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Customer Reactions to Downsizing: When is Satisfaction Affected?

Abstract

Organizational downsizing to cut costs frequently creates new, “hidden costs” that neutralize potential increases in productivity. Customer dissatisfaction is such an overlooked downsizing outcome. Using longitudinal data from the American Customer Satisfaction Index (ACSI), Compustat, and a consumer survey this study analyzes satisfaction outcomes of downsizing. It extends research in this domain to B2C markets and explicitly addresses environmental influences on the downsizing–satisfaction link. Results indicate that there is a negative effect of downsizing on customer satisfaction. It is particularly pronounced for companies (1) with little organizational slack, (2) with high labor productivity, or (3) in industries with high R&D intensity. Moreover, downsizing has a stronger negative impact on customer satisfaction in product categories with (4) high risk importance and (5) low probability for consumer errors as well as (6) low level of brand consciousness. Furthermore, customer satisfaction mediates the effect of downsizing on financial performance. The results provide an explanation for why so many downsizing projects fail and what managers can do to prevent adverse effects of downsizing on customer satisfaction and financial performance.

Keywords: customer satisfaction, organizational downsizing, firm performance, panel data analysis

Introduction

In a “Group Strategy Update,” Australian airline Qantas announced on February 26, 2014, plans to cut 5,000 jobs (Qantas 2014). In the same week, the Financial Times reported plans that IBM was to reduce its U.S. workforce by 13,000 to 15,000 employees (Waters 2014). Hence, downsizing continues to be one of the most appealing cost-cutting strategies to firms worldwide. Firms typically expect that the layoffs will improve financial performance. For instance, Qantas (2014) explicitly states in their media release that the “long-term goal” of the cost reductions is “the transformation of the Qantas Group for profitable, sustainable growth.”

The importance of downsizing in business practice has motivated many academic studies. In a comprehensive review, Datta et al. (2010) identify four major research streams. Two of them look at environmental and organizational antecedents of downsizing. The other two address its consequences. Of the streams addressing the consequences of downsizing, the first looks at organizational outcomes. Chadwick, Hunter, and Walston (2004, p. 406) summarize: “The general consensus among researchers over the last two decades is that organizational performance is as likely to suffer as it is to improve after downsizing.” The second addresses outcomes at the employee level. Here, Datta et al. (2010, p. 307) conclude that “[d]ownsizing has a significant potential to ... disrupt relationship networks, and destroy the trust and loyalty that binds employees and their employers.”

Interestingly, despite Cascio’s (2005, p. 45) advice to “think through the potential consequences of restructuring on customers,” in their review Datta et al. (2010) identify only two papers that examine the effect of downsizing on customers (out of a total of 91). Recently, more research has been conducted in the area. For example, Subramony and Holtom (2012) report that downsizing reduces customer orientation, which translates into a negative effect on customers’

brand perceptions. However, the focus of research lies on the effect of downsizing on customer satisfaction. Table 1 provides an overview.

----- Insert Table 1 about here -----

As shown in Table 1, researchers consistently report negative effects of downsizing on customer satisfaction. That being said, most evidence comes from B2B samples (Lewin 2009; Lewin and Johnston 2008; Lewin, Biemans, and Ulaga 2010; Williams, Khan, and Naumann 2011) or samples with a prominent B2B share (Homburg, Klarmann, and Staritz 2012; Wagar 1998). One is from the financial services sector (McElroy, Morrow, and Rude 2001).

Hence, previous research in the area is almost exclusively based on environments where personal interaction between employees and customers is important. Here, the internal disruption caused by downsizing will be a particular threat to delivering quality. Through processes like emotional contagion (e.g., Hennig-Thurau et al. 2006), negative job satisfaction outcomes may translate into negative customer satisfaction (e.g., Homburg and Stock 2004). However, elsewhere the relationship may be much more complex. While pointing to personal interaction as differentiator, Anderson, Fornell, and Rust (1997) find that productivity improvements (which can be achieved through downsizing) are negatively related to customer satisfaction for services, but positively related for manufactured goods. Homburg, Klarmann, and Staritz (2012) find that customer uncertainty following downsizing is much larger if customers interact frequently with their contact employees from the downsizing firm.

We are interested whether the negative effect of downsizing on customer satisfaction generalizes to other contexts. For our sample we draw on American Customer Satisfaction Index (ACSI) data, which is collected for many product categories (e.g., food, appliances, apparel, internet services, cars), where customers interact less with firm employees. We argue that in the

industries covered by the ACSI, the effect of downsizing on customer satisfaction is far less intuitive than in B2B environments. In particular, we expect that the degree to which employees are a crucial resource to the downsizing firm will affect the downsizing–satisfaction link. For instance, if the firm has enough excess resources (“organizational slack,” Love and Nohria 2005), product quality is less likely to suffer through downsizing and customers might even benefit from reduced prices. Hence, customer satisfaction might not be negatively affected by downsizing. To account for effects like this we analyze measures of the downsizing firm’s resources as moderators of the downsizing–satisfaction link.

Moreover, whether customers respond negatively to downsizing will also depend on what they learn of the downsizing (Homburg, Klarmann, and Staritz 2012). Only if they devote a certain amount of time and attention to a product category might they notice quality deficiencies resulting from downsizing. Likewise, for signaling effects (Love and Kraatz 2009) as well as reputational effects of downsizing (Flanagan and O’Shaughnessy 2005; Zyglidopoulos 2005) to affect satisfaction, typically requires that customers follow the business press. To account for these effects, we analyze customers’ product category involvement and customer purchase criteria as moderators of the downsizing–satisfaction link.

Finally, we are interested whether customer outcomes to downsizing require firms to reconsider downsizing as a management instrument. Therefore, we link customer satisfaction after downsizing to firm performance.

To test our hypotheses, we use data from three sources: (1) As mentioned before, we use ACSI data to measure customer satisfaction. (2) We measure downsizing, firm performance, and the firm’s resource situation using the Computstat database. (3) To measure customer product category involvement and customer purchase criteria, we collected survey data from over 1,500

U.S. consumers. As a result we have a longitudinal dataset with data from 1994 to 2007 (before the financial crisis) from over 100 companies, covering more than 150 downsizing events.

Our research makes at least four contributions to the discipline. First, we extend research on customer responses to downsizing from contexts with much employee–customer interaction to less interactive B2C environments. Second, we identify environmental conditions related to the downsizing firm’s resources and customer information processing that determine whether downsizing has a negative impact on customer satisfaction. Thus, we facilitate predictions regarding potential problems resulting from downsizing. Third, by employing longitudinal data, our study addresses causality issues. Previous findings on satisfaction outcomes to downsizing come almost invariably from cross-sectional designs. Fourth, by linking customer responses to downsizing with financial performance, our study improves the understanding of the ambiguous results on performance implications of downsizing. If customer outcomes depend on contextual factors, this helps understanding mixed performance effects in earlier research.

Conceptual framework

Figure 1 depicts our conceptual framework. It is a causal chain leading from downsizing via customer satisfaction to financial performance. Twelve contextual factors moderate the link between downsizing and customer satisfaction.

----- Insert Figure 1 about here -----

We define *downsizing* as major workforce reductions to cut costs and to improve productivity and consequently financial performance (Freeman and Cameron 1993). The typical rationale behind downsizing is to maintain output levels in terms of product and service quality while using less input—that is, labor—thereby cutting costs. However, as companies may find it

difficult to maintain quality levels after downsizing, it could affect *customer satisfaction*, defined as a “cumulative evaluation of a firm’s market offering” (Fornell et al. 1996, p. 8).

A key conceptual idea behind this paper is that the relationship between downsizing and customer satisfaction may not always be negative. In environments where customer interaction with firm employees is not common, we expect that two types of contextual factors influence the downsizing–satisfaction link: (1) variables relating to the *resources* of the firm and (2) variables related to *consumer information processing* in the buying process. Overall, we expect that downsizing’s negative effect on customer satisfaction will depend on the degree to which the downsized employees are crucial in line with the resource-based view of the firm (Kozlenkova, Samaha, and Palmatier 2014). And in particular, we expect that downsizing’s negative effect on customer satisfaction will depend on the degree to which customers can perceive the downsizing and believe it to be important information.

Concerning the downsizing firm’s resources, we consider two sets of variables. The first consists of measures of a *company’s resource dependency*. Prior downsizing research has identified three key factors in this regard: (1) Firms can shield themselves against disruptions of their resources through *organizational slack*, defined as “resources in excess of those required to produce necessary outputs” (Love and Nohria 2005, p. 1087). (2) Negative downsizing outcomes are more likely if a firm’s *labor productivity*, defined as the amount of output per unit of labor (Koch and McGrath 1996), is high. (3) Firms are particularly affected by negative affect in the workforce if they depend on innovation. This is captured by *industry R&D intensity*, defined as average firm expenditures for research and development in an industry (Guthrie and Datta 2008).

