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Turning Complaining Customers into Loyal Customers: Moderators of the Complaint Handling – Customer Loyalty Relationship

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Abstract

Firms spend substantial resources responding to customer complaints and the marketing profession has a long history of supporting that enterprise in order to promote customer loyalty. We question whether this response is always warranted or whether its effectiveness instead depends on economic, industry, customer-firm, product/service, and customer segment factors that may alter the firm's incentives to compete on complaint management. To consider this question, we integrate economic and marketing theories and investigate factors that influence the complaint recovery–customer loyalty relationship via a sample of 35,597 complaining customers spanning a 10-year period across economic sectors, industries, and firms. Overall, we find that the recovery–loyalty relationship is stronger in faster-growing economies, for industries with more competition, for luxury products, and for customers with higher satisfaction and higher expectations of customization. Conversely, the recovery–loyalty relationship is weaker when customers' expectations of product/service reliability are higher, for manufactured goods, and for males compared to females. We discuss implications of these results for managers, policymakers, and researchers for more effective management of customer complaints.

Keywords: *Customer complaint behavior, complaint recovery, customer loyalty, complaint management incentives, exit-voice-loyalty theory, customer satisfaction*

Although customer complaints and the consequences of a firm's poor complaint handling are as old as business itself,[1] most marketers agree that the financial stakes are higher in today's competitive marketing ecosystem. The speed and flexibility with which information and communications technologies can be used increase the negative risks of customer complaints and the importance of effective firm recovery of complaints. For example, social media (e.g., Facebook, Instagram, LinkedIn, Pinterest, Reddit, Snapchat, Twitter) has created an environment where a customer's negative word-of-mouth is often dramatically amplified. A displeased customer can complain to a firm and simultaneously to potentially millions of other stakeholders.

In severe cases, the amplified complaint environment can create "online firestorms" of negative publicity with immense financial consequences (Pfeffer, Zorbach, and Carley 2014; Herhausen et al. 2019). For instance, the negative publicity that was shaped via social media in regard to service failures by Chipotle (foodborne illness in 2015) and United Airlines (passenger boarding issues in 2017) illustrate the consequences of poor service and the heightened criticality of complaint recovery. The result was costs of billions of U.S. dollars to Chipotle and United Airlines in market value.

On the other hand, there are loyalty payoffs for firms from effective complaint management. Importantly, studies show that a customer who experiences a failure and lodges a complaint can still be satisfied and retained if the firm's recovery is acceptable (e.g., Fornell and Wernerfelt 1987, 1988; Smith and Bolton 2002). Because the economic benefits of customer loyalty are sizeable in terms of a firm's cash flow and market value (e.g., Shah, Kumar, Kim, and Choi 2017), especially when considering customer acquisition costs, maintaining a complaint

[1]The oldest known written customer complaint, which was inscribed about 3,800 years ago (c. 1750 BC) on the ancient Babylonian "Complaint Tablet of Ea-Nasir," illustrates that customers have long used threats of defection to express their dissatisfaction and seek recovery (Kilgrove 2018).

management system that helps retain potentially disloyal customers is an economic imperative for most firms (e.g., Fornell and Wernerfelt 1987). Practically, this means that firms can turn dissatisfied customers into future loyal customers, albeit the cost of doing so is often high and requires considerable effort (e.g., Fornell, Morgeson, Hult, and VanAmburg 2020).

Despite important strides made by prior work, significant gaps remain concerning what we know about the complaint recovery–customer loyalty relationship and what we need to know in an increasingly dynamic marketing ecosystem. First, given cost and effort implications, the differing importance of recovery efforts in driving post-complaint satisfaction and loyalty across diverse consumer industries is largely unclear and needs to be better understood by firms to optimize their complaint handling. Based on the literature, we do not know much about cross-industry and cross-sector differences in the importance of complaint recovery to customer loyalty. Rather, the extant literature has tended to focus on only a small set of consumer industries (e.g., Mattila 2001), thereby limiting the generalizability of conclusions.

Second, research on complaint recovery has largely failed to account for the potentially dynamic nature of the recovery–loyalty relationship as it evolves in complex economic environments. Many studies imply that complaint recovery has a constant effect on customer loyalty (e.g., Gelbrich and Roschk 2010). Yet, complaint recovery may increase or decrease in importance to consumers as a determinant of their customer loyalty as macroeconomic and other exogenous factors change. Given that many consumer perceptions evolve in response to economic factors – as evidenced by measures like consumer confidence and consumer sentiment – the relative importance of complaint behavior and a firm's responses to complaints is likely to vary over time as well. These interrelated issues (i.e., the differing importance of recovery across

industries and the dynamic exogenous effects impacting customers) illustrate gaps in our knowledge of the complaint recovery–customer loyalty relationship.

Against this backdrop, we seek to answer the following overarching research question: *How does the relationship between a firm's customer complaint recovery (i.e., the customer's perception of how well the firm handled a complaint) and customer loyalty vary depending on influences from economic, industry, customer-firm, product/service, and customer segment factors?* We extend theorizing of the complaint recovery–customer loyalty relationship by integrating two streams: exit-vice-loyalty theory based in economics (e.g., Hirschman 1970) and the complaint handling literature grounded in expectations-disconfirmation theory (e.g., Fornell and Wernerfelt 1987, 1988, Fornell and Westbrook 1984). From these literature bases, we derive a set of factors and mechanisms that influence customers to be more or less responsive to complaint handling. These factors and mechanisms are, in turn, likely to impact firms' incentives to manage complaints, as they alter the expected loyalty pay-offs from recovery efforts. We then analyze a large and rich sample of consumer data from the American Customer Satisfaction Index (ACSI), including a sample of 35,597 complaining customers spanning 10 years across economic sectors, industries, and firms.

The remainder of the paper is organized as follows. First, we review the complaint management literature. Second, we outline a contingency model of loyalty returns to complaint management. From this contingency model, we delineate the factors and mechanisms that both drive and influence customers' disposition to firms' complaint management efforts and firms' incentives to manage complaints. Third, we describe the ACSI data and methods utilized to analyze the data. Fourth, we present the results from our analyses. Finally, we offer implications for managers, policymakers, and researchers, and recommend directions for future research.

The Complaint Management Literature

The literature on customer complaints, firms' complaint management, and customer loyalty is diverse, emerging nearly a half-century ago (e.g., Etzel and Silverman 1981; Kendall and Russ 1975). More importantly, the idea of complaint handling as an important strategic marketing phenomenon with tangible financial impact for firms has gained significant momentum over the last two decades. Table 1 summarizes findings from studies on customer complaints, complaint management, and customer loyalty over this period.

Insert Table 1 about here

Previous research has focused in one of three ways on understanding the conditions under which customers who experience a failure, or are dissatisfied, and complain remain loyal. First, the literature has observed intervening consumer-psychological variables that moderate or mediate the failure, complaint, recovery, and/or loyalty perceptions of customers (Dewitt, Nguyen, and Marshall 2008; Evanschitzky, Brock, and Blut 2011; Hess, Ganesan, and Klein 2003; McCollough, Berry, and Yadav 2000; Simon, Tossan, and Guesquiere 2015; Tax, Brown, and Chandrashekaran 1998; Umashankar, Ward, and Dahl 2017. Second, studies have examined complaint management strategies employed by firms (Homburg and Furst 2005; Smith, Bolton, and Wagner 1999). Third, research has investigated the "service recovery paradox" under unique circumstances (e.g., across complaints, relative to complaint frequency, longitudinally) (Knox and van Oest 2014; Maxham and Netemeyer 2002; Michel and Meuter 2008).

Despite progress, significant gaps remain when it comes to understanding the relationship between complaint handling (recovery) and customer loyalty. The literature has tended to focus on a small cross-section of consumer industries. Of the studies in Table 1, a plurality focus either exclusively or partially on failure, complaint, and recovery with restaurants. A handful focus on

hotel and commercial bank customers. A few are "multi-industry" studies of aggregate samples of consumers spread across contexts. The first two industries (restaurants and hotels) fall into a single, unique, and service-intensive economic sector (Accommodation and Food Services), while the multi-industry studies and the studies of bank customers provide a measure of diversity and exposure to a different kind of service (Finance and Insurance). Nevertheless, research on complaint management has thus far examined a narrow cohort of industries compared with the diverse consumer landscape (e.g., Evanschitzky, Brock, and Blut 2011). Given industries differ and are characterized by variations that may impact both customers' loyalty and firms' incentives to manage complaints, this narrow focus on a small cross-section of consumer experiences results in gaps in our knowledge and potentially faulty complaint-recovery efforts by firms.

Likewise, while the research methods used so far have been somewhat eclectic, most studies adopt experimental or mixed-design methods with relatively small samples. Of the studies in Table 1, eight adopt either only experimental methods or a mixed design incorporating experimental and consumer survey data. Only one is observational (Knox and van Oest 2014), tracking complaints and actual future purchase behavior with an online retailer. Virtually all of the remaining studies focus on some type of surveying (of managers or customers), but use comparatively small, single-point-in-time cross-sectional sampling techniques. In turn, such studies fail to fully capture the recovery–loyalty relationship as it evolves in complex environments marked by variations that influence both customers' loyalty and firms' strategies.

From previous research, we draw two conclusions. First, much of the prior complaint literature focuses on a narrow set of consumer industries, such as restaurants, hotels, and banks. Already noticing this trend about two decades ago, Mattila (2001, p. 583) suggested that this

focus "…on a single service type … or a specific service industry" has precluded a complete understanding of the recovery–loyalty relationship, and "consequently, little is known about the underlying assumptions that cover the entire spectrum." Second, a large portion of prior studies use experimental or quasi-experimental methods, and/or analyze small samples of single-point-in-time cross-sectional data (rather than repeated cross-sectional or longitudinal data). Although these studies have enriched our understanding, they are not able to effectively inform us about the influence that the broader, evolving, and dynamic marketing ecosystem has on the relationship between customer complaint behavior, complaint recovery, and customer loyalty.

Thus, in seeking to answer our research question and to determine if and how the relationship between a firm's complaint recovery and a customer's loyalty vary due to influences from various factors (i.e., economic, industry, customer-firm, product/service, and customer segment factors), we seek to close significant knowledge gaps in the complaint recovery literature. The core focus is on understanding the factors that are stronger/weaker moderators of the relationship between complaint recovery and customer loyalty, as guided by our contingency model of loyalty returns to complaint management which follows.

A Contingency Model of Loyalty Returns to Complaint Management

To develop a contingency model of firm-anticipated pay-offs from complaint management efforts, we synthesize two theories: exit-voice-loyalty theory from economics (Hirschman 1970) and expectations-disconfirmation theory from marketing (e.g., Fornell et al. 1996; Oliver 1980). These theories illuminate incentives and disincentives that (1) dissatisfied customers have when making loyalty decisions and (2) firms have to convert complaint recovery to customer loyalty in their complaint management efforts.

