous ACSI-based studies (e.g., Hair et al. 2017; Morgeson, Sharma, and Hult 2015; Rigdon, Ringle, Sarstedt, and Gudergan 2011), and the ACSI model was designed for estimation using PLS to maximize the focus on customer satisfaction and loyalty (Fornell et al. 1996). PLS is appropriate when the research is primarily concerned with the variance explained in the dependent variable, and when

⁶ According to the survey, 51% of customers prefer to buy in store, while 43% of them prefer to purchase online. <https://www.pwc.com/gx/en/industries/assets/total-retail-2017.pdf>.

⁷ The full list of companies included in the retail industries – both online and offline – can be found at www.theacsi.org.

assumptions of multivariate normality and interval scaled data cannot necessarily be made (Hair et al. 2016). In addition, employing PLS provides results (path estimates, factor loadings, and path differences) that are comparable to previous studies and puts them in proper perspective. The first stage in a PLS analysis is to ensure that the measures used as operationalizations of the underlying constructs are both reliable and valid (measurement validity). The second stage then interprets the resulting model coefficients (structural validity). After establishing the model validity we analyze the multigroup differences to answer our main questions.

Measurement Model Validity

In accordance with previous research (e.g. Fornell et al. 1996; Rigdon et al. 2011), all the latent constructs in the ACSI were modeled as reflective indicators, an approach that assumes that the constructs are the cause of manifest variables. To establish convergent validity of the reflective constructs we focused on the reliability of items as measured by their loadings and significance levels, their internal consistency (Cronbach's α), the average variance extracted (AVE) by the constructs, and their composite reliability (CR). As shown in Table A2 (in the web appendix), Cronbach's α , AVE and CR values exceeded the thresholds of 0.70, 0.50 and 0.80 respectively for all the constructs (Hair et al. 2016). In addition, all the item loadings were greater than the threshold value of 0.70, except *PWRONGX* and *WRONGX*, which were greater than 0.60 and significant; these were retained for further analyses. The discriminant validity of the constructs was assessed using the recommended Heterotrait-Monotrait (HTMT) inference ratio method, which provides bias-corrected confidence intervals around the HTMT inference values obtained through the non-parametric bootstrap approach (Henseler, Ringle, and Sarstedt 2015). The upper 95% CIs indicated that all HTMT values were lower than one for each

relationship, thereby establishing acceptable levels of discriminant validity of the constructs (Table A3 in the web appendix).

Structural Model Validity

To assess the nomological validity of the ACSI model, we first examined the pooled sample that included all customers who purchased electronics goods either offline or online. The path coefficients and their significances (Table A4 in the web appendix) provided strong support for all the expected relationships and confirmed the overall structure of the ACSI model, with one exception: the effect of customer expectations on perceived value was not significant ($\beta = 0.053, p = 0.331$).⁸ The fitted model exhibits high level of model fit ($SRMR = 0.056$) and explains a significant proportion of variance in the key endogenous constructs ($R^2_{satisfaction} = .773; R^2_{loyalty} = .568$).⁹ The Stone-Geisser Q^2 based on leave-n-out cross-validation (blindfolding), is a predictive relevance metric to gauge a model's potential generalizability (Hair et al. 2014). The ACSI model shows high levels of predictive relevance ($Q^2_{satisfaction} = .550; Q^2_{loyalty} = .540$). Overall, we conclude that the ACSI model adequately explains customer satisfaction and loyalty in our sample.¹⁰

Multigroup Differences: Offline versus Online Electronic-good Purchases

⁸ As we discuss later, this nonsignificant result is likely due to the inclusion of both online and offline purchases.

⁹ SRMR measures the standardized difference between the observed and the predicted correlation and is an absolute measure of fit. While a value of zero indicates perfect model fit, values less than .08 are generally considered a good fit (Hu and Bentler 1999).

¹⁰ **Common Method Bias:** An empirical concern in survey-based studies that collect data on predictor and criterion variables from the same respondent is that they may suffer from common method bias (CMB). We used two approaches to rule out CMB. First, using Liang et al.'s (2007) latent method construct approach, we specified a method factor together with original latent variables to check whether the average variance explained (AVE) by the method factor was substantially less than the AVE by the substantive (original) factors. The average substantive variance was significantly higher than the method variance, which was less than 10% of the former in our model, suggesting that common method bias was less of a concern for our study. Finally, we also utilized the measured latent marker variable approach, which is the preferred technique to detect and control CMB (Chin, Thatcher, Wright, and Steel 2013). This analysis showed that the path loading and model fit (R^2) values with the marker variable are consistent with original estimates (Table A5 in the web appendix). Overall, the results of the two approaches suggest that CMB did not seriously influence estimates in our analysis.

To answer our main research questions, we next analyze the differences in group-specific model paths via pairwise multigroup comparisons. PLS allows for testing of moderating effects in path models using multigroup analysis, which is especially useful for discrete moderator variables such as group membership and demographic variables (Sarstedt, Henseler, and Ringle 2011). Because the moderator variable in our analysis is categorical (online versus offline purchase), we tested whether significant differences exist in path strengths between the group-specific models using the PLS multigroup analysis. In this case, the path differences themselves are measures of the effect sizes. A potential concern while conducting multigroup comparisons and interpreting the results is the issue of measurement invariance – that is, ensuring that the instruments designed to measure the relevant constructs are invariant across the groups. Before embarking on the comparisons, we tested for invariance to ensure that the measurement models were comparable across the online and offline groups. We used the MICOM procedure in PLS to test for configural and compositional invariance, and the equality of means and variances across the two groups (Henseler, Ringle, and Sarstedt 2016). The MICOM results strongly supported “full” measurement invariance (Table A6 in the web appendix), thereby allowing us to meaningfully interpret any differences in the structural models. We proceeded to conduct multigroup comparisons among the online and offline groups.¹¹

Our empirical results (shown in Table 2) indicate that the positive effect of overall quality on consumer satisfaction was stronger for offline than online purchases ($\beta_{offline} = 0.545, p = 0.000$; $\beta_{online} = 0.353, p = 0.000$; $|\Delta| = 0.192, p = 0.004$), which supports proposition 1. Next,

¹¹ A **finite mixture analysis** (FIMIX) of the sample suggested two segments in the data (Rigdon et al. 2011). An exhaustive chi-square decision tree analysis (CHAID) showed that the purchase channel (i.e. online and offline) and demographic variables provided a classification accuracy of 70.4% suggesting that these variables captured a large portion of heterogeneity in the dataset. Furthermore, the purchase channel variable was the most significant ($\Delta\chi^2 = 18.533, df = 1, p < .01$).

consistent with proposition 3, the positive effect of customer expectations on satisfaction was marginally stronger for offline than online purchases ($\beta_{offline} = 0.139, p = 0.002; \beta_{online} = 0.051, p = 0.265; |\Delta| = 0.088, p = 0.088$). These results imply that the overall quality of the purchase experience and customer expectations are stronger drivers of customer satisfaction when they shop at a physical store.