The second set of resource-related variables concerns the *company’s resource history*. A key concept of the resource-based view is path dependence (Vergne and Durand 2010). It posits

that history is an important factor driving the outcome of firm decisions (Sydow, Schreyögg, and Koch 2009)—or, in other words, “history matters” (Vergne and Durand 2010, p. 741).

Building on the concept of path dependence, we argue that the effect of downsizing on customer satisfaction depends on at least two past events. First, we include *prior downsizing*, defined as the occurrence of another major workforce reduction in the same that took place before the downsizing. Second, we include *prior losses*, defined as negative earnings before interest and taxes in the year prior to the downsizing.

Concerning consumer information processing, we also consider two sets of variables. The first set consists of different aspects of *customers’ product category involvement*, as “depending on their level of involvement, individual consumers differ in the extent of their decision process and their search for information” (Laurent and Kapferer 1985, p. 41). Drawing on Laurent and Kapferer’s (1985, Kapferer and Laurent 1993) original scale, we distinguish five dimensions of involvement: (1) a customer’s *interest* in a product category; (2) hedonic product value, i.e., a customer’s perception that a product category provides *pleasure*; (3) *sign* product value, i.e., a customer’s perception that a product expresses his or her self; (4) *risk importance*, i.e., a customer’s perception that a poor product choice leads to negative consequences; and (5) *probability of error*, i.e., a customer’s perception that making a poor product choice is likely.

The second set of consumer-related variables comprises *customers’ purchase criteria*. Whether the disruption of firm resources after downsizing affects customer satisfaction should depend on what drives customer purchase decisions. We propose that two criteria are of particular relevance in this respect: *service consciousness*, which denotes to what extent customers place value on services vs. goods in a product category, and *brand consciousness*, which we define as the extent to which customers place value on brands in a product category.

Lastly, customer satisfaction is modeled as driver of company's *financial performance*. It is defined as the monetary return a company yields on its invested capital.

Hypotheses

As mentioned before, prior research has established that on average, customer satisfaction decreases after downsizing (e.g., Homburg, Klarmann, and Staritz 2012; Lewin, Biemans, and Ulaga 2010). Therefore, our hypotheses focus on how the contextual factors depicted in Figure 1 moderate the negative effect of downsizing on customer satisfaction.

Moderator effects pertaining to a firm's resources

Organizational slack Our first hypothesis is based on the idea that downsizing poses a risk to customer satisfaction through the deterioration of customer-related processes. However, the way these processes are affected may depend on the excess capacity a company has—that is, organizational slack (Love and Nohria 2005). We propose that higher levels of organizational slack lead to less negative (or even positive) effects on processes and thus customer satisfaction for two reasons. First, slack may act as a buffer (Bourgeois III 1981). A firm with little organizational slack may not have resources available to cover the process steps of departing employees, which may lead to a reduction in customer satisfaction. However, a “fat” company should be able to cut personnel while maintaining process performance. Hence, the more slack a company has, the less negatively downsizing should affect customer satisfaction.

While slack may offer a buffer, it can also be a cost item. High levels of slack may indicate inefficient processes resulting, for example, in delays for customers (Bourgeois III 1981). Downsizing may then become the trigger for improving existing business processes

(Marks 2003), which may even increase customer satisfaction through superior quality and/or lower prices. Thus, we hypothesize:

H1: The negative effect of downsizing on customer satisfaction is more pronounced in companies with little organizational slack.

Labor productivity Our next hypothesis concerns the moderating effect of labor productivity. High labor productivity is likely to be associated with high workplace involvement (Guthrie 2001). We argue that two characteristics of high-involvement workplaces aggravate the effect of downsizing on customer satisfaction.

First, employees in high involvement workplaces are likely to perceive their psychological contract with the firm as strong. That is, employees provide high levels of effort, loyalty, and commitment while expecting involvement, job security, and fair treatment (e.g., Tsui et al. 1997). Downsizing can be viewed as a fundamental violation of these obligations. As a result, employees may no longer be willing to achieve previous levels of performance, which may in turn reduce customer satisfaction. In contrast, in companies with lower workplace involvement and thus a weaker psychological contract, downsizing should result in less disastrous effects on the remaining employees.

Second, in high-involvement workplaces employees are typically more involved in and responsible for quality assurance. To this end, firms assign employees the mission of “satisfy[ing] the customer in the best way they can” (Lawler 1992, p. 36). Resulting from this increase in responsibility, the negative effects of downsizing on employees should more easily translate to a deterioration of quality and hence, customer satisfaction. In contrast, in companies with lower workplace involvement, satisfying customers is spread on more shoulders. As a

result, companies should be able to better buffer their service to customers from internal disruptions after downsizing. Therefore,

H2: The negative effect of downsizing on customer satisfaction is more pronounced in companies with high labor productivity.

R&D intensity Several arguments suggest that downsizing inhibits innovation by impairing the different sources of innovation, such as employees, managers, and customers (Tushman and Nadler 1986). First, concerning employee-triggered innovation, it is worth noting that a major barrier for innovation is *fear*: “When people fear for their jobs, their futures, or even for their self-esteem, it is unlikely that they will feel secure enough to do anything but what they have done in the past” (Pfeffer and Sutton 2000, p. 109; see also Hurley and Hult 1998; Tellis 2013). As downsizing triggers fear, uncertainty, and distrust of management among survivors (e.g., Brockner et al. 1994, 2004) it reduces creativity (Amabile and Conti 1999), and it is thus likely to inhibit employee-triggered innovation.

Second, concerning manager-triggered innovation, research has shown that the executors of downsizing suffer from the same symptoms as victims and survivors (Gandolfi 2008). Hence, much like employees, managers who play an active role in a downsizing project should forfeit creativity and innovativeness. Additionally, as in practice downsizing projects are often complex and embedded in a larger reorganization (Cameron, Freeman, and Mishra 1991), managers should have less time to initiate, manage, or provide input for innovation projects. As a result, manager-triggered innovation during phases of downsizing should decline.

Third, concerning customer-triggered innovation, downsizing has been shown to increase customer uncertainty (Homburg, Klarmann, and Staritz 2012). We argue that the more uncertain

customers are, the less readily they should share their ideas or insights with a company. As a result, customer-triggered innovation during downsizing phases is likely to decrease.

In sum, there is good reason to believe and even empirical evidence (Dougherty and Bowman 1995) that downsizing disrupts product innovation. However, if employee-triggered, manager-triggered, and customer-triggered innovation decline, a company may lose its ability to meet customers' future needs, which should lead to decreasing satisfaction. We propose that firms downsizing in industries with high pressure for innovation (e.g., hardware and/or software manufacturers such as Apple, Dell, or Microsoft) should be affected by these effects to a larger extent. Thus, we hypothesize:

H3: The negative effect of downsizing on customer satisfaction is more pronounced in companies operating in industries with high R&D intensity.

Prior downsizing Customers' evaluations of products and services strongly depend on the customers' prior experiences (Oliver 1997). For example, after experiencing a service failure, customers are more receptive to a repeated service failure, which makes service recovery more difficult (e.g., Liao 2007; Maxham and Netemeyer 2002).

This mechanism poses a critical risk to companies' downsizing practices in use: many companies do not downsize only once, but they complete several rounds of personnel reductions (e.g., Iverson and Pullman 2000; Moore, Grunberg, and Greenberg 2004). Hence, if during an earlier round of downsizing product or service quality has deteriorated, customers are likely to be more receptive for any quality problems during later rounds of downsizing. We thus propose:

H4: The negative effect of downsizing on customer satisfaction is more pronounced in companies who undergo repeated downsizing.

Prior losses While some companies reduce their workforce proactively to enhance organizational performance, others downsize reactively owing to financial distress (Freeman and Cameron 1993). We expect that customers react differently to these different motivations.

Research shows that customers care about the fairness of corporate activities and are willing to resist doing business with unfair firms (Kahnemann, Knetsch, and Thaler 1986). In this regard, downsizing may act as a strong signal regarding a firm's "character" (Love and Kraatz 2009). Customers may perceive downsizing as particularly opportunistic if the company enjoys profits. In contrast, customers may perceive companies that reduce their workforce to counter losses as less unfair and less socially irresponsible. Indeed, the negative effect of downsizing on corporate reputation is smaller if downsizing is a reaction to performance problems of a firm (Love and Kraatz 2009). Therefore:

H5: The negative effect of downsizing on customer satisfaction is less pronounced if a company has had financial losses prior to the downsizing.