Beginning with exit-voice-loyalty (EVL) theory (Hirschman 1970), a customer who experiences dissatisfaction with a firm and its products or services has three basic options: (1) exhibit disloyalty and defect from the firm (i.e., "exit") to an alternative supplier; (2) complain and express displeasure to the firm (i.e., "voice"); or (3) do neither, accept the issues causing the dissatisfaction, and remain "silently loyal" (cf. Dowding, John, Mergoupis, and Van Vugt 2000). The consumer's decision about which alternative to pursue is informed by several factors that are related to the firm (e.g., the firm's response to "quality deteriorations") but also external to the dissatisfying experience. EVL theory focuses primarily on the latter; that is, on industry conditions and the economic environment surrounding the exchange. These include: the degree of market competition and the availability of alternatives; the level of investment in or price paid for the good by the consumer (i.e., the sunk cost); switching costs, the tangible and intangible costs associated with defecting from one supplier to a competitor; and the individual customer's economic situation (and perceived power) at the time of the complaint (Fornell and Davidow 1980; Fornell and Westbrook 1984; Lee and Whitford 2007; Withey and Cooper 1989).

Additionally, much like customers have choices when displeased and making loyalty decisions, EVL theory specifies that firms have both economic incentives and disincentives to convert the complaint recovery efforts to customer loyalty outcomes. Take the two extremes of monopolists and highly competitive markets. Monopolistic firms that market necessity products during a time of slow economic growth may need to be prepared for greater complaint volume when quality deterioration results in dissatisfaction. However, because these relatively "weak" displeased customers are unable to defect and require the good, these monopolistic firms do not necessarily need to focus on complaint recovery. On the other hand, luxury goods firms in highly competitive industries with low switching costs during a period of stronger economic growth

have a greater incentive to convert customer complaints to customer loyalty outcomes due to the reality of relatively frictionless customer defection.

Augmenting EVL theory, we also draw from expectations-disconfirmation theory (Fornell et al. 1996; McCollough, Berry, and Yadav 2000; Smith and Bolton 2002; Smith, Bolton, and Wagner 1999; Tax, Brown, and Chandrashekaran 1998). Expectations-disconfirmation theory and the customer satisfaction perspective focus on the customer-firm relationship and view loyalty as a function of (1) pre-experience consumer expectations (positively related to satisfaction and loyalty, unless negatively disconfirmed); (2) the customer's expected vs. experienced quality (positively related to satisfaction and loyalty, if a positive gap); and (3) customers' overall satisfaction (or fulfillment) with the consumption experience (strongly and positively related to loyalty). Through the lens of expectations-disconfirmation theory, confirmed (high) expectations or a positive expectations gap predict stronger customer perceptions of quality and satisfaction, and thus a stronger customer loyalty likelihood. However, when the customer has experienced negative expectations disconfirmation, poor quality, and dissatisfaction, and has chosen to voice this discontent to the firm, customers may be more likely to defect. A firm's complaint handling and system to manage the recovery–loyalty relationship is a reaction to a higher probability of customer disloyalty designed to minimize defection.

Drawing from EVL theory, expectations-disconfirmation theory, and the literature on customer satisfaction, we next identify factors likely to influence the recovery–loyalty relationship. Specifically, we argue that this relationship is likely to vary due to a set of characteristics associated with: (1) economic factors, such as economic growth, surrounding the complaint and recovery; (2) industry factors, such as industry competitiveness, which impacts consumers' switching costs and the availability of alternative suppliers; (3) customer-firm factors

– i.e., customer satisfaction and expectations — both of which frame the complaint and recovery experience (4) product/service factors, such as whether the good consumed is a lower-priced necessity good vs. a higher-priced luxury good, or a service vs. a manufactured good; and (5) customer segment factors (e.g., income, gender, age cohort, and region of residence) related to the group that is served.

Each of these five factors is observable, but we argue that they effect the recovery–loyalty relationship through a set of unobserved mechanisms, as shown in Figure 1. The mechanisms are (1) consumer power; (2) alternatives, switching costs, and barriers; (3) a negative expectation-disconfirmation gap; (4) a reservoir of consumer goodwill, and (5) latent segment membership. These mechanisms arise from EVL theory, expectations-disconfirmation theory, and the literature on customer satisfaction as we highlight in the sections that follow. Table 2 summarizes the variables that affect the recovery–loyalty relationship and the influential mechanisms and factors involved.

Insert Figure 1 and Table 2 about here

Economic Factors

We predict that the recovery–loyalty relationship is influenced by economic factors (e.g., Fornell, Rust, and DeKimpe 2010; Kumar, Umashankar, Kim, and Bhagwat 2014). Specifically, we expect that a *faster-growing economy* will positively moderate the link between complaint recovery and customer loyalty. The reason for this positive moderation is due to the fact that economic growth is typically accompanied by a variety of features that result in *more powerful consumers* (e.g., lower unemployment, stronger income growth, more consumer spending, stronger consumer confidence). This increased consumer power (e.g., Dubois, Rucker, and

Galinsky 2012; Kim, Park, and Dubois 2018) lead consumers to perceive the market as having lower switching costs and more viable alternative suppliers, easing defection and disloyalty. As such, during these faster-growing economic periods firms will be even more determined to overcome customer complaints effectively and keep customers loyal. Stronger economic growth will thus positively moderate the link between complaint recovery and customer loyalty, and firms may have a stronger incentive to convert complaining customers into enduringly loyal customers via complaint management during these periods.

Industry Factors

We predict that the importance of complaint recovery to customer loyalty is not constant but varies across industries and economic sectors (e.g., Bamiatzi, Bozos, Cavusgil, and Hult 2016; Short, Ketchen, Palmer, and Hult 2007). This variation is due to the diversity of the competitive economic contexts experienced by consumers. We predict that the most fundamental factor influencing variance in the recovery–loyalty relationship across industries and sectors is the degree of competition. We argue that complaint recovery will exhibit a weaker (stronger) effect on customer loyalty in less (more) competitive industries. This is because in more competitive industry contexts, customers will recognize their ability to more easily switch to alternative suppliers and also recognize their greater power vis-à-vis the firm. As such, in more competitive industries, the expectation is that a stronger relationship will exist between complaint management efforts by the firm and customers' future loyalty. Consequently, due to this competitive industry dynamic, firms will have stronger incentives to manage complaints given the increased importance customers place on the recovery-loyalty relationship in more competitive industries.

Customer-Firm Factors

Three customer-firm factors are expected to be important influencers of the recovery-loyalty relationship (e.g., Fornell, Morgeson, Hult, and VanAmburg 2020). We predict that customers' satisfaction and their pre-experience expectations of both the customizability and the reliability of the products/services consumed will moderate the recovery–loyalty relationship. Beginning with *customer satisfaction*, which is defined as the customer's overall fulfillment response to a consumption experience (e.g., Fornell 2007; Fornell, Morgeson, Hult, and VanAmburg 2020; Oliver 2010), we anticipate positive moderation of the recovery-loyalty relationship. As measured in this study, customer satisfaction is a cumulative phenomenon reflecting the totality of the consumers' experiences with the firm. Effectively, this form of satisfaction can be viewed to represent (a proxy for) the consumer's reservoir of goodwill toward the firm and the product/service based in buyer habit and brand identification developed (in many cases) over a lengthy and deeper customer-firm relationship. Part and parcel to this relationship, however, is the consumer's demand that the trusted firm will "go the extra mile" to resolve a problem when it occurs, as a way to reaffirm the relationship and ensure future loyalty.

Regarding the effect of *expectations of customizability*, defined as the customer's pre-experience perceptions of the product/service's abilities to meet personal requirements, we predict a positive moderating effect. Customers with higher customization expectations anticipate more individualized service from the firm in all areas, including during a failure and recovery. Higher expectations of customization are likely to lead the customer to demand personalized service during the recovery and, by design, a heightened positive relationship between recovery efforts and loyalty. In effect, firms have a greater incentive to manage complaints to secure loyalty due to higher expectations of customizability.

Regarding expectations of reliability, which we define as the customer's pre-experience perceptions of the probability of a lack of failure with the product/service, we predict a negative moderating effect on the recovery-loyalty relationship. Customers' stronger expectations of reliability with a firm are generally created through either multiple problem-free consumption experiences or through advertising or other marketing communications promising problem-free experiences. In the event of a failure, however, the result will be a large negative expectations-disconfirmation gap. Consequently, theoretically we predict that this disconfirmation gap will negatively frame (and weaken) the consumer's response to a firm's complaint recovery efforts vis-à-vis their loyalty intentions. This is because the unexpected failure resulting in the complaint and recovery attempt is, from the customer's perspective, reflective of either a fundamental disruption of a long problem-free relationship or an indication that the firm's promises are hollow.

Product and Service Factors

We predict that the categorization of the product or service as a *necessity good* or a *discretionary luxury good* is a factor that moderates the recovery–loyalty relationship (e.g., Berger and Ward 2010). We define necessity goods as basic products and services customers often require and therefore must purchase (even when, for example, income is low or declining), and/or as lower-cost goods for which more expensive substitute goods exist. Discretionary luxury goods, on the other hand, are defined as superior (and typically more expensive) products and services sought-out by the customer (often as income is high or rising), even though less expensive substitute alternative goods are available. Our expectation is that luxury goods customers will typically have greater financial resources and thus the ability to switch to

alternative luxury providers or less expensive replacement goods more easily. Specifically, luxury goods customers tend to be financially better-off (e.g., Mandel, Petrova, and Cialdini 2006), and hence they are anticipated to be less impacted by the loyalty-inducing constraints of sunk costs from earlier purchases as a barrier to switching. On the other hand, if the product or service is considered a necessity the situation is often reversed, and this – combined with the fact that this category of goods typically has lower profit margins – decrease demands on firms to manage customer complaints. Hence, we expect positive moderation of the recovery–loyalty relationship among luxury goods consumers, and larger loyalty pay-offs via recovery efforts for firms selling luxury goods.

Likewise, we anticipate that the importance of complaint recovery to customer loyalty varies between customers of services and manufactured goods. In particular, complaint recovery will have a weaker effect on loyalty for customers of manufactured goods relative to customers of services (i.e., negative moderation). For a significant proportion of manufactured goods, such as frequently purchased and inexpensive nondurable goods, customer complaint behavior is itself far less likely following a dissatisfying experience. That is, customers are less likely to seek recovery when displeased with this class of nondurable goods, choosing to either remain silently loyal or to defect without complaint (Fornell, Morgeson, Hult, and VanAmburg 2020). This suggests that, in the aggregate, complaint recovery is relatively less important to loyalty decisions for these necessity goods (often price-based commodities), and possibly also among the smaller group of customers who do complain. Moreover, prior research has confirmed that complaint recovery after a failure, as a type of interactional justice, has a stronger effect on loyalty in personal services contexts relative to less personal non-services goods (Gelbrich and

Roschk 2010; Malshe and Agarwal 2015), supporting the negative moderation of the recovery-loyalty relationship for manufactured goods.