In contrast, the positive effects of perceived value on customer satisfaction ($\beta_{offline} = 0.281, p = 0.000; \beta_{online} = 0.535, p = 0.000; |\Delta| = 0.255, p = 0.000$), and customer satisfaction on customer loyalty ($\beta_{offline} = 0.670, p = 0.000; \beta_{online} = 0.809, p = 0.000; |\Delta| = 0.139, p = 0.001$) were larger for online than offline purchases, supporting propositions 2 and 4. In combination, these two significant differences suggest that the “perceived value \rightarrow customer satisfaction \rightarrow customer loyalty” chain-link is stronger for online than offline context. That is, when customers buy online they view value as a more significant attribute in rating satisfaction, and that, more importantly, they are more satisfaction-sensitive when making decisions about the company they will purchase from in the future.¹²

--Insert Table 2 about here--

Robustness Check 1: Generalizability across Demographics for Electronic-good Purchases

To assess the generalizability of our results across customer demographics we explored the differences among specific customer segments. We selected customer gender, age, and education as the three demographics variables for further assessment because we surmise that

¹² To assess the robustness of our results against possible endogeneity in channel choice while assessing post purchase metrics (Maity and Dass 2014), we incorporated customers’ propensity to choose online or offline channel as an additional control variable in the model. Past research has shown that price sensitivity and customer heterogeneity can determine the choice of a channel (Chu et al. 2008). Therefore, we utilized customers’ price tolerance (the maximum price they are willing to pay before switching retailers) and their demographic variables to calculate their propensity to buy online vs. offline using a Logistic regression. The results show that the inclusion of the propensity score did not affect our conclusions (Table A7 in the web appendix).

these factors possibly affect how people shop in the multichannel context.¹³ Gender differences have long been noted in the customer heterogeneity literature (e.g., Melnyk, Osselaer, and Bijmolt 2009). Similarly, digital natives (younger adults) and digital immigrants (older adults) typically interact with technology differently (Palfrey, Gasser, Simun, and Barnes 2009), which may lead to different behaviors when shopping online.¹⁴ Finally, people with lower education may behave differently from those with higher education because the former may likely be less tech-savvy and be more cautious with online shopping but feel more comfortable with traditional offline shopping. On the other hand, it is possible that, given the relatively long period that online shopping has been in existence, a majority of customers have become equally comfortable and familiar with both the channels. If so, we would expect our conclusions to be generalizable across gender, age, and education. We layered the investigation by treating customers who made online vs offline purchases as separate segments, and examined the differences across customer gender (male vs. female), age (digital natives vs. digital immigrants), and education level (college educated vs. non-college educated). Our analyses showed that the same path differences between offline and online purchasing generally persist across the gender, age, and education groups. Table 3 summarizes the main findings of this research, including the generalizability of results across customer demographics.¹⁵

--Insert Table 3 about here--

¹³ Customer income is another relevant variable; however, it was highly correlated with customer education levels and thus not utilized for segmentation.

¹⁴ There is no consensus regarding the time-period that serves as a dividing line between young and old population, and we accept the pitfalls of such a broad categorization. We follow Palfrey, Gasser, Simun, and Barnes (2009), who have argued that millennials who were born on or after 1980 (i.e., the year of the advent of Usenet and bulletin board systems) typically interact with technology differently than those born before them. Thus, we classify those who were born on and after 1980 as digital natives (young population) and those who were born before 1980 as digital immigrants (old population).

¹⁵ Tables A8-A10 (in the web appendix) present the customer demographics results in more detail.

Despite the overall consistency in the results (c.f. Table 2), a few noticeable discrepancies emerge across the customer demographics, especially gender, that warrant further discussion. First, unlike men, the effect of the overall quality of purchase experience on satisfaction is equally strong for female electronic good customers across the two purchase channels. This suggests that women are equally “demanding” with regard to the overall quality and reliability of purchase across both channels, perhaps because women are generally more risk-averse than men (Sunden and Surette 1998). In contrast, this effect varies considerably for male customers who differentiate strongly between the channels with regard to the impact of overall quality of purchase on their satisfaction levels. In other words, male customers place more premium on the perception of overall quality when they purchase electronic goods offline than online.

Second, the relationship between customer expectations and satisfaction for male customers is neither significant nor different across the channels. In addition, the effect of satisfaction on loyalty is comparable in offline and online purchases for male customers. In other words, male customers tend to be less affected by the purchase channel differences with regard to their loyalty to retailers. This suggests that the differences across the channels in the two effects were driven mainly by the female customers. Research has shown that males are more likely to use selective information to reduce cognitive effort when taking shopping decisions rather than engaging in the comprehensive processing of all the available information (Okazaki and Mendez 2013). As such, we speculate that men may revert to the retailer with the last satisfactory purchase (online or offline), and may not form or leverage their expectations by processing all available information when rating satisfaction as strongly as women.

Third, the effect of customer expectations on satisfaction differed across the channels for younger (digital natives) customers but not for older (digital immigrants) customers. Market

research has only recently begun to pay attention to the important differences in the way digital natives and immigrants collect and process product (and service) information to form pre-purchase expectations. Digital natives, who are the first generation to grow up with the internet, are more engaged with technology and comfortable at aggregating information from multiple sources (e.g. social media, online searches, and websites) before planning a purchase. In the specific context of B2B purchasing, for example, research has shown that digital natives often start with a generic web search for a product and progressively expand their knowledge, forming strong pre-purchase expectations, before actually meeting a vendor or salesperson to finalize the purchase.¹⁶ Our results suggest that digital natives rely on the same habits when purchasing at a physical retail store. On the other hand, they may rely to a lesser degree on their expectations when shopping online because of their generally higher trust in the online retail (Shafiq Obeidat and Young 2017). In contrast, digital immigrants rely strongly, and somewhat comparably, on their expectations in both the channels. They may feel more comfortable when they are aware of the brand or the product via advertisements or word-of-mouth and they have faith in the company's delivery, regardless of the shopping channel.