Moderator effects pertaining to customer information processing

Product category involvement: interest Product categories which score high on the interest dimension provide personal meaning to customers (Laurent and Kapferer 1985). Customers consume these products more consciously and they are thus more likely to notice deteriorations in product or service quality. As stated by Anderson (1994, p. 28) expectations and negative disconfirmation are greater when involvement is high, as "customers appear more likely to notice 'things gone right or wrong'" (Anderson 1994, p. 28). Therefore, we propose:

H6: The negative effect of downsizing on customer satisfaction is more pronounced in high interest product categories.

Product category involvement: pleasure Product categories which score high on the pleasure dimension of involvement provide hedonic value to customers. Mass layoffs are often thought of as especially unpleasant firm actions, causing fear and problems for the concerned employees (Brockner et al. 1994; Greenglass and Burke 2001; Havlovic, Bouthillette, and Van der Wal 1998). Hedonic consumption, however, is also motivated by a desire to escape the problems of the everyday world (e.g., Arnold and Reynolds 2012). Therefore, we expect that downsizing will reduce the hedonic appeal of a firm's products, which will reduce customer satisfaction, especially in high pleasure categories. Thus,

H7: The negative effect of downsizing on customer satisfaction is more pronounced in high pleasure product categories.

Product category involvement: sign A high sign value of a product category indicates that customers' sense of self is strongly linked to the products (Kapferer and Laurent 1993; Laurent and Kapferer 1985). Resulting from this nexus, customers should be inclined to maintain positive attitudes toward these products in order to protect their self-esteem (Bradley 1978; Fournier 1998). Hence, if a company in such a product category downsizes, customer satisfaction should be less at stake. Empirical evidence supports this. For example, Ferraro, Kirmani, and Matherly (2013) find that in light of a critical incident, customers' attitudes toward a brand deteriorate to a lesser extent if their self-concept is linked to the brand. Similarly, Swaminathan, Page, and Gürhan-Canli (2007) report that when customers' self-concept is linked to a brand, these customers "tend to discount and counterargue ... negative information" (p. 256). Finally, Johar, Birk, and Einwiller (2010) state that customer identification with a brand "is one of the best forms of insurance against the possibly devastating effects a crisis can have for an organization."

Hence:

H8: The negative effect of downsizing on customer satisfaction is less pronounced in high sign product categories.

Product category involvement: risk importance We propose that high risk importance within a product category amplifies the negative effect of downsizing on customer satisfaction. A perception of high risk leads customers to make a more extended product-related search (Dowling and Staelin 1994; Hoyer and MacInnis 2007). In the course of the search, they may be more likely to learn about a downsizing event, with possible adverse effects on corporate image (Love and Kraatz 2009) and thus on customer satisfaction. Furthermore, similar to our reasoning behind H6 and H7, it seems reasonable to assume that customers consume high-risk products more consciously and are thus more likely to notice quality deteriorations. Hence, we propose:

H9: The negative effect of downsizing on customer satisfaction is more pronounced in high risk importance product categories.

Product category involvement: probability of error. A high probability of error implies that customers find it difficult to evaluate the quality of a product (Kapferer and Laurent 1993; Laurent and Kapferer 1985). This evaluation difficulty poses an opportunity to downsizing companies: if customers cannot easily access the quality of a product, they should be less likely to notice any quality deteriorations (Anderson 1994). Hence, if after a downsizing event a company's performance deteriorates, satisfaction should be less affected. We thus propose:

H10: The negative effect of downsizing on customer satisfaction is less pronounced in high probability of error product categories.

Service consciousness If customers are highly conscious of services in a product category, social interaction with frontline employees plays a particularly large role in driving overall customer

satisfaction. Two arguments suggest that under these circumstances, downsizing has a more deleterious effect on customer satisfaction.

First, services rely more on their employees to ensure a high-quality delivery to the customer (Anderson, Fornell, and Rust 1997). Hence, firms that downsize may no longer have the staff to provide the service effort customers are used to. Indeed, in seeking productivity improvements, service employees have been shown to reduce the time spent with each customer (Olivia and Sterman 2001). Also, downsizing has been shown to reduce customer orientation of service employees (Subramony and Holtom 2012).

Second, if due to a high service consciousness customer satisfaction depends on the social interaction with frontline employees, customer satisfaction should be affected by the emotions of these frontline employees (Henning-Thurau et al. 2006). As downsizing typically *negatively* affects employee emotions (e.g., Brockner et al. 1986, 1993; DiFonzo and Bordia 1998; Mishra and Spreitzer 1998), customer satisfaction should decrease, too. In contrast, if customer satisfaction depends less on social interaction with frontline employees, the negative effect of downsizing on customer satisfaction via employee emotions should be weaker. Thus, we hypothesize:

H11: The negative effect of downsizing on customer satisfaction is more pronounced if customers have a high service consciousness.

Brand consciousness If a product category is characterized by high brand consciousness, customers place particular emphasis on the brand when purchasing and using products. One of the key reasons for using brands is that it facilitates decision making through lower information costs (e.g., Erdem and Swait 1998). For instance, categorization research (e.g., Cohen and Basu 1987) has found that to save cognitive energy, customers often reapply judgments that they have

already stored in memory (e.g., Sujan 1985). To some extent, this can ensure a stability in brand perceptions over time. For example, Brady et al. (2008) find that the better customers' brand associations, the less negatively customer satisfaction is affected by a performance failure. Similarly, Sloot, Verhoef, and Franses (2005) find that customers are more loyal to such brands in stock-out situations. Hence, we propose:

H12: The negative effect of downsizing on customer satisfaction is less pronounced if customers have a high brand consciousness.

Indirect effect of downsizing on financial performance via customer satisfaction

If customer satisfaction decreases, so may customer loyalty (Lam et al. 2004), repurchase intentions (Mittal and Kamakura 2001), and willingness to pay (Anderson 1996). These behavioral effects might translate into decreased revenues (Fornell 1992), higher costs (Reichheld and Sasser 1990), and, thus, lower financial performance (Anderson, Fornell, and Mazvancheryl 2004; Gruca and Rego 2005). Therefore:

H13: Customer satisfaction mediates the link between downsizing and financial performance.

Methodology

Data collection and sample

We assembled a longitudinal dataset to estimate how downsizing affects *subsequent* customer satisfaction. By using longitudinal instead of cross-sectional data, our study avoids reverse-causality issues. The American Customer Satisfaction Index (ACSI) is an ideal data source for our purposes. It is a customer-based evaluation of the performance of more than 200 firms in over 40 industries and covers about 43% of the U.S. economy. To develop the index,

about 250 telephone interviews are conducted with current customers of each company on a quarterly basis. While customers rate specific goods or services in these interviews, the answers are then mostly aggregated to the company level (Fornell et al. 1996).

As the index scores reach back as far as 1994, they allow for a comprehensive longitudinal analysis. Also, the index exhibits highly reliable measures of customer satisfaction due to consistent surveys, interview execution, sampling, and estimation across firms and time (see Fornell et al. 1996). The population for our study is all companies listed in the ACSI between 1994 and 2007; 1994 is the first year for which ACSI data is available, and 2007 was chosen as the cutoff in order to exclude any exceptional effects of the subprime and debt crisis on firms' downsizing activities in the following years. As the economic downturn probably started in 2007 (Pol 2012; Vyas 2011; Wu 2011), we provide robustness checks with 2006 as the cutoff year.

We excluded companies that (1) were not incorporated in the United States (e.g., BMW), or (2) provided customer satisfaction data on the brand instead of the firm level (e.g., Chrysler Corporation, for which the ACSI differentiates between Chrysler and Dodge-Plymouth). We then matched these companies with financial data and employment information of Standard and Poor's Compustat, excluding companies that (3) were not unequivocally listed on Compustat, or (4) did not provide four consecutive years of complete data. This procedure resulted in a panel of 110 companies and 710 firm years. Table 2 shows the sample composition. Differences in the sample size and composition compared to other studies (e.g., Ittner, Larcker, and Taylor 2009; Tuli and Bharadwaj 2009) are due to our more selective inclusion criteria and our requirement of four consecutive years of complete data.

----- Insert Table 2 about here -----

In addition, we collected survey data to measure the customer-related moderators (product category involvement and purchase criteria). We surveyed 1,522 U.S. residents between 18 and 65 years of age. Respondents were acquired through an online panel provider. The sample is representative for the U.S. population in terms of gender, income, and region ($p > .10$). Representativeness in terms of age ($p < .05$) and education ($p < .001$) could not be established, which we attribute to the use of an online survey. Table 3 shows the sample composition.