Customer Segment Factors

We examine four customer segment factors (i.e., customer *age*, *gender*, *income*, and *region of residence*) that will potentially influence the complaint recovery–customer loyalty relationship. Given the context and focus of our study, these customer segment factors are important inclusions in the analyses to holistically understand the recovery–loyalty link. However, limited theoretical and empirical evidence exists regarding the nature of the potential moderation for these factors within the complaint management literature. Consequently, we draw on research and seek guidance from the related literature regarding influencers of the customer satisfaction and customer loyalty relationship (e.g., Cronin, Brady, and Hult 2000). We also draw broadly on the consumer behavior literature related to age, gender, income, and region.

Beginning with income (Kapferer and Bastien 2009), research indicates that customer satisfaction is less influential as a determinant of loyalty for wealthier consumers (Mandel, Petrova, and Cialdini 2006), possibly due to a more expansive choice set and lower barriers to switching, and thus so too might dissatisfaction and ratings of complaint recovery matter less to loyalty. This suggests a negative moderating effect for income (Walsh, Evanschitzky, and Wunderlich 2008) on the recovery-loyalty relationship.

On the other hand, research has shown that generally a stronger customer satisfaction-customer loyalty relationship exist among women than among men, in particular as it relates to individual providers, brands, and exchanges (e.g., Fornell 1997; Melnyk, Osselaer, and Bijmolt

2009). As a result, we predict a stronger complaint recovery–customer loyalty relationship among females (Homburg and Giering 2001).

Considering age and generational cohort, research has shown that the impact of satisfaction on loyalty increases with age, possibly due to these customers' stronger reliance on their own evaluative abilities developed through lengthy personal experience. For this reason, complaint recovery may likewise more strongly impact customer loyalty for the older generational cohorts (Homburg and Giering 2001; Walsh, Evanschitzky, and Wunderlich 2008).

Finally, while it is reasonable to anticipate an effect on the recovery-loyalty relationship across regions within the United States (cf. Kim, Park, and Dubois 2018), given the prevalence of geography-specific marketing strategies ("geo-marketing") deployed by national firms such as mobile-service providers ("geo-fencing"), no theory or research offers strong predictions for moderation of the recovery-loyalty relationship based on customers' regions of residence.

Methods

Sample and Data

To test how the factors in Figure 1 impact the complaint recovery–customer loyalty relationship, we analyze a 10-year period of data drawn from the large-scale samples included in the American Customer Satisfaction Index (ACSI). Since 1994, the ACSI has annually interviewed customers of the largest firms in the U.S. economy. ACSI measures customer satisfaction as its central focus but includes additional variables on customer complaint behavior, complaint recovery, and post-complaint repurchase intention, among others (e.g., Fornell et al. 1996; Fornell, Morgeson, and Hult 2016; Hult et al. 2017; Johnson and Fornell 1991; Keiningham, Morgeson, Aksoy, and Williams 2014; Morgeson, Mithas, Keiningham, and Aksoy

2011). Only the most economically significant firms with the largest market shares in an industry are included in the ACSI sample each year, resulting in a dataset that primarily include customers of Fortune 1000 consumer products and services companies.

The ACSI sample analyzed covers a recent 10-year period (2005 to 2014). We began with a sample that includes 41 distinct industry categories which span seven of the ten NAICS economic sectors (Manufacturing, Retail Trade, Transportation and Warehousing, Information, Finance and Insurance, Health Care and Social Assistance, and Accommodation and Food Service – see Appendix 1 for more detail on the sectors and industries). After excluding non-complaining respondents and ensuring availability of at least 25 non-missing firm-year observations for firms/brands, we have a sample of n = 35,597 complaining customers across firms, industries, and economic sectors with data available on all relevant variables. The volume of responses in our dataset is significantly larger than what has been studied in prior customer complaint studies (see Table 1) and provides an opportunity to more deeply understand the roles of the factors and mechanisms in Figure 1 as they pertain to the recovery–loyalty relationship. Specifically, this rich ACSI sample enables us to rigorously assess how the relationship between recovery and loyalty varies across the factors (i.e., economic, industry, customer-firm, product/service, and customer segment factors).[2]

[2]Data from two economic sectors were removed prior to analysis – Energy Utilities (gas and electric power) and Public Administration. Data for these sectors differ from the remaining sectors in the ACSI. Energy Utilities includes a far larger number of companies (nearly 30) than the average ACSI industry – due to regional monopolies in the industry – and thus includes far more completed interviews, a fact that could bias our aggregate model results. Regarding public administration, the study parameters for this sector were changed by ACSI in 2007, and samples before and after that date have only limited comparability. Pre-testing confirmed suspicions, and thus the data from the two sectors were eliminated to not confound our findings.

Measures

The variables used to operationalize the core factors (customer loyalty and customer complaint handling) and moderating factors (i.e., economic, industry, customer-firm, product/service, and customer segment factors), obtained from the ACSI dataset as well as several secondary data sources, are detailed in Table 3. The core variables of loyalty and complaint handling were measured via survey variables as a part of the data collection efforts by the American Customer Satisfaction Index. *Customer loyalty* is operationalized via a variable measuring the customer's stated likelihood to repurchase from the same firm in the future (*REPUR*). *Complaint handling* (recovery) is measured as a variable that assesses how well, or poorly, a customer's most recent complaint was handled (*HANDLE*).

The moderators were assessed via a combination of survey data from ACSI and objective data from the U.S. Bureau of Economic Analysis, Compustat (obtained via the Wharton Research Data Services), NAICS codes, and the U.S. Census' Regions and Divisions of the United States (see Table 3). To represent the economic factors, we use quarterly changes in annualized U.S. *gross domestic product growth* (*GDPGR*). Industry factors are represented by the degree of competition in an industry, operationalized with the *Herfindahl-Hirschman Index* (*HHI*). The customer-firm factors are operationalized as the respondents' overall, cumulative *customer satisfaction* with the purchase and consumption experience (*SATIS*), and the customers' pre-experience *expectations* regarding both the *customizability* (*CUSTOMX*) and *reliability* (*RELYX*) of the good. Product and service factors – *necessity vs. luxury goods* and *services vs. manufactured goods* – are measured via the *LUXURY* and *MFG* variables described in Table 3.

The customer segment factors are operationalized through latent membership in various demographic groups. These include *income* (*INCDUM)*, measured categorically as the

respondent's total annual household income and transformed (based on the sample median) to a low-high dummy variable; the respondent's *gender*, self-identified as male or female (*FEMALE)*; *customer age*, measured as membership in one of four generational cohorts (Silent Generation, Baby Boomers, Generation X, and Millennials) and operationalized as three dummy variables (*BOOMDUM*, *GENXDUM*, and *MILLDUM*); and *region of residence* in the United States, measured as the West, Northeast, Midwest, or Southeast regions and operationalized via three dummy variables (*NEDUM*, *MIDWDUM*, and *SOUTHDUM*).

Insert Table 3 about here

Table 4 reports descriptive statistics and correlations, including summary statistics, for all of the variables included in the model. For the core variables (REPUR and HANDLE), the mean score for repurchase intention across all ACSI respondents (n = 319,330) during the study period, including complainant and non-complainant customers, is 8.05 (on a 1–10 scale, "very unlikely" to "very likely"). The score drops significantly ($p<0.01$) to 6.19 among complaining customers. The mean complaint rate across all sectors and years in the full sample of customers is 11.1 percent, meaning that over the 10-year study period roughly one in nine respondents had a product or service failure or other source of dissatisfaction about which they complained. The average complaint recovery (i.e., complaint handling) score is 6.31 (on a 1–10 scale ranging from "very poor" to "very well"), slightly higher than the customer loyalty score. None of the correlations in Table 4 are unusually high. Regarding potential concerns about multicollinearity, the final model has average variance inflation factors of less than 10.[3]

[3]The model contains a few variables for which the maximum VIF is greater than 10. However, with the exception of the interaction involving Generation X and the *HANDLE* variable, all other variables are statistically significant despite the high VIF. As Disatnik and Sivan (2016) note, multicollinearity should be of less concern when high VIFs are due to product terms in interactions. Nonetheless, we further verified that results for the moderators are stable when we enter them sequentially in blocks.

Insert Table 4 about here

Models

We examine our research question and the theoretically developed contingency model of loyalty returns to complaint management by examining the effects of customer complaint handling (*HANDLE*) on customer repurchase intention (*REPUR*) while simultaneously examining how this relationship is moderated by economic (*GDPGR*), industry (*HHI*), customer-firm (*SATIS*, *CUSTOMX*, and *RELYX*), product/service (*LUXURY, MFG*), and customer segment factors (*INCDUM*, *FEMALE*, *BOOMDUM*, *GENXDUM*, *MILLDUM*, *NEDUM*, *MIDWDUM*, and *SOUTHDUM*). Given that the nesting of customers in the same firm/brand within an industry/sector across multiple years creates a multilevel structure, we use hierarchical linear modeling (HLM) to analyze the complaint handling/recovery–repurchase intention/loyalty relationships (e.g., Hofmann 1997; Raudenbush and Bryk 2002).[4]

Analysis of multilevel data poses three types of potential estimation difficulties relevant to our study: aggregation bias, misestimated errors, and heterogeneity of regression. First, aggregation bias occurs when a variable takes different meanings at different levels of analysis. For example, by aggregating individual customer ratings for complaint recovery data across firms, we can conceptualize how firms vary in their ability to handle customer complaints. Recovery can be assessed at both the customer and firm levels by aggregating customer-level data.[5] HLM addresses these potential confounding effects on variable interpretation by decomposing the effects of variables at separate levels. Second, misestimated standard errors

[4]The authors gratefully acknowledge the input of Stephen Raudenbush on the HLM modeling.

[5]Indeed, we make use of this property in an exploratory analysis when we add the mean of the complaint handling variable in the model for the intercept at Level 2. Our key findings for the moderating effects of *HHI*, *GDPGR*, and *LUXURY* remain unchanged when we do so, and we find that the mean complaint recovery variable in Level 2 for the intercept is positive and statistically significant. This suggests that firms with better complaint management have higher customer loyalty, even after controlling for an individual customer's assessment of complaint handling.

may arise as a result of failure to account for the dependence of observations, in this case within a firm in an economic sector or for a particular year. HLM avoids this problem by incorporating a unique random effect for each firm-year. Third, heterogeneity of regression could arise when relationships between complaint recovery and loyalty vary across sectors or years. HLM permits the modeling of variation in the intercepts and slopes of loyalty across firm-years by utilizing industry or economic characteristics, such as *HHI* or *GDPGR*, as Level 2 variables.