Finally, we found that expectations are equally important for college-educated customers when rating satisfaction across both the purchase channels. This could be due to their comfort in accessing, searching, and integrating information from a variety of sources, especially when purchasing specialty electronic products that require better understanding of technical details. Research has shown that better educated customers, on average, seek more information to get better bargains (Chiou-Wei and Inman 2008). Thus, they may form stronger expectations regardless of the channel than non-college educated customers.

¹⁶ <https://hbr.org/2018/03/how-digital-natives-are-changing-b2b-purchasing>

Robustness Check 2: Generalizability across Broader Product Categories

Our analysis so far was restricted to customers who made purchases at dedicated electronics-only retail stores to obviate any product category specific effects. In order to assess whether our conclusions are robust and generalizable across product categories to the larger retail, we re-analyzed the differences in the path estimates by using a large sample of 7537 unique respondents (2726 online and 4811 offline). This larger retail sample consists of a broader category of products including convenience (e.g. household items) and shopping goods (e.g. apparel) from internet retail (online) and department and discount stores (offline). Table 3 presents the summary of the analysis across the product categories.¹⁷

Overall, we find similar pattern of path differences between offline and online purchases as our main analysis, with one noticeable exception.¹⁸ The effect of overall quality on customer satisfaction did not differ among the offline and online purchases, and was thus not generalizable. This result could be attributed to the difference in the products included in the two samples. Specialty products such as electronic goods, which were the focus in our main analysis, are associated with higher functional and financial risks than convenience and shopping goods (Thirumalai and Sinha 2005). Thus, customers purchasing electronics items might be more perceptive to the potential of reduced shopping risk, and higher customization and reliability of product (and service) offered by the physical stores, thereby highlighting the role of overall quality in offline purchases. In contrast, customers may be less affected by the differences across channels for everyday convenience and shopping items that are generally low-priced with lower

¹⁷ Table A11 (in the web appendix) presents the details of this analysis.

¹⁸ There are other less noticeable discrepancies between our main analysis and these results, such as the difference in the value-satisfaction link becomes marginally significant and that of the expectations-satisfaction link becomes highly significant. We surmise product categories can help explain the above inconsistencies. Given the focus and the space limitation, we suggest future research should explore these issues in more detail.

perceived risks, thereby nullifying the difference in the larger retail sample. Overall, by largely generalizing from a specific product category (i.e. electronic goods) to larger retail, these results provide additional evidence for our conclusions and strongly suggest that the path differences persist between online and offline shopping contexts across product categories.

Discussion

We highlight the most important implications drawn from our findings that help advance the theoretical knowledge of customer satisfaction and help retail managers on how to operate in the multichannel environment to enhance overall performance (Hult et al. 2017; Katsikeas et al. 2016; Kozlenkova et al. 2015). As indicated, the extant multichannel literature has only offered piecemeal answers to what may drive customer satisfaction and loyalty differently when customers shop online versus offline. For example, Van Birgelen, Jong, and De Ruyter (2006) and Shankar, Smith, and Rangaswamy (2003) narrowly focused on the relationship between customer satisfaction and loyalty. Linking customer satisfaction to a multichannel context from a broader perspective, this research builds on and extends the ACSI model by considering the antecedents and consequence of customer satisfaction in the online versus offline purchases. By focusing on the primary relationships of the ACSI model, our results reveal that perceived overall quality and customer expectations are stronger drivers of customer satisfaction in the offline purchases, while perceived value is a critical factor driving satisfaction in the online purchases. In addition, when customers purchase online they are more satisfaction sensitive when making repurchase decisions from the retailers. These differences generally persist across customer demographics (gender, age, and education) and product categories, except in some key instances as noted above. Table 3 summarizes the main findings of this research, including the generalizability of results across customer demographics and larger retail product categories.

Implications for Retail Practice

As retailers invest heavily in operating both online and offline channels, they are often left to wonder how to coordinate and manage customers' perceptions and behaviors across the channels (Hult et al. 2017; Pauwels and Neslin 2015). We argued that the lack of knowledge regarding the drivers of customer satisfaction and loyalty across the channels can hamper retailers' marketing and pricing strategies and affect their ability to survive (cf. Hult et al. 2017). The recent growth in omnichannel retail is pushing retailers to consolidate multiple channels with the goal of providing a seamless and synchronized customer experience (Verhoef, Kannan, and Inman 2015). In this vein, Brynjolfsson, Hu, and Rahman (2013) suggest that the distinctions between the online and offline channels will eventually blur and retailers may need to have similar offerings such as prices, services, and images across channels. However, our research indicates that several fundamental differences still exist across the online and offline channels. In particular, the effects of customers' expectations, and perceptions of quality and value, on their satisfaction levels differ markedly across the channels, thereby necessitating strategies tailored to the context. Thus, the assumption that customers utilize the channels in a similar fashion, and that identical strategies should work equally well, could be detrimental for retailers.

For retailers seeking to increase the foot-traffic and purchases at their physical locations, our results largely validate the recommended retail practices for enhancing the customer experience, for example, by allowing customers to interact with high-quality and reliable products in a welcoming and pressure-free environment, and access to knowledgeable sales representatives. In addition, creating and maintaining a positive and trustworthy image via marketing campaigns and word-of-mouth management, and providing reliable product information to better manage pre-purchase expectations is more critical for boosting offline

sales. Since the distinguishing characteristics of offline channel cannot be easily replicated in the online settings, and because customers seek better purchase value when buying online, offline retailers can seek advantage over their online competitors by having competitive pricing.

In contrast, online retailers need effective websites that offer lower search costs, faster and more secure checkouts, easy access to purchase and search histories, and simplistic navigation with autonomous customization. It may also be worthwhile to emphasize information accessibility and content richness, such as by providing tutorial videos and product comparisons on the product page to facilitate memory retention and recall (Bucy 2004). Because convenience is the main motivation for customers to shop online (Campo and Breugelmans 2015), these efforts can help retailers increase the perceived value they offer to customers and then “lock-in” them eventually. The penalties for not doing so can be especially severe in the online context, where low switching costs mean that unsatisfied consumers can easily defect to another retailer. Our findings send a strong signal that focusing on customer satisfaction in the online purchasing context is more critical due to the stronger link between satisfaction and loyalty.