----- Insert Table 3 about here -----

After agreeing to participate, respondents were randomly assigned to one of the 29 product categories in our sample and asked to evaluate these product categories through an online survey. For each product category, we obtained at least 50 responses. To match the survey data to the individual companies in our dataset, we used the Standard Industrial Classification (SIC) code as the primary key.

Measures

Downsizing We operationalize downsizing as a dummy variable indicating a reduction in the number of employees of at least 5% as observed in Compustat. This approach is consistent with many other studies: a dichotomous measure of downsizing is easier to interpret than a continuous measure (Ahmadjian and Robinson 2001) and is thus frequently used (e.g., Bruton, Keels, and Shook 1996; Love and Nohria 2005). Also, an extensive literature review shows 5% to be a predominant cutoff point (e.g., Cascio, Young, and Morris 1997; Guthrie and Datta 2008). Studies argue that with lower cutoffs, investigators might erroneously interpret unintentional attrition as downsizing, whereas with higher cutoffs, they might overlook important downsizing events (Ahmadjian and Robinson 2001; Cascio, Young, and Morris 1997).

Researchers also use press announcements to identify downsizing (e.g., Love and Nohria 2005; Nixon et al. 2004; Worrell, Davidson, and Sharma 1991). Press announcements might be the more valid indicator of downsizing, because mere employment changes may be the result of, for example, spin-offs or outsourcings. Therefore, we searched the ProQuest database records of the *Wall Street Journal* and several other wire services for announcements of layoffs for the firms in our sample. We then constructed a second, narrower downsizing dummy that was set to 1 if employment decreased by at least 5% and a corresponding announcement was available. We identified 105 downsizing events based on this process. However, as our model requires data availability for the downsizing year as well as the three years before, we were only able to use 54 downsizing events. We test our hypotheses using both operationalizations of downsizing.

Customer satisfaction We measure customer satisfaction through the change in customer satisfaction as a firm's ACSI score in the year after downsizing minus the firm's ACSI score in the year of downsizing. This way, we analyze how downsizing changes satisfaction.

Resource dependency We measure *organizational slack* as the ratio of selling, general, and administrative (SG&A) expenses to total sales minus the mean industry SG&A level (sales-weighted) in the year before downsizing. This approach is consistent with other studies (e.g., Love and Nohria 2005; Wiseman and Bromiley 1996). *Labor productivity* is measured as total sales divided by the number of employees minus the corresponding industry average in the year before downsizing (Anderson, Fornell, and Rust 1997). For *industry R&D intensity*, we first calculated the average ratio of research and development expenses to total sales for all

companies within every three-digit SIC code. We then averaged these ratios over the year before, the year of, and the year after the downsizing event (Guthrie and Datta 2008).

Resource history *Prior downsizing* is a dummy indicating if in any of the three years prior to our focal downsizing event, the company had already downsized at least once. Using a three-year time horizon is consistent with Love and Nohria (2005). *Prior financial loss* is a dummy indicating if in the year before downsizing, a company had negative EBIT.

Product category involvement We measure the five dimensions of product category involvement with items based on Kapferer and Laurent (1993). The exact wording is reported in Table 4. We assessed our measures using a confirmatory factor analysis. Across all product categories, composite reliabilities (CR) and average variance extracted (AVE) exceed recommended threshold levels (Bagozzi and Yi 1988) for all involvement dimensions (*interest*: AVE=.74; CR=.85; *pleasure*: AVE=.84; CR=.94, *sign*: AVE=.89; CR=.96, *risk importance*: AVE=.76; CR=.87, *probability of error*: AVE=.77; CR=.93). We also find good psychometric properties if we analyze the constructs separately for each product category in our data. The only exception is the composite reliability of the interest dimension for cookies and crackers (CR=.69), which is slightly smaller than the recommended threshold of .7.

Product category purchase criteria We measure these criteria using self-developed scales (items are listed in Table 4). Again, psychometric properties are good (*service consciousness*: AVE=.88; CR=.96 and *brand consciousness*: AVE=.71; CR=.91) for the overall sample as well in a separate analysis of each product category.

Control variables As we explain in more detail in the next section, we rely on a fixed effects estimator for the model estimation. A key advantage of this method is that omitted variables bias is strongly reduced (Baltagi 2008). In particular, the model structure already accounts for the influence of firm-specific variables that stay constant over the observed time period. Therefore, we control only for firm size in our model by including *total assets* and *employees* (Nixon et al. 2004). Table 4 gives an overview of our measures. Table 5 presents descriptive statistics and correlations.

----- Insert Tables 4 and 5 about here -----

Model specification and estimation

Model specification To test the effect of downsizing on customer satisfaction, we specify a model which includes all independent and moderating variables. Furthermore, the model includes interaction terms between downsizing and all moderators:

$$\begin{aligned}
 \text{ChangeinCustomerSatisfaction}_{t,i} = & \beta_1 \text{Downsizing}_{t-1,i} \\
 & + \beta_2 \text{OrganizationalSlack}_{t-2,i} \\
 & + \beta_3 \text{LaborProductivity}_{t-2,i} \\
 & + \beta_4 \text{IndustryR\&DIntensity}_{t,i} \\
 & + \beta_5 \text{PriorDownsizing}_{t-2,i} \\
 & + \beta_6 \text{PriorFinancialLoss}_{t-2,i} \\
 & + \beta_7 \text{TotalAssets}_{t,i} \\
 & + \beta_8 \text{Employees}_{t,i} \\
 & + \beta_9 \text{Downsizing}_{t-1,i} \times \text{OrganizationalSlack}_{t-2,i} \\
 & + \beta_{10} \text{Downsizing}_{t-1,i} \times \text{LaborProductivity}_{t-2,i} \\
 & + \beta_{11} \text{Downsizing}_{t-1,i} \times \text{IndustryR\&DIntensity}_{t,i} \\
 & + \beta_{12} \text{Downsizing}_{t-1,i} \times \text{PriorDownsizing}_{t-2,i} \\
 & + \beta_{13} \text{Downsizing}_{t-1,i} \times \text{PriorFinancialLoss}_{t-2,i} \\
 & + \beta_{14} \text{Downsizing}_{t-1,i} \times \text{Interest}_i \\
 & + \beta_{15} \text{Downsizing}_{t-1,i} \times \text{Pleasure}_i \\
 & + \beta_{16} \text{Downsizing}_{t-1,i} \times \text{Sign}_i \\
 & + \beta_{17} \text{Downsizing}_{t-1,i} \times \text{RiskImportance}_i \\
 & + \beta_{18} \text{Downsizing}_{t-1,i} \times \text{ProbabilityofError}_i \\
 & + \beta_{19} \text{Downsizing}_{t-1,i} \times \text{ServiceConsciousness}_i \\
 & + \beta_{20} \text{Downsizing}_{t-1,i} \times \text{BrandConsciousness}_i
 \end{aligned}$$

$$+ \alpha_i + \varepsilon_{t,i}$$

where β denotes the regression coefficients, t indicates the year, and i the individual company. α_i is an individual (company-specific) error. It accounts for the nested structure of our dataset, where years are nested in firms. $\varepsilon_{t,i}$ stands for an idiosyncratic (residual) error that may vary over both companies and time. For interpretation purposes, we centered all moderators by subtracting the mean of each variable from its original value (Irwin and McClelland 2001).

The model explains customer satisfaction in a certain year (t) through downsizing in the period before ($t-1$) to rule out confounding effects and thus allow for causal conclusions. The firm-specific moderators that vary over time (i.e., organizational slack, labor productivity, prior downsizing, and prior financial loss) were measured prior to the downsizing event. We chose to measure them in the year before the downsizing event because they could be confounded with the downsizing event itself (e.g., downsizing reduces organizational slack). It is worth noting that this model requires us to have complete data for five consecutive years, ranging from customer satisfaction in t via downsizing in $t-1$ back to prior downsizing in any of the three years before the focal downsizing event, i.e., back to $t-4$ (see description of measurement above).