The HLM analyses are conducted incrementally in three steps. In Step 1, we partition the total variance in customer loyalty into levels ("within" variance at the customer level and "between" variance across firm-years) through a fully unconditional model. This model specifies no predictors at the customer (Level 1) or firm/year (Level 2) levels. In Step 2 of the HLM analysis, we fit a random coefficients regression model by allowing predictors at the customer level only (Level 1). The random coefficients regression model provides Level 1 coefficients that can subsequently be modeled with Level 2 variables. In Step 3 of the HLM analysis, we model the randomly varying intercepts and slope coefficients (obtained in Step 2) through Level 2 predictors. Thus, we estimate the following equations at the customer and firm/year levels.

The Level 1 model is:

$$
\begin{aligned}
Y_{ijt} &= \beta_{0jt} + \beta_{1jt}*(HANDLE_{ijt}) \\
&+ \beta_{2jt}*(SATIS_{ijt}) + \beta_{3jt}*(CUSTOMX_{ijt}) + \beta_{4jt}*(RELYX_{ijt}) \\
&+ \beta_{5jt}*(FEMALE_{ijt}) + \beta_{6jt}*(INCDUM_{ijt}) + \beta_{7jt}*(MILLDUM_{ijt}) + \beta_{8jt}*(GENXDUM_{ijt}) + \beta_{9jt}*(BOOMDUM_{ijt}) \\
&+ \beta_{10jt}*(NEDUM_{ijt}) + \beta_{11jt}*(MIDWDUM_{ijt}) + \beta_{12jt}*(SOTHDUM_{ijt}) + \beta_{13jt}*(IMR_{ijt}) \\
&+ \beta_{14jt}*(SATIS * HANDLE_{ijt}) + \beta_{15jt}*(CUSTOMX * HANDLE_{ijt}) + \beta_{16jt}*(RELYX * HANDLE_{ijt}) \\
&+ \beta_{17jt}*(FEMALE *HANDLE_{ijt}) + \beta_{18jt}*(INCDUM * HANDLE_{ijt}) \\
&+ \beta_{19jt}*(NEDUM * HANDLE_{ijt}) + \beta_{20jt}*(MIDWDUM * HANDLE_{ijt}) + \beta_{21jt}*(SOTHDUM * HANDLE_{ijt}) \\
&+ \beta_{22jt}*(MILLDUM* HANDLE) + \beta_{23jt}*(GENXDUM * HANDLE_{ijt}) + \beta_{24jt}*(BOOMDUM * HANDLE_{ijt}) \\
&+ r_{ijt}
\end{aligned}
$$

where *Y* represents the individual customer's repurchase intention (customer loyalty) rating (*REPUR*) as an outcome variable, and subscript *i* indexes customers, subscript *j* indexes firms (nested in sectors), and subscript *t* indexes years. Explanatory variables at Level 1 include the

customer complaint handling rating (*HANDLE*); customer satisfaction (*SATIS*); expectations of customization (*CUSTOMX*); expectations of reliability (*RELYX*); a gender dummy variable (*FEMALE*); an income dummy variable (*INCDUM*); the respondent age cohort represented by the dummy variables *MILLDUM*, *GENXDUM*, and *BOOMDUM*; and geographical regions represented by the dummy variables *NEDUM*, *MIDWDUM*, and *SOTHDUM*. The Level 1 model also includes interaction terms involving *HANDLE* and the individual-level variables *SATIS*, *CUSTOMX*, *RELYX*, *FEMALE*, *INCDUM*, region dummies (e.g., *NEDUM*, *MIDWDUM*, *SOTHDUM*), and age/generational cohort dummies (*MILLDUM*, *GENXDUM*, *BOOMDUM*). We centered all variables at Level 1 before creating the interaction terms, as explained below. Finally, we include an Inverse Mills Ratio (*IMR*) in the Level 1 model to account for any potentially non-random selection in that the sample of complaining customers may be different from those who did not complain. We used a Probit model for calculating the *IMR* and in that model we included a variable representing the fraction of complaints in a particular year for a particular firm as an instrumental variable. We verified the relevance of this variable and it was positive and significant in the first-stage equation. This instrumental variable also satisfies the exclusion restriction conceptually because a particular customer's loyalty to a firm is unlikely to be related to what fraction of customers of that firm choose to voice their complaints.

At Level 2, we model the intercept and slope of the recovery–loyalty relationship by the three economic, industry, and product/service moderators: necessity vs. luxury goods (*LUXURY*), services vs. manufactured goods (*MFG*), GDP Growth (*GDPGR*), and the Herfindahl-Hirschman Index (*HHI*). We fixed all other slopes. Thus, the Level 2 models are:

$$\beta_{0jt} = \gamma_{00} + \gamma_{01}*(LUXURY_{jt}) + \gamma_{02}*(GDPGR_{jt}) + \gamma_{03}*(HHI_{jt}) + \gamma_{04}*(MFG_{jt}) + u_{0jt}$$
$$\beta_{1jt} = \gamma_{10} + \gamma_{41}*(LUXURY_{jt}) + \gamma_{12}*(GDPGR_{jt}) + \gamma_{13}*(HHI_{jt}) + \gamma_{14}*(MFG_{jt}) + u_{4jt}$$
and,
$$\beta_{xjt} = \gamma_{x0} \text{ if } x = 2\text{-}24$$

To estimate the coefficients, we account for differential precision of the information provided by each firm-year using the generalized least squares (GLS) procedure. Additionally, because the customers and Level 1 parameters vary across firm-years, we employ an iterative technique using an expectation maximization algorithm and Fisher scoring to obtain maximum likelihood estimates of the Level 1 and Level 2 variance components (Raudenbush et al. 2016).

We centered the variables as suggested by Raudenbusch and Bryk (2002). In the Level 1 model, because our primary interest is in modeling the recovery–loyalty relationship, and while we use *LUXURY*, *MFG*, *GDPGR* and *HHI* at Level 2, we do not expect these variables to explain the entire variance in the slope. Hence, we allow the slope of *HANDLE* to vary across firm-years, and we group-mean center the *HANDLE* variable across firm-years (Raudenbush and Bryk 2002). For the remaining predictors at Level 1 (i.e., *SATIS, CUSTOMX, RELYX, FEMALE*, *INCDUM*, *MILLDUM*, *GENXDUM*, *BOOMDUM*, *NEDUM*, *MIDWDUM*, and *SOTHDUM*), we constrain the variances of their slope to be zero at Level 2 across firm-years and we grand-mean centered these variables. For the interaction terms involving *HANDLE* at Level 1, we used group-mean centered *HANDLE*, grand-mean centered satisfaction and expectations variables (*SATIS*, *CUSTOMX*, and *RELYX*), and uncentered *INCDUM* and *FEMALE* variables. Use of such centering decisions at Level 1 implies that the intercept at Level 1 represents loyalty for a customer with an average rating of *HANDLE* within a firm-year and at the average values of all other variables in our sample. At Level 2, one can either grand-mean center variables or leave them uncentered (see Raudenbush and Bryk 2002, pp. 32-35); we use uncentered variables for Level 2 (*LUXURY*, *MFG*, *HHI*, and *GDPGR*) for easier interpretation of results.[6]

[6]Our results for the key moderators of the recovery–loyalty relationship are qualitatively similar and robust even if we use different centering choices such as group-mean centering of customer expectations and customer satisfaction variables at Level 1, and interaction of group-mean centered *HANDLE* with such group-mean centered variables.

Results

From the model specifications, we first assess the model fit improvement by comparing the fully unconditional model (FUM), which specifies no predictors at either the customer (Level 1) or firm-year (Level 2) levels, the random coefficients (RC) model which allows predictors at the customer level (Level 1) only, and the "full" model with randomly varying intercepts and slope coefficients. Based on the AIC, BIC and deviance values, we find the "full" model reported in Table 5 to be significantly better than the FUM and RC models. We next discuss the results for the complaint recovery–customer loyalty relationship (slope) and the moderating effects of the various factors we examine on this relationship (economic, industry, customer-firm, product/service, and customer segment factors), followed by the intercept results. To complement Table 5, Figure 2 summarizes the economic significance of the various moderators of the recovery–loyalty relationship.

Insert Table 5 and Figure 2 about here

Main Effect Results

Before discussing the moderating effects, we report on the main effects of key study variables on customer loyalty (repurchase intention) at the group-mean value of complaint recovery in Table 5 (see Panel A). Among the customer-firm factors, customer satisfaction (Coefficient = 0.664, p <.001) and expectations of customization (Coefficient = 0.049, p <.001) positively and significantly influence customer loyalty, while customer expectations of product/service reliability negatively influence loyalty (Coefficient = -0.011, p <.05). These findings suggest that customers who are more demanding of customizability are also more loyal, while those who anticipate stronger reliability are relatively more fickle. The results are

consistent with theoretical reasoning and the related literature that highlights the importance of competing based on differentiation and customization rather than on cost or reliability (e.g., Rust, Moorman, and Dickson 2002).

Among the results for the customer segment factors, at the mean value of complaint handling, higher income households tend to have higher customer loyalty (Coefficient = 0.062, $p<.01$) compared to those with lower income. However, at the mean value of complaint handling, there are no differences in loyalty across men and women (Coefficient = -0.018, ns). We find that Millennials and Generation X customers have lower loyalty when compared to those from the reference group of the Silent Generation, and that those residing in the Midwest and Southeast have lower loyalty than those from the West. Because there is no strong theory for predicting differences in loyalty across regions (cf. Kim, Park, and Dubois 2018), we avoid overinterpretation of these results but document them here for further research and theorizing. Finally, the instrumental Inverse Mills Ratio, added to our models to control for potential non-selection bias between complaining and non-complaining customers, shows a positive and significant effect on loyalty, as expected (Coefficient = 0.510, $p<.01$).

Results for intercept modeling. Although our principal interest in this study is to understand the factors that moderate the recovery–loyalty relationship, we also provide complementary results from modeling of the intercept in Table 5 (see Panel B). First, there is no statistically significant difference in mean repurchase intention (customer loyalty) related to GDP growth (Coefficient = 0.006, ns) and being a provider of luxury goods (Coefficient = -0.004, ns). Second, we find that mean repurchase intention is higher (Coefficient = 8.680, $p<.001$) for industries with higher market concentration (*HHI*), as one would expect when customers have few or no viable product or service alternatives and higher barriers to switching.

Third, manufacturing firms have on average lower customer repurchase intention than service firms (Coefficient = -0.989, p<.001).

Predicted Moderating Effect Results

Economic factors. Table 5 (Panel D) indicates that Gross Domestic Product growth (Coefficient = 0.006, p < .05) has a positive and statistically significant moderating effect on the recovery–loyalty relationship, meaning that complaint recovery is positively enhanced under these conditions. In terms of economic significance, changing the score on the *GDPGR* variable by 3.6 (from one standard deviation below the mean to one standard deviation above the mean) is associated with a change in slope of the recovery–loyalty relationship by a 9.4 percent increase in the mean *HANDLE* slope to 0.022 (i.e., γ_{40} in Table 5). This finding suggests that loyalty payoffs from customer complaint handling are stronger when the economy is doing relatively better, and that managers should not underinvest in complaint handling when market conditions are otherwise favorable.