Finally, our generalizability analysis across customer demographics for electronic good purchases opens up avenues for targeted marketing campaigns to tap into the focal drivers of satisfaction for different customer segments. For example, female customers demand high quality and reliability in their purchase of electronic goods regardless of the channel. In contrast, perceived value in the online and overall quality in the offline purchases are stronger drivers of satisfaction for male customers. Thus, marketing messages and sales representative interactions should be tailored differently to ensure satisfaction across customer genders. We also find important differences among digital natives (younger adults) and immigrants (older adults), for example, that immigrants rely to a larger extent on their pre-purchase expectations when rating

satisfaction, regardless of the channel when buying electronic goods. With the recent announcement that Best Buy is buying the maker of the Jitterbug cellphones to cater to the over-70 base, it is clear that electronic retailers are increasingly focusing on older adults.¹⁹ Our analysis suggests that managing pre-purchase expectations well while providing a quality store experience could be crucial for the success. Retailers may need to utilize traditional media (such as newsletters) to tailor the marketing efforts and aim to provide more comprehensive and frequent information of products to this population.

Limitations and Implications for Research

Our main theoretical contribution is to highlight the role of the purchase channel as a key moderator influencing customer satisfaction and loyalty. Our work brings together how the channel influences the three key antecedents of customer satisfaction: perceived overall quality, value, and customer expectations. By providing evidence for the generalizability of our findings, but more importantly, by highlighting the situations where they do not generalize, we open up avenues for future research to analyze in more detail the interplay between purchase channels, product categories, and customer demographics. As shown in Table 3, the role of gender seems important in understanding how the purchase channel affects satisfaction and loyalty. For example, the overall quality of purchase experience seems to have an equally strong effect on satisfaction for female customers when purchasing electronic goods across the two purchase channels. Is this result specific to how female customers purchase specialty items, or would it also hold for convenience and shopping goods? How about male customers? While these questions are beyond the scope of this research, they are important for enhancing customer experience tailored to specific customer segments and product categories.

¹⁹ <https://www.cnn.com/2018/10/08/business/best-buy-greatcall-jitterbug-phones/index.html>

We found the differences in customers' perceptions of overall value of purchase to be stronger in the online purchases of electronic goods. Clearly, customers place higher premium on the purchase value when purchasing pricier specialty products online than offline. However, these differences were only marginally significant in the larger sample that also included the convenience and shopping goods. Is the reduction in the statistical significance of the difference across the channels driven by the inclusion of lower-value products? Do customers place a higher premium on purchase value when purchasing lower-priced everyday items online? We suspect that the effect of perceived value on satisfaction may vary based on product type. Various other product value propositions – such as sustainability (Hult et al. 2018), to name just one – also influence customers. A deeper knowledge of these issues can result in valuable implications for retailers who have struggled to adopt to the high shipping prices online, and with whether they should charge the same price online and offline. For example, Walmart is experimenting with raising online prices of certain household products (e.g. food items, toothpaste) to nudge customers to purchase them at a physical location and save on shipping.²⁰ While it may seem problematic due to the importance customers attach to purchase value online, whether such a strategy is successful may also partly depend on the type of products chosen.

Our results also highlight the importance of better understanding how various customer segments form pre-purchase expectations in driving their satisfaction levels (cf. Hult et al. 2017). While customer expectations have long been investigated in a variety of settings, our results point to several gaps in the knowledge, especially for male, older (digital immigrant) and college-educated customers. While we have speculated based on past theory why our results did not generalize to these segments, a deeper understanding of the issues involved is warranted. For

²⁰ <https://www.wsj.com/articles/now-featured-on-wal-marts-website-higher-prices-1510517219>

example, a key unexplored issue is *how* digital natives and immigrants utilize technologies differently to form pre-purchase expectations for different product categories, and how it influences their utilization of channels and satisfaction. These issues are of interest as retailers increasingly shift their strategies in response to new market realities. Our choice to analyze broad categories was due to our focus on the purchase channels and maximizing the generalizability of our findings; a more granular approach might be beneficial in fine-tuning the theory and implications for the specific customer population and product category of interest.

We also contribute to theory by extending the scope of knowledge regarding the differential effect of customer satisfaction on their loyalty (repurchase intentions) across the channels. While Shankar, Smith, and Rangaswamy 's (2003) study focused on customers who utilized online versus offline travel agent services to book hotel rooms, our findings provide evidence that these results extend not only to retail customers purchasing specialty products (i.e. electronic goods) but also broadly to customers purchasing a variety of convenience and shopping goods. We show that this difference is mostly generalizable across customer demographics, except in the case of male customers who bought electronic goods. It may be also be worthwhile to explore the potential role of the purchase channel in determining how well the repurchase intentions convert into actual future purchases.

The increasing importance of mobile-commerce (m-commerce) also necessitates investigation in how customer perceptions and behaviors differ when using the “anytime, anywhere” convenience offered by mobile phone apps to purchase products. Evidence suggests that establishing trust and fostering customer loyalty is uniquely challenging in m-commerce due to customer privacy concerns (Eastin, Brinson, Doorey, and Wilcox 2016), idiosyncratic habits (Lin and Wang 2006), and limited hardware functionalities of devices (e.g. small screens and

keys) that make it challenging to create user friendly interfaces and graphical applications (Lee, Moon, Kim, and Yi 2015). The unique features of m-commerce add a significant “socio-technical” layer in customer perceptions and behaviors, necessitating more granular implications on managing customer satisfaction and loyalty effectively. Finally, our sample was restricted to customers within the U.S only. The primary relationships in the ACSI model may vary differently across the online and offline channels for international customers. We believe that conducting cross-cultural studies could be a fruitful avenue for research to address this concern.

Conclusion

At a time when retail firms are facing tremendous uncertainties and pressures to survive in the multichannel marketplace, the ability to discern and utilize the factors that foster customer satisfaction and loyalty differently across the channels could be a key competitive advantage. The recent bankruptcies of major retailers demonstrate that firms that are unable to manage both online and offline channels equally well are likely to perish. Past research has provided ample evidence that customer behavior differs across the shopping channels. Yet, there was limited knowledge regarding how the antecedents and the consequences of customer satisfaction differ across the contexts to date, and more importantly, whether these differences persist across customer segments and larger retail categories. We provide evidence that several noteworthy, and generalizable, differences exist when modeling customer satisfaction across online and offline purchases; we also discuss the specific contexts where they do not. Our work extends the customer satisfaction theory in relation to multichannel retailing, highlights the need for granular investigation, and more importantly, provides implications to managers to better manage customer satisfaction across the shopping channels.