Estimation method It is important to emphasize again that our dataset contains multiple observations for each firm. Put differently, our dataset is of a hierarchical structure in which years are nested in companies. This nested structure often leads to violations of the assumptions of ordinary least squares (OLS), in particular if the individual error α_i is not identical across all firms, if it is correlated with the regressors, or if the idiosyncratic error $\varepsilon_{t,i}$ is serially correlated or is heteroskedastic (e.g., Baltagi 2008; Boulding and Staelin 1995). To check whether these violations apply to our dataset, we conducted a series of standard statistical tests (e.g., Baltagi

2008; Wooldridge 2002). Indeed, Breusch and Pagan's (1980) Lagrange multiplier test indicated that there is a company-specific intercept in our data ($p < .001$), and the Breusch-Godfrey test (see Baltagi and Li 1995) indicated serial correlation in the error term $\varepsilon_{t,i}$ ($p < .001$). We therefore resorted to two estimation methods that produce consistent results under these conditions. First, we estimated a fixed effects model with robust standard errors using STATA's xtreg procedure (Cameron and Trivedi 2010, p. 335). Second, we deployed a fixed effects feasible generalized least squares estimator (Wooldridge 2002, p. 247), using the statistical software package R (procedure pggls, for details see Croissant and Millo 2008). These methods treat the issue of serial correlation through different mechanisms, but they are similar in the way they deal with the company-specific intercept through so-called fixed effects. In particular, they discard any company-specific (i.e., fixed) effect by subtracting the average over time from each variable. This is a standard econometric method when dealing with data structured like ours. It has also frequently been used in studies dealing with downsizing (e.g., Love and Kraatz 2009; Love and Nohria 2005) as well as ACSI data (e.g., Anderson and Mansi 2009; Grewal, Chandrashekar, and Citrin 2010).

It is worth mentioning that fixed-effects procedures cannot estimate effects of time-invariant independent variables (Baltagi 2008; Wooldridge 2002). Therefore, our regression equation depicted above and our results in the next section do not contain main effects for our time-invariant moderators (interest, pleasure, sign, risk importance, probability of error, service consciousness, and brand consciousness).

Moderated effects of downsizing on customer satisfaction

We first present the results for downsizing being measured as an employment decrease of at least 5% as observed in Compustat regardless of whether a downsizing announcement was available. Table 6 shows our estimation results.

----- Insert Table 6 about here -----

As described previously, we present models using different cutoff years and estimators. First, we turn to the results obtained through a fixed effects estimator with clustered errors (models 1 and 2). Before interpreting the results for our hypotheses, we note that the main effect of downsizing is significantly negative both for the cutoff 2007 ($\beta_1 = -.97, p < .01$) and 2006 ($\beta_1 = -.96, p < .01$). Thus, on average, downsizing has a negative effect on customer satisfaction.

In H1 we predict that organizational slack positively moderates the effect of downsizing on customer satisfaction. The corresponding interaction term is positive and significant both for the cutoff 2007 ($\beta_9 = 6.17, p < .05$) and 2006 ($\beta_9 = 6.55, p < .05$), providing support for H1

Hypothesis 2 posits that labor productivity negatively moderates the downsizing–customer satisfaction link. In support of H2, the interaction between labor productivity and downsizing has a significant negative effect using both the cutoff 2007 ($\beta_{10} = -1.90, p < .01$) and 2006 ($\beta_{10} = -1.83, p < .05$).

H3 suggests that industry R&D intensity negatively moderates the downsizing–customer satisfaction chain. This hypothesis is strongly supported both for the cutoff 2007 ($\beta_{11} = -.82, p < .001$) and 2006 ($\beta_{11} = -1.00, p < .001$).

In H4 we propose that downsizing has a more deleterious effect on change in customer satisfaction for firms that undergo repeated downsizing. While, consistent with this proposition, the interaction term between downsizing and prior downsizing is negative, it is insignificant both

for the cutoff 2007 and 2006. Hence, H4 is not supported by the data. Similarly, we do not find support for H5: the sign of the interaction coefficient between downsizing and prior financial loss is positive as proposed, but insignificant.

Regarding product category involvement, we do not find support for H6 through H8 as the interaction coefficients are insignificant. Hypotheses 9 and 10 are supported. In line with our propositions, the interaction coefficient between downsizing and risk importance is significantly negative (cutoff 2007: $\beta_{17} = -2.48, p < .01$; cutoff 2006: $\beta_{17} = -2.85, p < .01$), whereas the interaction coefficient between downsizing and probability of error is significantly positive (cutoff 2007: $\beta_{18} = 3.92, p < .001$; cutoff 2006: $\beta_{18} = 4.51, p < .001$).

Regarding product category purchase criteria, there is no evidence in support H11. Service consciousness does not have a significant interaction effect with downsizing. Concerning H12, brand consciousness positively moderates the effect of downsizing on change in customer satisfaction for the cutoff 2007 ($\beta_{20} = 1.77, p < .05$). When choosing the cutoff 2006, the interaction effect is insignificant. Hence, support for H12₂ is limited.

Models 3 and 4 are estimated using the fixed effects GLS method as an alternative estimator. Here, in line with models 1 and 2, the moderating effects of labor productivity (H2), industry R&D intensity (H3), risk importance (H9), and probability of error (H10) are supported, whereas the moderating effects of prior downsizing (H4) and sign (H8) are not. The strong consistency across all four models raises our confidence in the validity of these findings. Moreover, in line with model 1, the moderating effect of brand consciousness is supported. The interaction effect of organizational slack is significant in model 4 but insignificant in model 3. Hence, seeing that the interaction coefficients of brand consciousness and organizational slack are significant in three out of four models, in summary we find some support for H1 and H12.

Lastly, H5, H6, H7, and H11 are partly supported in at least one of models 3 and 4, making our result in their regard somewhat inconclusive.

To gain further insight into the nature of the interaction effects, we plotted them based on model 1 in Table 6. Following Guthrie and Datta (2008), we divided our data into two groups based on whether a firm had downsized in the previous period. In each group, we calculated means and standard deviations of all variables. We then assigned the moderator a value of one standard deviation above and below its mean while constraining all other variables to their means. We then used these values to predict customer satisfaction. Figure 2 shows the plots, which all reveal that downsizing has a negative effect on the change of customer satisfaction. This negative effect is however particularly pronounced for disadvantageous configurations of the moderators, i.e., for low organizational slack, high labor productivity, high industry R&D intensity, high risk importance, low probability of error, and low brand consciousness. The negative effect is alleviated or neutralized for advantageous configurations of the moderators.

----- Insert Figure 2 about here -----

Robustness checks for different operationalizations of downsizing

We follow earlier research by considering employee reductions of 5% or more as downsizing. In this section, we describe two tests to check whether our results are stable when using other operationalizations. First, we estimated our model a second time with a narrower downsizing dummy. It was set to 1 only if workforce reductions of at least 5% were accompanied by a corresponding press announcement. Table 7 shows the results. As changing the operationalization reduces the number of observed downsizing events to 54, we are mainly interested whether hypothesized effects have the same sign across operationalizations. This is the case. Moreover, despite the small sample, three of the hypothesized interaction effects (with

R&D intensity, risk importance, and probability error) are statistically significant. Surprisingly, contrary to H6, interest has a significant *positive* interaction effect for both estimation methods.

----- Insert Table 7 about here -----

Second, we tested the stability of the results when using other values than 5% as a cutoff-point for downsizing events. We find highly consistent results for cutoff points of 4% to 7%. Moreover, for a 3% cutoff point, many effects just barely lose their statistical significance. This might indicate that at a 3% cutoff point, the effects of downsizing dilute somewhat. Despite that, overall we are confident that our results are stable for cutoff-points ranging from 3% to 7%. For more extreme cutoff points (e.g., 1%, 10%, or 15%) the pattern of results is visibly affected.

Indirect effect of downsizing on financial performance via customer satisfaction

To examine our proposition that customer satisfaction mediates the effect of downsizing on financial performance, we conducted a mediation analysis. Therefore, we specified a model with change in financial performance as the dependent variable, operationalized as return on assets (ROA) in t minus ROA in $t-1$. ROA is calculated as the ratio of earnings before interest, taxes, depreciation and amortization to total assets. This operationalization is widely used in downsizing research (e.g., Bruton, Keels, and Shook 1996; Guthrie and Datta 2008; Love and Nohria 2005). As Cascio, Young, and Morris (1997: 1177) argue: “Any changes in the performance of a firm that result from employment downsizing should show up in the ROA measure.” As independent variables, we included our prior independent variables lagged by one additional period. We further included organizational slack and labor productivity in t as additional control variables.

----- Insert Table 8 about here -----

Table 8 shows the results. Model 1 reports the effect of downsizing on change in financial performance without controlling for change in customer satisfaction. The effect is not statistically significant. In model 2, we added change in customer satisfaction in t-1 as an independent variable. Again, we find no effect of downsizing on financial performance, whereas—consistent with much earlier research (e.g., Anderson, Fornell, and Lehmann 1994; Anderson, Fornell, and Mazvancheryl 2004)—change in customer satisfaction has a positive effect ($\beta_{CS \rightarrow ROA} = .17, p < .05$). As a robustness check, model 3 shows how the absolute level of customer satisfaction (instead the year-to-year change) affects return on assets. We find a strong positive effect ($\beta_{CS \rightarrow ROA} = .57, p < .001$), which substantiates our finding that customer satisfaction is positively linked to financial performance.