Industry factors. Turning to the industry factors and cross-sectoral differences, *HHI* negatively and significantly moderates the recovery–loyalty relationship (Coefficient = -1.413, p < .01). This means that firms in more concentrated industries derive fewer benefits from complaint handling to drive future customer loyalty than those in more competitive industries. In terms of economic significance, changing the score on the *HHI* variable by 0.02 (from one standard deviation below the mean to one standard deviation above the mean) is associated with a change in slope of the recovery–loyalty relationship of 0.028, which is a 12.3 percent decrease in the mean *HANDLE* slope of 0.229 in Table 5 (Panel D). Put differently, this finding indicates that complaint handling is more important for loyalty in more competitive sectors where

consumers have a larger number of viable alternative suppliers to choose from (and potentially defect to) and thus have lower switching barriers than in the opposite. These results are consistent with theory and the mechanisms impacting the recovery–loyalty relationship. That is, while customers of monopolists or firms in more concentrated industries may indeed care about effective complaint recovery, they also understand that defection due to poor complaint handling may not be an option (e.g., Fornell and Wernerfelt 1987, 1988; Hirschman 1970). Although dissatisfied enough to complain, the customers' narrow (or non-existent) alternative choice-set (i.e., fewer/no alternative supplier options) delimits the importance of complaint recovery to their customer loyalty intentions. As such, firms in more competitive industries should anticipate higher payoffs from complaint recovery.

Customer-firm factors. Among the examined customer-firm relationship variables, findings indicate that while expectations of customization positively and significantly moderate the recovery–loyalty relationship (Coefficient = 0.009, $p < .01$), customer expectations of product/service reliability negatively moderate the relationship (Coefficient = -0.003, $p < .05$). In terms of economic significance, changing the score on the CUSTOMX variable by 4.14 (from one standard deviation below the mean to one standard deviation above the mean) is associated with a change in slope of the recovery–loyalty relationship of 0.037, which is a 16.7 percent increase in the mean *HANDLE* slope of 0.229 in Table 5. In contrast, changing the score on the *RELYX* variable by 5.10 (from one standard deviation below the mean to one standard deviation above the mean) is associated with a change in slope of the recovery–loyalty relationship of 0.015, which is approximately a 6.7 percent decrease in the mean *HANDLE* slope of 0.229 in Table 5 (Panel C). These findings indicate a stronger effect of complaint handling on customer loyalty for firms with customers who are, on average, more demanding of goods customizable to

their personal use, though the opposite is true of firms whose customers have higher expectations of reliability.

Our findings also indicate a positive moderating effect of customer satisfaction on the recovery–loyalty relationship (Coefficient = 0.015, p <.001). In terms of economic significance, changing the score on the *SATIS* variable by 5.22 (from one standard deviation below the mean to one standard deviation above the mean) is associated with a change in slope of the recovery–loyalty relationship by 0.078, which is about a 34.2 percent increase in the mean *HANDLE* slope of 0.229 in Table 5 (Panel C). This finding extends prior work in that it shows the relatively high returns on customer satisfaction (cf. Otto, Szymanski, and Varadarajan 2020) through its moderating effect on the recovery–loyalty relationship. These results are interesting given that customer satisfaction theory also suggests that firms with higher customer satisfaction are relatively insulated from occasionally less-exceptional complaint handling to secure future customer loyalty (Fornell, Mithas, Morgeson, and Krishnan 2006). Taken together, these findings indicate that the customer-firm relationship provides important information about variance in the recovery-loyalty relationship, and thus in firms' expected payoffs as increased loyalty through complaint management.

Product and service factors. Regarding the moderating effect of the product/service factors on the recovery–loyalty relationship, we find that the variable for necessity vs. luxury goods positively moderates the relationship (Coefficient = 0.010, p < .05). In terms of economic significance, changing the score on the *LUXURY* variable by 3.2 (from one standard deviation below the mean to one standard deviation above the mean) is associated with a change in slope of the recovery–loyalty relationship of 0.032, which is a 14 percent increase in the mean *HANDLE* slope of 0.229 in Table 5 (Panel D). This finding is consistent with our theory and

mechanisms and suggests that firms providing goods tending towards luxuries get a bigger return in customer loyalty from strong complaint handling, and vice versa for basic, necessity goods providers. For firms predominantly marketing to consumers of necessity goods, on the other hand, the incentive to manage complaints were anticipated to be weaker and the results confirm these expectations.

In addition, we find that the manufacturing vs. services variable (*MFG*) negatively moderates the recovery–loyalty relationship (Coefficient = - 0.037, $p < .01$). In terms of economic significance, changing the score on the *MFG* variable by 1 (from zero for service firms to 1 for manufacturing firms) is associated with a change in slope of the recovery–loyalty relationship of 0.037, which is a 16.2 percent decrease in the mean *HANDLE* slope of 0.229 in Table 5 (Panel D). This finding confirms that the loyalty of consumers of more personal services is more strongly impacted by complaint recovery than is the case with consumers of manufactured goods, indicating that manufacturing firms have a lower payoff in customer loyalty from strong complaint handling when compared to service-delivering firms.

Customer segment factors. Turning to the customer segment results, we find a steeper recovery–loyalty slope among females (Coefficient = 0.019, $p <.01$) when compared to males, consistent with earlier research that has observed positive moderation in the satisfaction-loyalty relationship among women (e.g., Homburg and Giering 2001). In terms of economic significance, changing the score on the *FEMALE* variable from 0 to 1 (male to female) is associated with a change in slope of the recovery–loyalty relationship by 0.019, which is about an 8.3 percent increase in the mean *HANDLE* slope of 0.229 in Table 5 (Panel C). For the other customer segment factors, we fail to find a statistically significant moderating effect of income,

age, or region on the recovery–loyalty relationship. While difficult to interpret within theory (or the scant record of empirical studies), we find these null results interesting in their own right.

Discussion and Implications

Turning complaining customers into loyal customers was the central focus in this research. We captured the dynamics of this focus via an overarching research question: *How does the relationship between a firm's customer complaint recovery (i.e., the customer's perception of how well the firm handled a complaint) and customer loyalty vary depending on influences from economic, industry, customer-firm, product/service, and customer segment factors?* To address the nuances in this question, we developed a contingency model of loyalty returns to complaint management based on exit-voice-loyalty theory (Hirschman 1970), expectations-disconfirmation theory (e.g., Oliver 1980), and conceptualizations related to the mechanisms connecting complaint handling to customer loyalty (e.g., Fornell et al. 1996). We conducted a moderated multilevel analysis of the complaint handling (recovery)–customer loyalty relationship by utilizing an ASCI dataset of 35,597 complaining customers over a 10-year period across firms, industries, and economic sectors. Within the contingency modeling, we set out to better understand the implications of the recovery–loyalty relationship as moderated by the economic, industry, customer-firm, product/service, and customer segment factors. The implications of these influences (moderating effects) are next discussed for managers, policymakers, and researchers. We conclude with directions for future research.

Implications for Practice

Without a deeper understanding of the boundaries of the complaint handling–customer loyalty relationship – via the practical incorporation of the implications stemming from the moderators of economic, industry, customer-firm, product/service, and customer segment factors – firms will likely allocate cost estimates to complaint management that are too low for the required recovery actions or customer loyalty estimates that are too high, or both, instead of achieving an optimal point of recovery-loyalty yield. First, managers should recognize not only that industries vary widely in terms of the percentage of customers who complain, but also that the characteristics of the economic sectors and industries can dictate the importance of complaint recovery to their customers. In an industry (i.e., market research) where "best practices" from "leading service providers" are often recommended for adoption without regard to industry distinctiveness (e.g., Goodman 2006; Johnston and Mehra 2002), our findings indicate that merely transposing a firm's complaint management from one industry to another is ill-advised and can be detrimental to a firm's performance. While this may sound self-evident, many managers are obsessed with seeking out cross-industry leaders to emulate towards improving their own customers' experiences (e.g., Berry and Seltman 2017; Michelli 2006, 2008). There are clear differences across sectors and industries in customer experience management, customers as strategic assets, and the accompanying complaint management that should be undertaken.

Our findings also indicate that the financial ramifications of firms' complaint management efforts will likely differ significantly. Since complaint management matters more or less to customer loyalty across sectors in variant economic contexts and firms offering different classes of goods, the expected economic benefit to the firm seeking to reaffirm customer loyalty via aggressive complaint recovery will vary as well. Efforts that would produce a positive return-

on-investment (ROI) for firms in some industries offering certain goods may, at times, produce a negligible or even *negative ROI* for firms in other industries. For example, we find that the recovery-loyalty relationship is stronger for customers with higher expectations of customization but weaker when the customers' expectations of product/service reliability are higher. Combine these findings with the sector and industry differences, and it is relatively easy to grasp that developing complaint management systems cannot be undertaken solely through cross-industry, best-practice benchmarking, but instead must incorporate a more refined approach (i.e., based on the relevance of the economic, industry, customer-firm, product/service, and customer segment factors). Succinctly, sensitivity to economic sectors and industry contexts can save a firm from focusing too much or too little on complaint management. To be clear, this is not a call for industries with weaker recovery–loyalty relationships to ignore customer complaints. Rather, it is a call for managers to assess the most cost-effective means of soliciting and responding to customer complaints and having the dexterity to adjust those efforts when conditions warrant it.

Without context, the implications suggest that a profit-maximizing strategy simply requires that managers understand the impact of complaint recovery on customer loyalty in their industry. Added to this complexity, however, is the reality that profitability is not evenly distributed throughout the customer base. Profitability is driven by a small percentage of customers, with most customers not producing an adequate level of return (Kaplan and Narayanan 2001). Consequently, complaint management systems designed to maximize financial performance are complex. They are likely too complex for frontline customer service representatives to handle unaided, particularly as they relate to the level of remuneration used to compensate complaining customers. Decision support systems need to be implemented that consider economic factors (and impact on the expectations of customers), industry factors, and

the relative profitability of customers. This will make it easier for customer service personnel to respond to complaining customers in ways that optimize customer satisfaction, customer loyalty, and the economic contribution of customers (while, importantly, also being mindful of customers' potential social media amplification of their dissatisfaction).

As possible solutions, some complaint management channels are less expensive to operate for firms than others. Often these channels vary in terms of personal contact. Interestingly, contemporary alternatives to the traditional channels of direct in-person or personalized telephone support may enhance customers' perceptions of complaint handing. For example, online customer service options, such as self-service and agent-assisted digital communication channels are on the rise and preferred by many consumers to more personal channels because of their speed of response. Customized and personalized web-based systems are clearly on the rise, and these systems appear to offer a preferred balance of customization and attentiveness and a less personalized approach. Of course, the effectiveness of different recovery strategies will be impacted by the environment in which the business operates.