References

- Anderson, Eugene W., Claes Fornell, and Donald R. Lehmann (1994), "Customer Satisfaction, Market Share, and Profitability: Findings from Sweden," *Journal of Marketing*, 58(3), 53-66.
- Anderson, Eugene W., Claes Fornell, and Sanal K. Mazvancheryl (2004), "Customer Satisfaction and Shareholder Value," *Journal of Marketing*, 68 (4), 172-185.
- Anderson, Eugene W., and Steven M. Shugan (1991), "Repositioning for Changing Preferences: The Case of Beef versus Poultry," *Journal of Consumer Research*, 18 (2), 219-232.
- Bell, Chip R., and John Rice Patterson (2011), *Wired and Dangerous: How Your Customers Have Changed and What to Do about It*. Berrett-Koehler Publishers.
- Bell, David, Santiago Gallino, and Antonio Moreno (2014), "How to Win in an Omnichannel World," *MIT Sloan Management Review*, 56 (1), 45-50.
- Berry, Leonard L., Kathleen Seiders, and Dhruv Grewal (2002), "Understanding Service Convenience," *Journal of Marketing*, 66 (3), 1-17.
- Brynjolfsson, Erik, Yu Jeffrey Hu and Mohammad S. Rahman (2013), "Competing in the Age of Omnichannel Retailing," *MIT Sloan Management Review*, 54 (4), 23–29.
- Bucy, Erik P. (2004), "Second generation net news: Interactivity and information accessibility in the online environment," *International Journal on Media Management*, 6 (1-2), 102-113.
- Campo, Katia, and Els Breugelmans (2015), "Buying Groceries in Brick and Click Stores: Category Allocation Decisions and the Moderating Effect of Online Buying Experience," *Journal of Interactive Marketing*, 31, 63-78.
- Cavallo, Alberto (2017), "Are Online and Offline Prices Similar? Evidence from Large Multi-channel Retailers," *American Economic Review*, 107 (1), 283-303.
- Chin, Wynne W., Jason B. Thatcher, Ryan T. Wright, and Doug Steel (2013), "Controlling for common method variance in PLS analysis: The measured latent marker variable approach," *New Perspectives in Partial Least Squares and Related Methods* (pp. 231–239). New York: Springer.
- Chintagunta, Pradeep K., Junhong Chu, and Javier Cebollada (2012), "Quantifying Transaction Costs in Online/Off-line Grocery Channel Choice," *Marketing Science*, 31 (1), 96-114.
- Chiou-Wei, Song-Zan, and J. Jeffrey Inman (2008), "Do Shoppers Like Electronic Coupons? A Panel Data Analysis," *Journal of Retailing*, 84 (3), 297-307.
- Chiu, Chao-Min, Eric TG Wang, Yu-Hui Fang, and Hsin-Yi Huang (2014), "Understanding Customers' Repeat Purchase Intentions in B2C E-commerce: The Roles of Utilitarian Value, Hedonic Value and Perceived risk," *Information Systems Journal*, 24 (1), 85-114.

- Chu, Junhong, Pradeep Chintagunta, and Javier Cebollada (2008), "Research Note—A Comparison of Within-household Price Sensitivity across Online and Offline Channels," *Marketing Science*, 27 (2), 283-299.
- Coyles, Stephanie, and Timothy C. Gokey (2005), "Customer Retention Is Not Enough," *Journal of Consumer Marketing*, 22 (2), 101-105.
- Dai, Bo, Sandra Forsythe, and Wi-Suk Kwon (2014), "The Impact of Online Shopping Experience on Risk Perceptions and Online Purchase Intentions: Does Product Category Matter?" *Journal of Electronic Commerce Research*, 15 (1), 13-24.
- Danaher, Peter J., Isaac W. Wilson, and Robert A. Davis (2003), "A Comparison of Online and Offline Consumer Brand Loyalty," *Marketing Science*, 22 (4), 461-476.
- Degeratu, Alexandru M., Arvind Rangaswamy, and Jianan Wu (2000), "Consumer Choice Behavior in Online and Traditional Supermarkets: The Effects of Brand Name, Price, and Other Search Attributes," *International Journal of Research in Marketing*, 17 (1), 55-78.
- Donthu, Naveen, and Adriana Garcia (1999), "The Internet Shopper," *Journal of Advertising Research*, 39 (3), 52-52.
- Eastin, Matthew S., Nancy H. Brinson, Alexandra Doorey, and Gary Wilcox (2016), "Living in a Big Data World: Predicting Mobile Commerce Activity through Privacy Concerns." *Computers in Human Behavior*, 58, 214-220.
- Fornell Claes (2007), *The Satisfied Customer: Winners and Losers in the Battle for Buyer Preference*, New York: Palgrave Macmillan.
- Fornell, Claes, Michael D. Johnson, Eugene W. Anderson, Jaesung Cha, and Barbara Everitt Bryant (1996), "The American Customer Satisfaction Index: Nature, Purpose, and Findings," *Journal of Marketing*, 60 (October), 7-18.
- Fornell, Claes, Sunil Mithas, Forrest V. Morgeson III, and M.S. Krishnan (2006), "Customer Satisfaction and Stock Prices: High Returns, Low Risk," *Journal of Marketing*, 70 (1), 3-14.
- Fornell, Claes, Forrest V. Morgeson III, and G. Tomas M. Hult (2016), "Stock Returns on Customer Satisfaction Do Beat the Market: Gauging the Effect of a Marketing Intangible," *Journal of Marketing*, 80 (5), 92-107.
- Hair, Joseph F., G. Tomas M. Hult, Christian M. Ringle, and Marko Sarstedt (2016), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd Edition. Newbury Park, CA: Sage Publications, Inc.
- Hair, Joseph F., G. Tomas M. Hult, Christian Ringle, Marko Sarstedt, and Kai Oliver Thiele (2017), "Mirror, Mirror on the Wall: A Comparative Evaluation of Composite-Based Structural Equation Modeling Methods," *Journal of the Academy of Marketing Science*, 45 (5), 616-632.