The fact that downsizing reduces customer satisfaction and that customer satisfaction drives financial performance points to a potential indirect effect of downsizing on financial performance via customer satisfaction in line with H13. To test H13, we conducted the Sobel test (Sobel 1982), finding a significant effect ($\beta_{DS \rightarrow CS} \times \beta_{CS \rightarrow ROA} = -.17, p < .05$). Hence, in support of H13 downsizing reduces customer satisfaction, which then reduces financial performance.

Table 9 analyzes this indirect effect for unfavorable conditions of our supported moderators. Following Spiller et al. (2013), we estimated the simple effect of downsizing on satisfaction for different levels of the moderators and then repeated the Sobel test. The negative indirect effect of downsizing on performance via satisfaction becomes stronger for companies with low slack or high labor productivity and in industries with high R&D intensity as well as in product categories that customers perceive as risky but have a low probability of error.

----- Insert Table 9 about here -----

Discussion

Research implications

Downsizing has been a popular managerial instrument for almost 30 years. However, only recently have researchers started to look at customer outcomes of downsizing. Our research contributes to this new research stream in several ways.

Previous research on customer outcomes of downsizing has focused on B2B markets (e.g., Lewin 2009; Lewin and Johnston 2008; Lewin, Biemans, and Ulaga 2010). We extend the field by looking at B2C markets. Here, we also find that downsizing reduces customer satisfaction. We argue that this finding is less intuitive than it may sound. In B2B markets there is typically a strong degree of personal interaction between customers and employees of the downsizing supplier. In contrast, in most B2C markets, consumers have little to no personal contact with firm employees. As a result, in many product categories consumers seem to be indifferent to employee working conditions. For instance, despite the highly publicized problems of workers in one of Apple's supplier firms (e.g., Mishkin 2013), in October 2013 Apple CEO Tim Cook reported that Apple was winning in terms of customer satisfaction (Bradshaw 2013).

In light of this potential consumer indifference to the way products and services are produced, the question becomes: When does downsizing affect satisfaction? Our findings indicate that consumers mostly respond to downsizing if it results in noticeable deteriorations of product performance. Only in firms with resource configurations that make them especially vulnerable to losses of human capital (high R&D intensity, high labor productivity, little slack), does downsizing affect customer outcomes. Moreover, if customers have difficulties in evaluating product quality, downsizing does not reduce satisfaction. Similarly, downsizing has little to no effect if customers rely on brands as primary cue in purchasing decisions. Thus, in

B2C markets the effect of downsizing on satisfaction is indeed less clear-cut than one would maybe expect.

That said, some of our moderator hypotheses were not supported by the data. For instance, whether services play an important role in a product category does not affect the downsizing-satisfaction link. This is interesting because Anderson, Fornell, and Rust (1997) argue that there is a larger trade-off between productivity and customer satisfaction for service companies than for manufacturers. Their argument is based on the observation that customization is more important in service firms, which reduces possibilities for increasing productivity. Given the increasing importance of customizing manufactured goods, differences between service firms and manufacturers may have become smaller in this regard.

Likewise, we do not find that downsizing is less harmful to customer satisfaction if firm financial performance was declining before the downsizing or if a firm had downsized before. This is noteworthy because past performance explains image effects of downsizing. Love and Kraatz (2009) report that negative effects of downsizing on firm image are less pronounced if the downsizing is a response to performance problems. The different results points to the importance of distinguishing between image and satisfaction as outcomes of downsizing.

The way our study is designed also extends earlier research methodologically: (1) Previous research on customer outcomes of downsizing used cross-sectional data, which triggers reverse causality issues. It is possible that low customer satisfaction forces firms to cut costs through downsizing. This would also entail a negative correlation between downsizing and satisfaction. By linking satisfaction to downsizing the year before, our setup alleviates these concerns. (2) Previous research has relied on single-source data from a customer's perspective (e.g., Lewin 2009; Lewin and Johnston 2008; Lewin, Biemans, and Ulaga 2010) or a managerial

perspective (Homburg, Klarmann, and Staritz 2012). Our research integrates the two perspectives. Hence, with our design common method effects can probably be ruled out as an explanation for the negative downsizing–satisfaction link.

Finally, our study establishes that customer satisfaction following downsizing mediates the downsizing–performance relationship. By identifying this mechanism, it also contributes to research on the “hidden costs” of downsizing, i.e., costs that are often overlooked by managers starting these activities (Buono 2003). Furthermore, our study offers a new explanation why researchers have found it hard to find a consistent effect of downsizing on performance (e.g., Datta et al. 2010). If customer satisfaction mediates the effects of downsizing, interaction effects with context factors can create conflicting evidence with regard to the overall relationship. In fact, we too do not find a significant direct effect of downsizing on financial performance (see model 1 in Table 8). Coupled with our finding of an indirect effect via customer satisfaction, this suggests that multiple (opposing) indirect effects explain the relationship between downsizing and financial performance (e.g., MacKinnon et al. 2000; Rucker et al. 2011; Shrout and Bolger 2002).

It needs to be mentioned that when measuring downsizing, we follow a convention from management research. We consider any firm year as a downsizing year in which the number of employees went down by at least 5%. This comes with limitations. First, the 5% threshold is somewhat arbitrary. We find that results are mostly robust for other thresholds in a range between 3% and 7%. For very high threshold values (e.g., 15%), results differ. Therefore, future research could analyze extreme downsizing events further. Second, large reductions of the number of employees may not always indicate layoffs. Results are qualitatively consistent if only downsizing activities covered in the press are considered. Third, the operationalization of

downsizing is very general. Maybe outcomes of downsizing differ depending on the department affected. Future research could compare downsizing consequences between departments.

Managerial implications

Our study has important implications for managers. Managers must be aware that depending on their firm and product category, downsizing has differential effects on customers. Thus, managers should “think outside the firm” while implementing downsizing. Our results indicate that this might be worth the effort. Managers should be especially careful with downsizing if industry R&D intensity and labor productivity are high, while organizational slack is low. Similarly, they should actively consider alternatives to downsizing if customers perceive purchases in the category as risky, customers find it easy to assess product quality, and customers do not consider the brand an important purchase criterion.

Interestingly, our results suggest that currently managers do not pay much attention to these aspects when engaging in downsizing. A look at our Table 5 reveals that the correlations between the aforementioned variables and downsizing activity are all smaller than .10. Hence, it appears as if currently managers mostly ignore the detrimental effects of downsizing on customers. Our study could contribute to increasing the awareness for these issues.

In addition, our study can guide managers interested in reducing detrimental customer outcomes of downsizing. First, customers react more negatively to downsizing in product categories where purchases are perceived as risky. This points to the importance of managing customer perceived risk during a downsizing. For instance, marketing managers could consider offering additional guarantees to their customer (e.g., a satisfaction guarantee). They should also implement a communication strategy that transparently addresses potential concerns of the

customers. Second, customers react less negatively to downsizing in product categories where brands play an important role. Hence, during downsizing, marketers should put particular emphasis on brand communication at the point of sale and elsewhere.

Limitations

This study does have several limitations. First, it relies on balance sheet data to measure firm-related variables. Hence, downsizing is measured through a proxy, which—as discussed before—is tied to a number of assumptions about the nature of downsizing. We provide evidence that results are relatively stable if other operationalizations are used, but these come with their own disadvantages. Second, the archival nature of the data has also to some extent guided and restricted our choice of firm-level moderators. Survey data could provide additional insights on how to manage downsizing, but data on sensitive issues like downsizing is notoriously difficult to obtain (Homburg, Klarmann, and Staritz 2012) and not available for the time period of interest. Third, in terms of the firms analyzed, this study is subject to the inclusion requirements of the ACSI. It served as the starting point of our data collection efforts. Fourth, product category involvement is measured at one point in time after the focal time-period of the study. Thus, for our results concerning customer-related interactions to hold, it is required to assume that product category involvement is to some extent constant over time.

Conclusion

In the B2C markets covered by the American Customer Satisfaction Index, organizational downsizing is on average associated with decreases in customer satisfaction. In turn these customer outcomes of downsizing affect firm performance. However, the extent of negative

customer reactions to downsizing is largely influenced by contextual variables. In particular, the degree to which a firm depends on human resources and the way customers process information in a product category moderate the downsizing-satisfaction link. Hence, in specific firm-product configurations, downsizing may prove detrimental with regard to customer satisfaction. For other firms, downsizing will not entail any negative customer response.