For policymakers, our findings reposition previous thinking about customer complaints, complaint handling, and customer loyalty and, by extension, the health of the overall economy. Although variations in intensity across political administrations should be considered, many governments take active roles in monitoring both customers' complaints against firms and firms' responses to these complaints (e.g., in the United States via the Federal Trade Commission and the Better Business Bureau). Our findings suggest not only that varying complaint levels should be expected across industries and firms but also that customers' perceptions of how well firms have resolved their complaint issues should be expected to vary. These variations are due at least in part to the industry context within which the complaint was filed. Thus, striking a balance

between over-reaching in regulations (i.e., too much/constraining regulations) and under-reaching in regulations (i.e., too few/flexible regulations) needs to be considered in policy.

Implications for Research

Our study offers important implications for customer relationship researchers, in particular those focused on firm and brand-related strategic issues and customer asset management. First, while complaint recovery is positively linked with customer loyalty across all economic sectors studied (which included 7 of 10 economic sectors in the marketplace), the strength of the relationship varies. We find that the recovery-loyalty relationship is stronger in faster-growing economies, for industries with more competition, for luxury products, and for customers with higher satisfaction and higher expectations of customization. Equally important, the recovery-loyalty relationship is weaker when the customers' expectations of product/service reliability are higher, for manufactured goods, and for males compared to females. Given the richness of the data, these findings raise important questions about the limitations of existing theory and empirical research to adequately explain the effectiveness of complaint recovery in securing customer loyalty. Consequently, we advance both theory and empirical understanding of the link between complaint handling and customer loyalty, including the theoretical and empirical boundaries captured by the economic, industry, customer-firm, product/service, and customer segment factors. Our contribution, as guidance for future research, is critical in that virtually all of the previous findings in this literature are derived from either lab experiments (largely with student subjects) and/or single-point-in-time cross-sectional survey research, neither of which are designed to capture variance in these factors.

Second, consider existing meta-analyses from within the recovery–loyalty literature (Gelbrich and Roschk 2010; Matos, Henrique, and Rossi 2007; Orsingher, Valentini, and Deangelis 2010). These meta-analyses examining and aggregating recovery–loyalty effects across studies have often mentioned, but almost universally failed to test, the possibly confounding effects of industry and economic contexts (e.g., Matos, Henrique, and Rossi 2007; Orsingher, Valentini, and Deangelis 2010). The few studies that have included such examinations have focused on and tested macro effects at only the highest, aggregate levels (e.g., "service" industries vs. "non-service" industries) (Gelbrich and Roschk 2010). Such limited tests are understandable given the nature of the data that are aggregated for the meta-analyses, yet our results suggest the need for taking these effects into account at a disaggregated level for richer insights. We captured 7 of the 10 NAICS economic sectors and 41 industries within these sectors, and modeled a set of comprehensive moderators involving economic, industry, customer-firm, product/service, and customer segment factors. This modeling helped create a better understanding of the boundaries of the recovery-loyalty link. At the very least, our findings should spur further research to developing theories of customer complaint management and interpreting and comparing the effects observed across prior studies.

Third, we sought to expand the theoretical foundations of the recovery–loyalty literature by blending theories from economics (exit-voice-loyalty theory – Hirschman 1970) with traditional marketing theory (expectancy-disconfirmation theory and the customer satisfaction literature). While most marketing studies that have examined the recovery–loyalty relationship have focused almost exclusively on marketing theory, with some complementary underpinnings in consumer psychology (e.g., justice theory), our blended economics-marketing approach provides a different and advantageous theoretical lens to expand knowledge. Through this

broader and deeper lens, micro- and macroeconomic factors moderating the recovery–loyalty relationship are clearer and will contribute to the continued development and refinement of the contingency theory of loyalty returns to complaint management we offered in this research.

Directions for Future Research

While we have sought to close some of the enduring gaps in the marketing literature on customer complaints, complaint recovery, and customer loyalty, additional work remains. First, and as suggested earlier, future research should work to systematically reassess existing findings from the marketing literature on the complaint handling–customer loyalty relationship based on the results of this study. For instance, a meta-analysis that more systematically integrates economic, industry, customer-firm, product/service, and customer segment factors as influencers of the recovery-loyalty relationship across the many studies produced over the last two decades could both reinforce our findings and substantially alter accepted conclusions. It is clear that previous findings have significant limitations and continually having a state-of-the-art understanding of the recovery-loyalty relationship is critically important to well-functioning firms' operational performance (Katsikeas, Morgan, Leonidou, and Hult 2016).

Second, future research should integrate our findings into models for determining the value of customer retention initiatives and customer loyalty, such as customer lifetime value. Customer lifetime value (CLV) models aim to illustrate the economic value of long-term customer loyalty and the financial benefits of customer retention for firms. CLV results are generally referenced to show that efforts that reduce churn often produce more valuable long-term customer relationships that increase profitable firm growth. Customer complaint recovery is, of course, just one of many customer retention tools. Like virtually any customer loyalty

initiative that is examined through the lens of a CLV model, complaint management comes at a cost that can influence the profitability and margins of the customer segment being targeted. For example, firms may need to invest in and deploy relevant information technology and CRM tools to handle complaints (Mithas, Krishnan, and Fornell 2016), including deciding on appropriate levels of human touch versus technology in dealing with complaint recovery interactions. Increasingly, advances in IT tools such as Artificial Intelligence and Machine Learning can both facilitate managing many aspects of customer relationships in a cost-effective manner. However, the key for success will be to align deployment of IT tools with a firm's strategy (e.g., Mithas and Rust 2016; Rust, Moorman, and van Beauningen 2016), and to not lose sight of the revenue impacts of marketing and technology decisions.

Ultimately, the value of a loyalty-building initiative can be deemed advisable or inadvisable based on its impact on a customer segment's CLV. Some customer retention strategies can be predicted to pay-off in the long run via higher CLV while others will not. Determining the difference between profitable and unprofitable loyalty efforts is important as it relates to customer complaints and complaint handling. As our results show, an essential element in gauging the true effect of customer complaint management on customer loyalty is understanding the moderators of this relationship. In particular, having a clear understanding of how the macro and micro moderators impact the strength of the relationship between complaint recovery and customer loyalty is vital to achieving superior firm performance. We examined a set of critical moderating factors on this relationship, but the dynamics of the marketplace keep evolving and so will the influencers of the recovery-loyalty relationship. For example, some indications exist that political ideology and partisanship may influence customers' complaining

behavior, consumption experience, and loyalty (e.g., Jung, Garbarino, Briley, and Wynhausen 2017; Kim, Park, and DuBois 2018).

Finally, we recommend two avenues for theory development in the complaint recovery-customer loyalty relationship literature. While our study has made strides in providing theoretical support for the relationship between economic, industry, customer-firm, product/service, and customer segment factors as moderators of this relationship, additional theorizing that more fully clarifies the varied and complex connections between these factors and the mechanisms driving consumer behavior could help inspire future empirical research and valuable practical insights. Relatedly, theorizing that helps explain the moderating effects of customer segment factors and demographic characteristics – such as gender and region of residence, where little theoretical or empirical work now exists – is needed. While significant in their own right, our findings regarding customer segment factors would have more robust practical implications if founded in a guiding theory. For example, most national firms tailor marketing and product offerings to men and women and variably across geographic regions, but would also likely do so for complaint management if given a compelling explanation for the moderating effects of these and other customer segment factors on the recovery-loyalty relationship.

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FIGURE 1
Factors and Mechanisms for the Study of the Complaint Recovery–Customer Loyalty Relationship

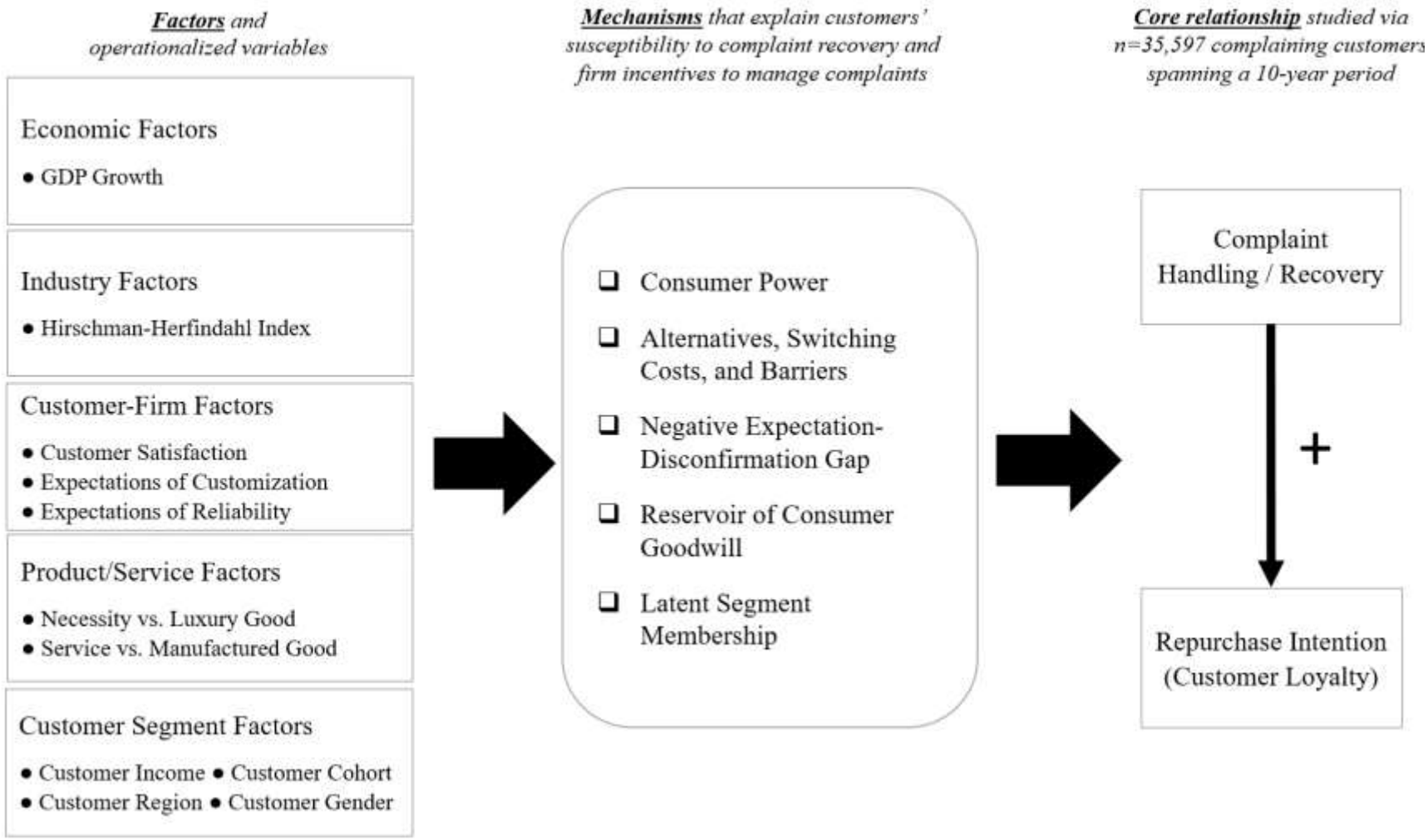
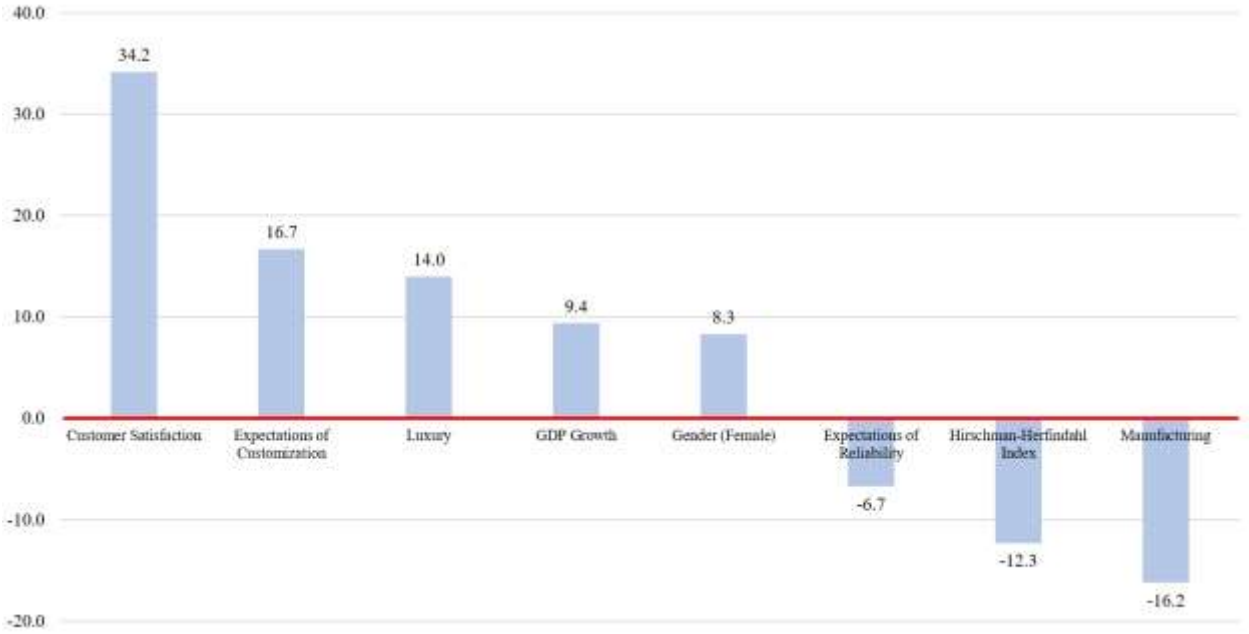