- Hartung, Adam (2017), "Toys R Us - How Bad Assumptions Fed Bad Financial Planning Creating Failure", *Forbes*, (accessed March 30, 2018), available at: <https://www.forbes.com/sites/adamhartung/2017/09/20/toys-r-us-is-a-lesson-in-how-bad-assumptions-feed-bad-financial-planning-creating-failure>
- Heitz-Spahn, Sandrine (2013), "Cross-channel Free-riding Consumer Behavior in a Multichannel Environment: An Investigation of Shopping Motives, Sociodemographics and Product Categories," *Journal of Retailing and Consumer Services*, 20 (6), 570-578.
- Henseler, Jörg, Christian M. Ringle, and Marko Sarstedt (2015). A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, 43(1): 115-135.
- Henseler, Jörg, Christian M. Ringle, and Marko Sarstedt (2016). Testing Measurement Invariance of Composites Using Partial Least Squares. *International Marketing Review*, 33(3). 405-431.
- Hu, Li-tze, and Peter M. Bentler (1999), "Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives," *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1). 1-55.
- Hult, G. Tomas M., Forrest V. Morgeson III, Neil A. Morgan, Sunil Mithas, and Claes Fornell (2017), "Do Firms Know What Their Customers Think and Why?" *Journal of the Academy of Marketing Science*, 45 (1), 37-54.
- Hult, G. Tomas M., Jeannette A. Mena, Maria Alejandra Gonzalez-Perez, Katarina Lagerström, and Daniel T. Hult (2018), "A Ten Country-Company Study of Sustainability and Product-Market Performance: Influences of Doing Good, Warm Glow, and Price Fairness," *Journal of Macromarketing*, 38 (3), 242-261.
- Jiang, Pingjun and Bert Rosenbloom (2005), "Customer Intention to Return Online: Price Perception, Attribute-Level Performance, and Satisfaction Unfolding Over Time," *European Journal of Marketing*, 39 (1/2), 150-174.
- Johnson, Eric J., Steven Bellman, and Gerald L. Lohse (2003), "Cognitive Lock-in and the Power Law of Practice," *Journal of Marketing*, 67 (2), 62-75.
- Jones, Michael A., David L. Mothersbaugh, and Sharon E. Beatty (2000), "Switching Barriers and Repurchase Intentions in Services," *Journal of Retailing*, 76 (2), 259-274.
- Katsikeas, Constantine S., Neil A. Morgan, Leonidas C. Leonidou, and G. Tomas M. Hult (2016), "Assessing Performance Outcomes in Marketing," *Journal of Marketing*, 80 (2), 1-20.
- Kozlenkova, Irina, G. Tomas M. Hult, Donald Lund, Jeannette A. Mena, and Pinar Kekec (2015), "The Role of Marketing Channels in Supply Chain Management: A Review of the Literature and Takeaways for Future Research," *Journal of Retailing*, 91 (4), 586-609.

- Laroche, Michel, Zhiyong Yang, Gordon HG McDougall, and Jasmin Bergeron (2005), "Internet versus Bricks-and-mortar Retailers: An Investigation into Intangibility and Its Consequences," *Journal of Retailing*, 81 (4), 251-267.
- Lee, Dongwon, Junghoon Moon, Yong Jin Kim, and Y. Yi Mun (2015), "Antecedents and consequences of mobile phone usability: Linking simplicity and interactivity to satisfaction, trust, and brand loyalty," *Information & Management*, 52 (3), 295-304.
- Liang, Huigang, Nilesh Saraf, Qing Hu, and Yajiong Xue (2007), "Assimilation of enterprise systems: The effect of institutional pressures and the mediating role of top management," *MIS Quarterly*, 31(1), 59-87.
- Lin, Hsin-Hui, and Yi-Shun Wang (2006), "An examination of the determinants of customer loyalty in mobile commerce contexts," *Information & Management*, 43 (3), 271-282.
- Lynch Jr, John G. and Dan Ariely (2000), "Wine online: Search costs affect competition on price, quality, and distribution," *Marketing Science*, 19 (1), 83-103.
- Maity, Moutusy, and Mayukh Dass (2014), "Consumer decision-making across modern and traditional channels: E-commerce, m-commerce, in-store," *Decision Support Systems*, 61, 34-46.
- Melnyk, Valentyna, Stijn M.J. Van Osselaer, and Tammo H.A. Bijmolt (2009), "Are Women More Loyal Than Men? Gender Differences in Loyalty to Firms and Individual Service Providers," *Journal of Marketing*, 73 (4), 82-96.
- Morgeson III, Forrest, Pratyush Nidhi Sharma, and G. Tomas M. Hult (2015), "Cross-National Differences in Consumer Satisfaction: Mobile Services in Emerging and Developed Markets," *Journal of International Marketing*, 23 (2), 1-24.
- Nepomuceno, Marcelo Vinhal, Michel Laroche, and Marie-Odile Richard (2014), "How to Reduce Perceived Risk When Buying Online: The Interactions between Intangibility, Product Knowledge, Brand Familiarity, Privacy and Security Concerns," *Journal of Retailing and Consumer Services*, 21 (4), 619-629.
- Okazaki, Shintaro and Felipe Mendez (2013), "Exploring Convenience in Mobile Commerce: Moderating Effects of Gender," *Computers in Human Behavior*, 29(3), 1234-1242.
- Palfrey, John, Urs Gasser, Miriam Simun, and Rosalie Fay Barnes (2009), "Youth, Creativity, and Copyright in the Digital Age," *International Journal of Learning and Media*, 1 (2), 79-97.
- Pauwels, Koen, and Scott A. Neslin (2015), "Building with Bricks and Mortar: The Revenue Impact of Opening Physical Stores in a Multichannel Environment," *Journal of Retailing*, 91 (2): 182-197.