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Table 1 – Literature on the Effect of Downsizing on Customer Satisfaction

Study	Context	Data	Method	Findings
Homburg, Klarmann, and Staritz (2012)	B2B/B2C	Cross-sectional survey data of 109 managers in companies which had undergone downsizing, 2 scenario experiments with students	Regression analyses	Downsizing increases customer uncertainty, which in turn reduces customer satisfaction. The degree of customer uncertainty further depends on how open a company communicates the downsizing vis-à-vis customers, how strong informal ties between customers and customer-contact employees are, and how important products are for customers.
Lewin (2009)	B2B	Cross-sectional survey data of 560 purchasing professionals evaluating their downsized/non-downsized suppliers	Structural equation models	Purchasing professionals perceive the performance of downsized suppliers as weaker and are less satisfied and loyal.
Lewin, Biemans, and Ulaga (2010)	B2B	Cross-sectional survey data of 435 purchasing professionals evaluating their downsized/non-downsized suppliers	Structural equation models	Purchasing professionals perceive the performance of downsized suppliers as weaker and are less satisfied and loyal. The results partly differ for different cultural contexts (United States vs. Europe).
Lewin and Johnston (2008)	B2B	Cross-sectional survey data of 560 purchasing professionals evaluating their downsized/non-downsized suppliers	t tests, analyses of variance	Purchasing professionals perceive the performance of downsized suppliers as weaker and are less satisfied and loyal. However, they evaluate the suppliers with medium rates of personnel reduction as better than suppliers with low or high rates of personnel reduction.
McElroy, Morrow, and Rude (2001)	B2C	Cross-sectional survey data of customers of 31 regional subunits of a financial services company	Correlation analysis	Downsizing is negatively correlated to customer satisfaction
Wagar (1998)	B2B/B2C	Key informant surveys of 1,907 establishments covering all major sectors of the Canadian economy	Ordered probit estimation	Downsizing reduces employer efficiency, which is calculated as the sum of customer satisfaction, productivity, and product/service quality
Williams, Khan, and Naumann (2011)	B2B	Telephone survey data of 534 service customers before and 994 customers after a downsizing event of one specific company	t tests	Average customer satisfaction and retention after the downsizing event is significantly lower than customer satisfaction before the downsizing event.

Table 2 – Sample Composition of the Companies in our Sample

A. Industries	Percent of Firm-Years with Prior Downsizing (n=153)	Percent of Total Firm-Years (n=710)
Consumer Staples	39	44
Consumer Discretionary	27	30
Information Technology	8	8
Financials	5	5
Energy	10	5
Telecommunication	4	4
Industrials	7	4
Health Care	0	1
B. Revenue	Percent of Firm-Years with Prior Downsizing (n=153)	Percent of Total Firm-Years (n=710)
< \$1 billion	3	2
\$1 - 5 billion	24	19
\$5 - 10 billion	19	21
\$10 - 50 billion	48	50
\$50 - 100 billion	6	7
> \$100 billion	0	1
C. Employees	Percent of Firm-Years with Prior Downsizing (n=153)	Percent of Total Firm-Years (n=710)
< 10,000	18	10
10,000 - 50,000	39	39
50,000 - 100,000	21	19
100,000 - 200,000	15	20
> 200,000	8	11
D. Downsizing Percentage	Percent of Firm-Years with Downsizing (n=153)	
5 - 10%	54	
10 - 15%	19	
15 - 20%	10	
20 - 50%	15	
50 - 100%	2	

Table 3 – Sample Composition of the National Survey

A. Gender	Percent of Survey Sample	Percent of Population^a
Male	49	49
Female	51	51
B. Age	Percent of Survey Sample	Percent of Population^{a,b}
18 to 29	24	26
30 to 49	43	42
50 to 65	34	31
C. Education	Percent of Survey Sample	Percent of Population^a
No college	25	43
Some college, but no degree	29	29
College graduate	27	18
Graduate school	19	10
D. Household Income	Percent of Survey Sample	Percent of Population^a
< \$40K	40	40
\$40K to \$80K	31	29
> \$80K	29	31
E. Region	Percent of Survey Sample	Percent of Population^a
Northeast	19	19
Midwest	23	23
West	22	22
South	36	36

^a According to 2012 data of the U.S. Census Bureau, see <http://www.census.gov>

^b Without population under 18 and over 65 years of age

Table 4 – Measures and Data Sources for the Customer Satisfaction Model

Measure	Operationalization	Data Sources
Change in Customer Satisfaction	Year-to-year change of the American Customer Satisfaction Index (ACSI) by the National Quality Research Center	ACSI
Downsizing (broad definition)	Dummy indicating if the number of employees has decreased by at least 5%	Compustat
Downsizing (narrow definition)	Dummy indicating if both press announcement and employee number indicate workforce reduction of at least 5%	Compustat, business press
Organizational Slack	Ratio of selling, general and administrative expenses to total sales	Compustat
Labor Productivity	Ratio of total sales to number of employees	Compustat
Industry R&D Intensity	Three-year mean of the average ratios of R&D expenditures to total sales for all companies belonging to a three-digit SIC industry	Compustat
Prior Downsizing	Dummy indicating if the downsizing dummy (see above) is 1 in any of the three prior years	Compustat
Prior Financial Loss	Dummy indicating if earnings before interest and taxes are negative	Compustat
Interest ^a	<ul style="list-style-type: none"> • What [products] I choose is extremely important to me. • I'm really very interested in [products]. • I couldn't care less about [products]. (R)^b 	National survey
Pleasure ^a	<ul style="list-style-type: none"> • I really enjoy buying [products]. • Whenever I buy [products], it's like giving myself a present. • To me, it is quite a pleasure to buy [products]. 	National survey
Sign ^a	<ul style="list-style-type: none"> • You can tell a lot about a person from the [products] he or she chooses. • The [products] a person chooses says something about who they are. • The [products] I choose reflects the sort of person I am. 	National survey
Risk Importance ^a	<ul style="list-style-type: none"> • It doesn't matter too much if one makes a mistake buying [products]. (R)^b • It's very irritating to choose not the right [products]. • I should be annoyed with myself if it turned out I'd made the wrong choice of [products]. 	National survey
Probability of Error ^a	<ul style="list-style-type: none"> • I always feel rather unsure about what [products] to pick. • When you choose [products], you can never be quite sure it was the right choice or not. • Choosing [products] is rather difficult. • When you choose [products], you can never be quite certain about your choice. 	National survey
Service Consciousness ^a	<p>When it comes to [products], ...</p> <ul style="list-style-type: none"> • ... good customer service is very important to me. • ... I place very high value on customer service. • ... I consider a very good customer service to be crucial. 	National survey
Brand Consciousness ^a	<p>When it comes to [products], ...</p> <ul style="list-style-type: none"> • ... the brand is very important to me. • ... I care about the brand very much. • ... I choose among my preferred brands only. • ... there are certain brands which I would not consider for my choice. 	National survey
Total Assets	Total assets in \$100,000	Compustat
Employees	Number of employees in 1,000	Compustat

(R) Item reverse coded

^a 7-point Likert scales anchored "fully disagree" to "fully agree"^b Item dropped due to low factor loading

Table 5 – Descriptive Statistics and Correlations for the Customer Satisfaction Model

Variable	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18
Main Variables																		
V1: Downsizing (broad) (t-1)																		
V2: Downsizing (narrow) (t-1)	.55																	
V3: Change in Customer Satisfaction (t)	-.04	-.08																
Resource Dependency																		
V4: Organizational Slack (t-2)	.02	.02	.04															
V5: Labor Productivity (t-2)	.02	-.04	.01	-.35														
V6: Industry R&D Intensity (t)	.02	.10	-.04	-.16	.02													
Resource History																		
V7: Prior Downsizing (broad) (t-2)	.20	.13	-.04	.03	.08	-.04												
V8: Prior Downsizing (narrow) (t-2)	.09	.18	-.02	.00	.01	.06	.52											
V9: Prior Financial Loss (t-2)	.23	.26	-.00	.12	.03	.10	.17	.31										
Category Involvement																		
V10: Interest	-.04	-.05	.04	.11	-.03	-.05	-.12	-.07	-.06									
V11: Pleasure	-.07	-.07	.05	.09	-.04	-.04	-.17	-.08	.00	.75								
V12: Sign	-.06	-.11	.06	.09	-.01	-.19	-.12	-.12	-.15	.78	.78							
V13: Risk Importance	-.02	.06	-.02	.02	-.02	.28	-.04	.13	.16	.45	.25	.25						
V14: Probability of Error	-.00	.09	-.05	-.18	.03	.36	.02	.19	.21	-.11	-.16	-.25	.65					
Category Purchase Criteria																		
V15: Service Consciousness	-.04	.01	-.03	-.01	-.05	-.04	-.11	.04	.04	.30	.27	.02	.30	.44				
V16: Brand Consciousness	-.05	-.11	.07	.15	-.01	.20	-.14	-.17	.05	.57	.56	.34	.32	-.13	.14			
Controls																		
V17: Total Assets (t)	-.05	-.00	.05	-.04	.01	.01	.01	.07	-.05	-.10	-.31	-.20	.08	.28	.20	-.17		
V18: Employees (t)	-.11	-.09	.12	-.09	-.09	-.08	-.13	-.07	-.16	.10	.10	.00	-.18	-.09	.35	.11	.22	
Mean	— ^a	— ^a	-.18	-.01	.00	.33	— ^a	— ^a	— ^a	4.77	4.16	4.06	4.11	3.41	5.14	4.52	.43	82.25
Standard Deviation	— ^a	— ^a	2.37	.08	.22	.84	— ^a	— ^a	— ^a	.61	.70	.65	.41	.40	.51	.34	1.58	86.56