FIGURE 2
Significant Moderating Effects on the Complaint Recovery–Customer Loyalty Relationship (as a Percent of Mean *HANDLE* Slope in Table 5)



Notes: Figure 2 shows the effects as percentage increases of the continuous variables (all variables except *FEMALE* and *MFG*) when the value of that variable increases from one standard deviation below the mean to one standard deviation above the mean. For the *FEMALE* and *MFG* variables, the effect is when the value of the variable changes from 0 to 1.

TABLE 1
Sample Research on Customer Complaints, Complaint Management, and Customer Loyalty Relationships

Study	Methods and Sample	Economic Factors	Industry Factors	Customer-Firm Factors	Product-Service Factors	Customer Segment Factors
Hoffman, Kelley, and Rotalsky (1995)	Survey; n = 373	None	Restaurants	None	None	Gender, Education, Age (unmodeled as moderators)
Spreng, Harrell, and Mackoy (1995)	Survey; n = 410	None	Moving company	Customer satisfaction	None	None
Tax, Brown, and Chandrashekaran (1998)	Survey; n = 239	None	Service encounters across "multiple industries"	Justice	None	None
Smith, Bolton, and Wagner (1999)	Mixed design; n = 375 and n = 602	None	Restaurant and hotel	Prior experience; Justice	Restaurant cost; Hotel location	Gender, Age (unmodeled as moderators)
McCollough, Berry, and Yadav (2000)	Field experiment; n = 615	None	Airline	Expectations; Satisfaction; Justice	None	None
Mattila (2001)	Lab experiment; n = 441	None	Restaurant, hair stylist, and dry cleaner	Justice	None	Gender, Age (unmodeled as moderators)
Smith and Bolton (2002)	Lab experiment; n = 355 and n = 549	None	Restaurant and hotel	Expectations; Satisfaction; Justice	None	Age (unmodeled as moderator)
Maxham and Netemeyer (2002)	Survey; n = 1,356	Multi-period study (economy unmodeled as moderator)	Bank	Expectations; Satisfaction	None	Gender, Age, Education (unmodeled as moderators)
Hess, Ganesan, and Klein (2003)	Lab experiment; n = 346	None	Restaurant	Prior experience; Expectations; Satisfaction	None	Gender (unmodeled as moderator)
Wirtz and Mattila (2004)	Mixed design; n = 187	None	Restaurant	Satisfaction; Justice	None	Gender, Age (unmodeled as moderators)
Homburg and Furst (2005)	Survey; n = 550	None	"Services and manufacturing industries"	Satisfaction; Justice	B2B vs. B2C; Services vs. manufacturing	None
Kau and Loh (2006)	Survey; n = 153	None	Wireless service	Satisfaction; Justice	None	Gender, Age, Education, Income,

						Occupation (unmodeled as moderators)
Michel and Meuter (2008)	Survey; n = 1,189	None	Bank	Satisfaction; Relationship strength	None	Gender, Age (unmodeled as moderators)
Dewitt, Nguyen, and Marshall (2008)	Field experiment; n = 459	None	Restaurant and hotel	Justice; Emotion	None	Gender, Age, Education, Ethnicity (unmodeled as moderators)
Evanschitzky, Brock, and Blut (2011)	Mixed design; n = 146 and n = 233	None	Restaurant	Affective commitment; Satisfaction	None	Gender, Age, Income, Marital Status (unmodeled as moderators)
Knox and van Oest (2014)	Observational; n = 922	Multi-period study (unmodeled as moderator)	Internet retailer	None	None	None
Simon, Tossan and Guesquiere (2015)	Survey; n = 144	None	Multiple sectors and industries	Brand attitude; Gratitude; Satisfaction	Products and services (unmodeled as moderators)	Gender, Age (unmodeled as moderators)
Umashankar, Ward and Dahl (2017)	Mixed design; 6 studies and samples	None	Multiple industries	Relationship strength	"Strong tie" vs. "weak tie" goods	Gender (unmodeled as moderator)
Current Study	**10-year survey data; n = 35,597**	**GDP growth**	**41 industries, 7 economic sectors**	**Customer satisfaction; expectations of customization and reliability**	**Necessity vs. luxury; service vs. manufacturing**	**Income, Gender, Age, Region**

Note: For the sake of parsimony, we only summarize the contents of these studies for the different factors included or excluded. For example, we include only primary customer-firm factors examined within each article, e.g., "justice" rather than distributive justice (and its sub-factors), procedural justice (and its sub-factors), and interactional justice (and its sub-factors). The sample sizes for each study relate to complaining customers.

TABLE 2
How Economic, Industry, Customer-Firm, Product/Service, and Customer Segment Factors Moderate the Complaint Recovery–Customer Loyalty Relationship

Factor	Moderating Effect	Primary Mechanism (Factors Often Adhere to Multiple Mechanisms)
Economic Factors		
• GDP Growth	Positive Moderation	Consumer power: Economic growth is typically accompanied by a variety of features that result in more powerful consumers (e.g., lower unemployment, stronger income growth, more consumer spending, stronger consumer confidence).
Industry Factors		
• Hirschman-Herfindahl Index	Negative Moderation	Alternatives, switching costs and barriers: In competitive industries, customers recognize their ability to easily switch to alternative suppliers and also recognize their greater power vis-à-vis the firm.
Customer-Firm Factors		
• Customer Satisfaction	Positive Moderation	Reservoir of consumer goodwill: Cumulative customer satisfaction represents the customer's reservoir of goodwill toward the firm and product/service based in buyer habit and brand but mandates additional firm attention after failures.
• Expectations of Customization	Positive Moderation	Negative expectation-disconfirmation gap: Customers with higher customization expectations anticipate more individualized service from the firm in all areas, including during a failure and recovery.
• Expectations of Reliability	Negative Moderation	Negative expectation-disconfirmation gap: The unexpected failure resulting in the complaint and recovery attempt is, from the customer's perspective, reflective of either a fundamental disruption of a long problem-free relationship or an indication that the firm's promises are hollow.
Product/Service Factors		
• Necessity vs. Luxury Good	Positive Moderation	Alternatives, switching costs and barriers: Luxury goods customers will typically have greater financial resources and thus the ability to switch to alternative luxury providers or less expensive replacement goods more easily.
• Service vs. Manufactured Good	Negative Moderation	Consumer power: For a significant proportion of manufactured goods, such as frequently purchased and inexpensive nondurable goods, complaints are less likely, with customers choosing to either remain silently loyal or defect without complaint.
Customer Segment Factors		
• Customer Income	Negative Moderation	Latent segment membership: Satisfaction is less influential as a determinant of loyalty for wealthier consumers due to a more expansive choice set, and so too might dissatisfaction and complaint recovery matter less to loyalty.
• Customer Gender	Positive Moderation	Latent segment membership: Research has shown a stronger satisfaction-loyalty relationship among women, which suggests a stronger recovery–customer loyalty relationship as well.
• Customer Age	Positive Moderation	Latent segment membership: Research has shown that the impact of satisfaction on loyalty increases with age, and complaint recovery may likewise more strongly impact customer loyalty for older generational cohorts.
• Customer Region	Moderation but Unclear Direction	Latent segment membership: Customer region is anticipated to have a moderating effect given the prevalence of geography-specific marketing strategies ("geo-marketing," "geo-fencing").