- Rajamma, Rajasree K., Audesh K. Paswan, and Gopala Ganesh (2007), "Services Purchased at Brick and Mortar versus Online Stores, and Shopping Motivation," *Journal of Services Marketing*, 21 (3), 200-212.
- Rick, Scott I., Beatriz Pereira, and Katherine A. Burson (2014), "The Benefits of Retail Therapy: Making Purchase Decisions Reduces Residual Sadness," *Journal of Consumer Psychology*, 24 (3), 373-380.
- Rigdon, Edward E., Christian Ringle, Marko Sarstedt, and Siegfried P. Gudergan. (2011). "Assessing Heterogeneity in Customer Satisfaction Studies: Across Industry Similarities and Within Industry Differences," *Advances in International Marketing*, Volume 22, 169-194.
- Riquelme, Isabel P., Sergio Román, and Dawn Iacobucci (2016), "Consumers' Perceptions of Online and Offline Retailer Deception: A Moderated Mediation Analysis," *Journal of Interactive Marketing*, 35, 16-26.
- Saini, Yvonne K., and John G. Lynch Jr (2016), "The Effects of the Online and Offline Purchase Environment on Consumer Choice of Familiar and Unfamiliar Brands," *International Journal of Research in Marketing*, 33 (3), 702-705.
- Saleh, Khalid (2016), "E-commerce Product Return Rate – Statistics and Trends", (accessed July 17, 2018), [available at <https://www.invespro.com/blog/ecommerce-product-return-rate-statistics/>]
- Sunden, Annika E. and Brian J. Surette (1998), "Gender Differences in the Allocation of Assets in Retirement Savings Plans," *The American Economic Review*, 88(2), 207-211.
- Sarstedt, Marko, Jörg Henseler, and Christian M. Ringle (2011), "Multigroup Analysis in Partial Least Squares (PLS) Path Modeling: Alternative Methods and Empirical Results," *Advances in International Marketing*, v22. Bingley, UK: Emerald, 195–218.
- Shafiq Obeidat, Mohammed, and W. Daniel Young (2017), "An Assessment of the Recognition and Use of Online Shopping by Digital Immigrants and Natives in India and China," *Journal of International Consumer Marketing*, 29 (5), 293-302.
- Shankar, Venkatesh, Amy K. Smith, and Arvind Rangaswamy (2003), "Customer Satisfaction and Loyalty in Online and Offline Environments." *International Journal of Research in Marketing*, 20 (2), 153-175.
- Statista (2017), "U.S. online shopper views on online vs offline purchasing 2017", (accessed July 17, 2018), [available at <https://www.statista.com/statistics/705211/americans-view-on-online-shopping/>]
- Thirumalai, Sriram, and Kingshuk K. Sinha (2005), "Customer Satisfaction with Order Fulfillment in Retail Supply Chains: Implications of Product Type in Electronic B2C Transactions," *Journal of Operations Management*, 23 (3-4), 291-303.

- Van Birgelen, Marcel, Ad De Jong, and Ko De Ruyter (2006), "Multi-channel Service Retailing: The Effects of Channel Performance Satisfaction on Behavioral Intentions," *Journal of Retailing*, 82 (4), 367-377.
- Verhoef, Peter C., P. K. Kannan, and J. Jeffrey Inman (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.
- Wangenheim, Florian V., and Tomás Bayón (2007), "The Chain from Customer Satisfaction via Word-of-Mouth Referrals to New Customer Acquisition," *Journal of the Academy of Marketing Science*, 35 (2), 233-249.
- Zhang, Kem ZK, Christy MK Cheung, and Matthew KO Lee (2012), "Online Service Switching Behavior: The Case of Blog Service Providers," *Journal of Electronic Commerce Research*, 13 (3), 184-197.
- Zhang, Jie, and Michel Wedel (2009), "The Effectiveness of Customized Promotions in Online and Offline Stores," *Journal of Marketing Research*, 46 (2), 190-206.
- Zhuang, Hejun, Peter TL Popkowski Leszczyc, and Yuanfang Lin (2018), "Why is Price Dispersion Higher Online than Offline? The Impact of Retailer Type and Shopping Risk on Price Dispersion," *Journal of Retailing*, 94(2), 136-153.

Table 1
ACSI Survey Questions

Construct / Descriptions	Item	Question Wording (Abbreviated)
Customer Expectations (Customer expectations is a measure of the customer's anticipation of the quality of a company's products or services)	Overall Expectations (OVERALLX)	Before your experiences with (Company/Brand), you probably knew something about (Company/Brand). Thinking about your overall expectations of the quality you would receive from (Company/Brand), please give me a rating on a 10 point scale on which "1" means your expectations were "not very high" and "10" means your expectations were "very high."
	Expectations of Customization (CUSTOMX)	At the same time, you probably thought about things you personally require from (Company/Brand), such as...
	Expectations of Reliability (WRONGX)	Again, thinking about your expectations before your recent experiences with (Company/Brand)...you probably thought about how often things could go wrong with (Company/Brand)...
Overall Quality (Overall quality is a measure of the customer's evaluation via recent consumption experience of the quality of a company's products and services)	Overall Product Quality (POVERQ)	First, please consider all your experiences with (Company/Brand)'s products. Using a 10 point scale, on which "1" means "not very high" and "10" means "very high," how would you rate the product quality of (Company/Brand)?
	Product Quality as Customization (PCUSTQ)	Now, thinking about your personal requirements from (Company/Brand)'s products, please tell me how well (Company/Brand) has actually met your requirements...
	Product Quality as Reliability (PWRONGX)	Now, please think about how often things go wrong with (Company/Brand)'s products...
	Overall Service Quality (SOVERQ)	First, please consider all your experiences with (Company/Brand)'s services. Using a 10 point scale, on which "1" means "not very high" and "10" means "very high," how would you rate the service quality of (Company/Brand)?
	Service Quality as Customization (SCUSTQ)	Now, thinking about your personal requirements from (Company/Brand)'s services, please tell me how well (Company/Brand) has actually met your requirements...
	Service Quality as Reliability (SWRONGX)	Now, please think about how often things go wrong with (Company/Brand)'s services...
Perceived Value (Perceived value is a measure of quality relative to price paid)	Price given Quality (PQ)	Given the quality of (Company/Brand), how would you rate the prices that you pay for (Company/Brand)? Please use a 10 point scale on which "1" means "very poor price given the quality" and "10" means "very good price given the quality".
	Quality given Price (QP)	Given the prices you pay at (Company/Brand), how would you rate the quality of (Company/Brand)?
Customer Satisfaction (The customer satisfaction (ACSI) index score is calculated as a weighted average of three survey questions that measure different facets of satisfaction with a product or service)	Overall Satisfaction (SATIS)	First, please consider all your experiences to date with (Company/Brand). Using a 10 point scale on which "1" means "very dissatisfied" and "10" means "very satisfied," how satisfied are you with (Company/Brand)?
	Confirmation of Expectations (CONFIRM)	Considering all of the expectations that we have discussed, to what extent has (Company/Brand) fallen short of your expectations or exceeded your expectations?
	Comparison to Ideal (IDEAL)	Forget (Company/Brand) for a moment. Now, I want you to imagine an (Company/Brand). How well do you think (Company/Brand) compares with that ideal delivery service?
Customer Complaint (Customer complaints are measured as a percentage of respondents who indicate they have complained to a company directly about a product or service within a specified time frame)	Complaint (COMPLAINT)	Have you complained to (Company/Brand) within the past six months?
Customer Loyalty (Customer loyalty is the customer's professed likelihood to repurchase from the same supplier in the future)	Repurchase Intention (REPUR)	The next time you are going to choose a service provider for your needs, how likely is it that it will be (Company/Brand) again? Using a 10 point scale on which "1" means "very unlikely" and "10" means "very likely," how likely is it that it will be (Company/Brand) again?