TABLE 3
Summary of Variables and Operationalization

Variable	Operationalization
Repurchase Intention (REPUR)	ACSI Survey Question:[1] "The next time you are going to purchase the same product or service, how likely is it that it will be with (COMPANY) 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 with (COMPANY) again?" on a scale of 1-10.
Complaint Handling (HANDLE)	ACSI Survey Question: "How well, or poorly, was your most recent complaint handled? Using a 10-point scale on which "1" means "handled very poorly" and "10" means "handled very well", how would you rate the handling of your complaint?" on a scale of 1-10.
GDP Growth (GDPGR)	Annual Gross Domestic Product (GDP) growth data obtained via the U.S. Bureau of Economic Analysis website at: www.bea.gov.
Hirschman-Herfindahl Index (HHI)	Annual Herfindahl-Hirschman Index at the sub-sector (industry) level, calculated as: sum of the squared company-level market share percentages of the largest firms measured in the industry. The data are from Compustat, obtained via the Wharton Research Data Services.
Customer Satisfaction (SATIS)	ACSI Survey Question: "Please consider all your experiences to date with (COMPANY). Using a 10-point scale on which "1" means "very dissatisfied" and "10" means "very satisfied," how satisfied are you with (COMPANY)?" on a scale of 1-10.
Expectations of Customization (CUSTOMX)	ACSI Survey Question: "At the same time, you probably thought about things you personally require from (COMPANY). Using a 10-point scale on which "1" now means "not very well" and "10" means "very well," how well did you expect (COMPANY) to meet your personal requirements?" on a scale of 1-10.
Expectations of Reliability (RELYX)	ACSI Survey Question: "Thinking about your expectations before you purchased from (COMPANY), you probably thought about how often things could go wrong. Using a 10-point scale, on which "1" now means "very often" and "10" means "not very often," how often did you expect that things could go wrong with (COMPANY)?" on a scale of 1-10.
Necessity vs. Luxury (LUXURY)[2]	ACSI Survey Question: "Thinking about (COMPANY), do you think of it more as a supplier of basic necessity goods and services or a supplier of exclusive luxury goods and services? On a scale from 1 to 10, where 1 = "necessity goods and services provider" and 10 = "luxury goods and services provider," how would you rate (COMPANY)?" on a scale of 1-10.
Manufacturing vs. Service (MFG)	Manufacturing (Services = 0, Manufacturing = 1) based on NAICS codes. The data are from the U.S. Census Bureau website at: www.census.gov/eos/www/naics/
Customer Income (INCDUM)	Annual household income from the prior year (0 = $60K or below; 1 = Above $60K). Data on income came from the ACSI database.
Customer Gender (FEMALE)	Female (0 = Male; 1 = Female). Data on gender came from the ACSI database.
Customer Cohort (MILLDUM) (GENXDUM) (BOOMDUM)	Indicator variables for whether consumer-respondent is part of the Millennial, Generation X, Baby Boomer, or Silent Generations (reference category). Generational cohorts were determined uniquely for each sample year based on accepted categorizations (Millennials 1980-2000 (MILLDUM); Generation X 1965-1979 (GENXDUM); Baby Boomers 1946-1964 (BOOMDUM); and Silent Generation pre-1946). Data on customer cohort (age) came from the ACSI database.

Customer Region (NEDUM) (MIDWDUM) (SOTHDUM)	Indicator variables for residence of the respondent in the Northeast (NEDUM), Midwest (MIDWDUM), Southeast (SOTHDUM), or West of the United States, with the West as the reference category in our models. Regions were defined following the U.S. Census' "Regions and Divisions of the United States" (www.census.gov/prod/1/gen/95statab/preface.pdf).

[1] Most questions in the ACSI survey are asked on 1–10 scales and then transformed to 0–100 index scores for official reporting purposes. In this study, we analyze the variables on their original 1–10 scales.

[2]The luxury variable data were collected for each firm using "expert raters" (e.g., Chen, Farh, and MacMillan 1993; Combs and Ketchen 1999; Weekley and Gier 1989) affiliated with the American Customer Satisfaction Index (n = 15). Each expert rater was asked to assess each ACSI-measured brand/company on a 10-point scale, as a firm which supplies basic necessity goods (1) to a supplier of high-end luxury goods (10). The average rating for each firm among the expert raters was then associated with each respondent for that firm in the sample.

TABLE 4
Descriptive Statistics and Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	REPUR (1-10)	1.00																
2	HANDLE (1-10)	0.58	1.00															
3	CUSTOMX (1-10)	0.27	0.27	1.00														
4	RELYX (1-10)	0.17	0.18	0.44	1.00													
5	SATIS (1-10)	0.72	0.59	0.39	0.27	1.00												
6	GDPGR	0.00	0.02	-0.01	0.00	0.00	1.00											
7	HHI	0.09	0.05	0.04	0.01	0.11	-0.06	1.00										
8	LUXURY (1-10)	0.03	0.05	0.16	0.15	0.16	-0.01	0.17	1.00									
9	FEMALE (0-1)	0.02	0.03	0.07	0.03	0.02	-0.01	0.00	-0.05	1.00								
10	INCDUM (0-1)	0.00	-0.01	0.03	0.04	0.02	-0.04	0.00	0.19	-0.11	1.00							
11	NEDUM (0-1)	0.01	0.02	0.00	0.00	0.01	0.02	0.01	0.06	-0.01	0.06	1.00						
12	MIDWDUM (0-1)	-0.02	-0.01	0.01	0.01	-0.02	-0.01	0.00	0.00	0.01	-0.03	-0.29	1.00					
13	SOTHDUM (0-1)	0.00	0.00	0.03	0.00	0.02	-0.01	0.02	0.01	0.01	-0.03	-0.34	-0.45	1.00				
14	MILLDUM (0-1)	-0.04	-0.02	-0.02	-0.06	-0.02	0.07	0.04	0.04	-0.01	-0.05	0.03	-0.02	-0.01	1.00			
15	GENXDUM (0-1)	-0.04	-0.04	-0.01	-0.01	-0.05	-0.04	-0.02	-0.01	0.06	0.14	0.00	0.02	-0.02	-0.56	1.00		
16	BOOMDUM (0-1)	0.06	0.05	0.03	0.06	0.06	-0.02	-0.02	-0.02	-0.05	-0.08	-0.03	-0.01	0.02	-0.34	-0.53	1.00	
17	MFG (0-1)	0.01	0.06	0.21	0.19	0.18	-0.01	0.18	0.61	-0.03	0.12	0.02	0.03	0.03	0.04	-0.01	-0.02	1.00
	Mean	6.19	6.31	8.00	7.18	6.67	1.54	0.03	4.14	0.57	0.51	0.18	0.27	0.35	0.27	0.46	0.25	0.28
	Standard Deviation	3.19	3.15	2.07	2.55	2.61	1.77	0.01	1.60	0.49	0.50	0.38	0.44	0.48	0.44	0.50	0.43	0.45

All correlations equal to or above 0.02 are statistically significant at $p < .05$.

TABLE 5
HLM Estimation of Fixed Effects with Robust Standard Errors
(Dependent Variable is Customer Loyalty)

	Coefficient	Standard error
Panel A: Level 1 Main Effects		
Customer Satisfaction (SATIS), β_2	0.664**	0.012
Expectations of Customizability (CUSTOMX), β_3	0.049**	0.008
Expectations of Reliability (RELYX), β_4	-0.011*	0.005
Gender (FEMALE), β_5	-0.018	0.023
Income (INCDUM), β_6	0.062*	0.022
Millennial (MILLDUM), β_7	-0.234**	0.080
Generation X (GENXDUM), β_8	-0.179*	0.079
Baby Boomers (BOOMDUM), β_9	-0.109	0.078
Northeast (NEDUM), β_{10}	-0.005	0.035
Midwest (MIDWDUM), β_{11}	-0.096*	0.034
South (SOTHDUM), β_{12}	-0.087*	0.032
Inverse Mills Ratio (IMR), β_{13}	0.510**	0.059
Panel B: Level 2 Modeling of Intercept β_0		
INTRCPT, γ_{00}	6.184**	0.076
LUXURY, γ_{01}	-0.004	0.016
GDP GROWTH, γ_{02}	0.006	0.012
HHI, γ_{03}	8.680**	1.454
MFG, γ_{04}	-0.989**	0.049
Panel C: Level 1 Interaction Effects		
SATIS * HANDLE, β_{14}	**0.015****	**0.002**
CUSTOMX * HANDLE, β_{15}	**0.009****	**0.002**
RELYX * HANDLE, β_{16}	**-0.003***	**0.002**
FEMALE * HANDLE, β_{17}	**0.019****	**0.007**
INCDUM * HANDLE, β_{18}	**0.003**	**0.007**
NEDUM * HANDLE β_{19}	**-0.007**	**0.012**
MIDWDUM * HANDLE, β_{20}	**0.008**	**0.011**
SOTHDUM * HANDLE, β_{21}	**0.008**	**0.011**
MILLDUM* HANDLE, β_{22}	**0.033**	**0.027**
GENXDUM * HANDLE, β_{23}	**0.012**	**0.027**
BOOMDUM * HANDLE, β_{24}	**0.014**	**0.027**
Panel D: Level 2 Modeling of Complaint Handling (HANDLE), β_1		
INTRCPT, γ_{10}	0.229**	0.017
LUXURY, γ_{11}	**0.010***	**0.004**
GDP GROWTH, γ_{12}	**0.006***	**0.003**
HHI, γ_{13}	**-1.413***	**0.442**
MFG, γ_{14}	**-0.037****	**0.012**
Panel E: Variance Explained		
Proportion of Variance Explained by Level 1 model	*57.5%*	
Proportion of Variance Explained by Level 2 model for HANDLE	*9.84%*	
Deviance (-2 Log Likelihood)	*152516.22*	

Note: Moderating effects on the complaint handling - loyalty relationships are bolded. ** p<0.01, * p<0.05

APPENDIX 1
Economic Sectors and Consumer Industries in the Sample

Economic Sector	Consumer Industry
Manufacturing (MFG)	Beverages – Beer
	Beverages – Soft Drinks
	Tobacco – Cigarettes
	Apparel
	Athletic Shoes
	Personal Care Products
	Pet Foods
	Personal Computers
	Household Appliances
	Consumer Electronics
	Automobiles and Light Trucks
	Cellular Phone Manufacturers
Retail Trade (RETAIL)	Department and Discount Stores
	Specialty Retail Stores
	Supermarkets
	Gasoline Service Stations
	Health and Personal Care Stores
	E-Commerce Retail Websites
	E-Commerce Travel Websites
Transportation and Warehousing (TRSPRT)	Parcel Delivery – Express Mail
	U.S. Postal Service
	Commercial Airlines
Information (INFM)	Telecommunications – Local and Long-Distance Telephone
	Broadcasting Television
	Publishing – Newspapers
	Telecommunications – Cable Television
	Cellular Telephone Service Providers
	Telecommunications – Internet Service Providers
	Computer Software
	Motion Pictures
Finance and Insurance (FIN)	Banks
	Life Insurance
	Personal Property Insurance
	Healthcare Insurance
	Credit Unions
	E-Commerce Financial Services Websites
Health Care and Social Assistance (HLTH)	Hospitals
	Ambulatory Care
Accommodation and Food Services (ACCO)	Restaurants – Limited Service
	Restaurants – Full Service
	Hotels