Table 2
Multigroup Differences: Offline vs. Online Electronic Good Purchases

Proposition	Structural Model Link	Offline Purchases (n = 416)		Online Purchases (n = 497)		Path Differences	
		Path	p-val	Path	p-val	\Delta	p-val
1. Stronger Offline	Overall Quality→Customer Satisfaction	0.545	0.000	0.353	0.000	0.192***	0.004
2. Stronger Online	Perceived Value→Customer Satisfaction	0.281	0.000	0.535	0.000	0.255***	0.000
3. Stronger Offline	Customer Expectations→Customer Satisfaction	0.139	0.002	0.051	0.265	0.088*	0.088
4. Stronger Online	Customer Satisfaction→Customer Loyalty	0.670	0.000	0.809	0.000	0.139***	0.001
	Customer Expectations→Overall Quality	0.717	0.000	0.788	0.000	0.071*	0.082
	Customer Expectations→Perceived Value	0.056	0.447	0.061	0.421	0.005	0.482
	Customer Satisfaction→Customer Complaints	-0.141	0.003	-0.200	0.001	0.059	0.217
	Customer Complaints→Customer Loyalty	-0.107	0.030	-0.011	0.657	0.096**	0.036
	Overall Quality→Perceived Value	0.646	0.000	0.755	0.000	0.109	0.134
Control Variables							
	Race→Customer Satisfaction	-0.016	0.544	-0.040	0.082	0.024	0.249
	Age→Customer Satisfaction	-0.053	0.025	0.005	0.811	0.058**	0.033
	Education→Customer Satisfaction	-0.015	0.588	-0.036	0.079	0.021	0.268
	Gender→Customer Satisfaction	0.032	0.200	-0.023	0.243	0.055**	0.043
	Income→Customer Satisfaction	0.016	0.590	0.019	0.373	0.003	0.468
Model Fit							
	R ² Customer Satisfaction	0.764		0.797			
	R ² Customer Loyalty	0.480		0.658			
	Q ² Customer Satisfaction	0.523		0.573			
	Q ² Customer Loyalty	0.454		0.622			
	SRMR	0.067		0.060			

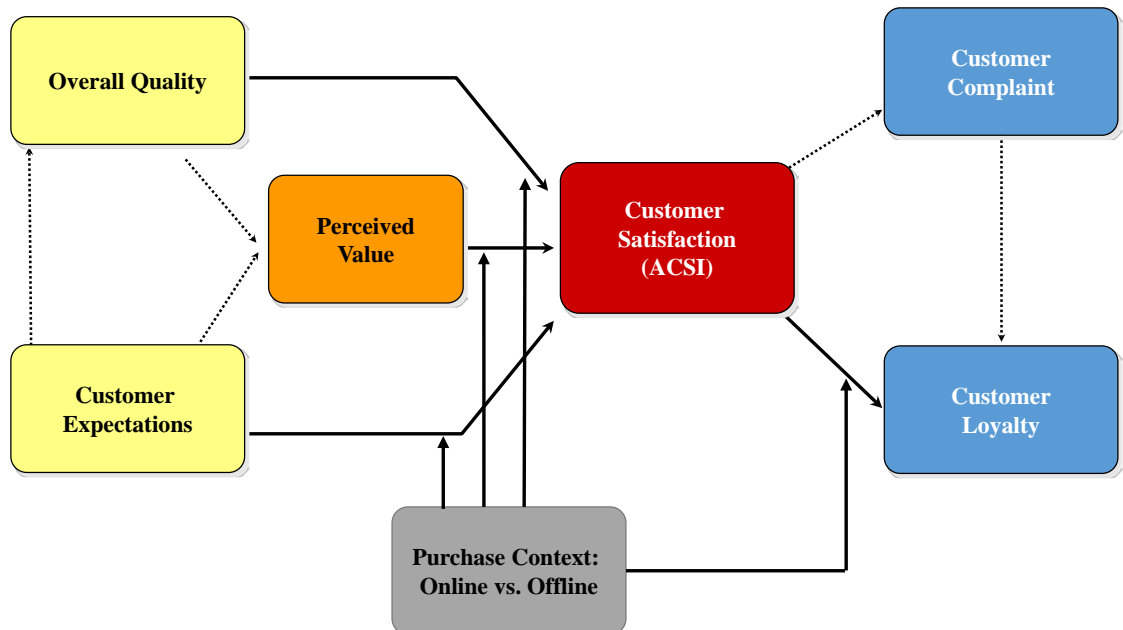
*** Significant at 0.01; ** Significant at 0.05; * Significant at 0.10.

Table 3
Summary and Breakdown of Findings

Proposition	Statement	Implications	Statistical Support Across Customers who Purchased:							
			Electronic Goods (n=913)							All Product Categories (n=7537)
			Pooled Sample	Gender		Age		Education		
	Female	Male		Young	Old	College	Non-College			
1	The effect of overall quality on customer satisfaction is stronger (i.e., more positive) in the offline than online purchases.	Customers more strongly seek a positive quality of purchase experience in the offline than the online purchases.	Yes	No	Yes	Yes	Yes	Yes	Yes	No
2	The effect of perceived value on customer satisfaction is stronger (i.e., more positive) in the online than the offline purchases.	Customers more strongly seek to extract positive value out of the online purchase experience than offline.	Yes	Yes ^a	Yes	Yes	Yes	Yes	Yes	Yes ^a
3	The effect of customer expectations on satisfaction is stronger (i.e., more positive) in the offline than the online purchases.	Customers weigh the anticipated quality of the offering more strongly in the offline than the online purchases.	Yes ^a	Yes	No	Yes ^a	No	No	Yes ^a	Yes
4	The effect of customer satisfaction on customer loyalty is stronger (i.e., more positive) in the online than the offline purchases.	Customer satisfaction is more important to gain customer loyalty for the online purchases.	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

^a marginally significant at .10 level.

Figure 1
Empirical Model



Note: Solid lines represent the primary relationships of focus in this study.