Note: $p < .05$ for $|r| > .08$; $p < .01$ for $|r| > .10$; $p < .001$ for $|r| > .13$ (based on two-tailed tests)

^a Dummy variable

Table 6 – Customer Satisfaction Model (Broad Downsizing Operationalization)

Variable	Dependent Variable: Change in Customer Satisfaction (t)			
	Model 1	Model 2	Model 3	Model 4
	Fixed effects with clustered errors ^a	Fixed effects with clustered errors ^a	Fixed effects GLS ^b	Fixed effects GLS ^b
	Cutoff year 2007	Cutoff year 2006	Cutoff year 2007	Cutoff year 2006
Downsizing (t-1)	-.97 (.32)**	-.96 (.32)**	-1.00 (.17)***	-1.30 (.24)***
Organizational Slack (t-2)	1.10 (1.41) ^{n.s.}	.08 (1.79) ^{n.s.}	-1.56 (.59)**	1.25 (1.33) ^{n.s.}
Labor Productivity (t-2)	1.02 (.73) ^{n.s.}	.55 (.92) ^{n.s.}	-.64 (.25)**	.14 (.60) ^{n.s.}
Industry R&D Intensity (t)	-.17 (.11) ^{n.s.}	-.11 (.13) ^{n.s.}	-.30 (.04)***	-.14 (.09) ^{n.s.}
Prior Downsizing (t-2)	-.09 (.17) ^{n.s.}	.00 (.19) ^{n.s.}	-.68 (.08)***	-.19 (.10) ^{n.s.}
Prior Financial Loss (t-2)	1.24 (.89) ^{n.s.}	1.88 (.83)*	.70 (.48) ^{n.s.}	2.30 (.60)***
Total Assets (t)	.01 (.11) ^{n.s.}	.11 (.07) ^{n.s.}	.07 (.02)***	.19 (.04)***
Employees (t)	.00 (.00) ^{n.s.}	-.00 (.00) ^{n.s.}	-.00 (.00) ^{n.s.}	-.00 (.00) ^{n.s.}
Downsizing (t-1) × Organizational Slack (t-2) H1: +	6.17 (2.71)*	6.55 (3.02)*	-2.00 (1.02) ^{n.s.}	6.00 (2.43)*
Downsizing (t-1) × Labor Productivity (t-2) H2: -	-1.90 (.66)**	-1.83 (.61)*	-5.39 (.70)***	-1.98 (.07)**
Downsizing (t-1) × Industry R&D Intensity (t) H3: -	-.82 (.18)***	-1.00 (.19)***	-.28 (.09)**	-1.29 (.18)***
Downsizing (t-1) × Prior Downsizing (t-2) H4: -	-.14 (.42) ^{n.s.}	-.21 (.44) ^{n.s.}	-.28 (.15) ^{n.s.}	.42 (.31) ^{n.s.}
Downsizing (t-1) × Prior Financial Loss (t-2) H5: +	1.14 (1.19) ^{n.s.}	1.14 (1.08) ^{n.s.}	2.80 (.62)***	1.59 (.84) ^{n.s.}
Downsizing (t-1) × Interest H6: -	.16 (.74) ^{n.s.}	.89 (.92) ^{n.s.}	1.77 (.31)***	1.59 (.62)*
Downsizing (t-1) × Pleasure H7: -	-.41 (.59) ^{n.s.}	-.50 (.63) ^{n.s.}	-.09 (.32) ^{n.s.}	-1.26 (.51)*
Downsizing (t-1) × Sign H8: +	.81 (.67) ^{n.s.}	.41 (.73) ^{n.s.}	.51 (.28) ^{n.s.}	.82 (.55) ^{n.s.}
Downsizing (t-1) × Risk Importance H9: -	-2.48 (.89)**	-2.85 (1.08)**	-2.93 (.31)***	-3.24 (.75)***
Downsizing (t-1) × Probability of Error H10: +	3.92 (1.10)***	4.51 (1.30)***	1.94 (.49)***	4.44 (.90)***
Downsizing (t-1) × Service Consciousness H11: -	-.51 (.58) ^{n.s.}	-.94 (.71) ^{n.s.}	-1.73 (.29)***	-.91 (.49) ^{n.s.}
Downsizing (t-1) × Brand Consciousness H12: +	1.77 (.84)*	1.78 (.99) ^{n.s.}	1.46 (.29)***	1.99 (.62)**
Year Dummies ^c	Included	Included	Included	Included
Number of firms	110	105	110	105
Number of firm-years	710	637	710	637
Number of downsizing events	153	139	153	139
R ² (within)	.15	.17	.08	.24

^{n.s.} $p > .05$; * $p < .05$; ** $p < .01$; *** $p < .001$ (based on two-tailed tests)

Notes: Unstandardized parameters are shown. Standard errors are in parentheses.

^a Estimated with STATA (version 10.1), procedure xtreg

^b Estimated with R (version 3.0.2), procedure pgls (version 1.4-0)

^c Dummy variable for each year was included in the models in order to account for fixed effects on the time level.

Table 7 – Customer Satisfaction Model (Narrow Downsizing Operationalization)

Variable	Dependent Variable: Change in Customer Satisfaction (t)	
	Model 1	Model 2
	Fixed effects with clustered errors ^a	Fixed effects GLS ^b
	Cutoff year 2007	Cutoff year 2007
Downsizing (t-1)	-1.67 (.32)***	-1.94 (.40)***
Organizational Slack (t-2)	.60 (1.34) ^{n.s.}	-.52 (.96) ^{n.s.}
Labor Productivity (t-2)	.74 (.59) ^{n.s.}	-.09 (.43) ^{n.s.}
Industry R&D Intensity (t)	.00 (.11) ^{n.s.}	-.13 (.08) ^{n.s.}
Prior Downsizing (t-2)	.07 (.24) ^{n.s.}	-.14 (.13) ^{n.s.}
Prior Financial Loss (t-2)	1.13 (.74) ^{n.s.}	.94 (.48) ^{n.s.}
Total Assets (t)	.00 (.09) ^{n.s.}	.07 (.03)**
Employees (t)	.00 (.00) ^{n.s.}	-.00 (.00) ^{n.s.}
Downsizing (t-1) × Organizational Slack (t-2) H1: +	6.84 (5.22) ^{n.s.}	-2.40 (3.89) ^{n.s.}
Downsizing (t-1) × Labor Productivity (t-2) H2: -	-2.45 (1.77) ^{n.s.}	-1.92 (1.55) ^{n.s.}
Downsizing (t-1) × Industry R&D Intensity (t) H3: -	-1.17 (.19)***	-.58 (.18)**
Downsizing (t-1) × Prior Downsizing (t-2) H4: -	-.77 (.93) ^{n.s.}	.54 (.66) ^{n.s.}
Downsizing (t-1) × Prior Financial Loss (t-2) H5: +	-.40 (1.00) ^{n.s.}	-.88 (.75) ^{n.s.}
Downsizing (t-1) × Interest H6: -	6.28 (2.93)*	6.00 (2.73)*
Downsizing (t-1) × Pleasure H7: -	-.71 (.94) ^{n.s.}	-1.08 (.88) ^{n.s.}
Downsizing (t-1) × Sign H8: +	-2.39 (1.59) ^{n.s.}	-.56 (1.66) ^{n.s.}
Downsizing (t-1) × Risk Importance H9: -	-2.03 (1.24) ^{n.s.}	-5.65 (1.54)***
Downsizing (t-1) × Probability of Error H10: +	7.77 (2.63)**	10.21 (2.26)***
Downsizing (t-1) × Service Consciousness H11: -	-3.13 (1.62) ^{n.s.}	-1.50 (1.50) ^{n.s.}
Downsizing (t-1) × Brand Consciousness H12: +	-2.48 (3.11) ^{n.s.}	-3.21 (2.77) ^{n.s.}
Year Dummies ^c	Included	Included
Number of firms	110	110
Number of firm-years	710	710
Number of downsizing events	54	54
R ² (within)	.15	.20

^{n.s.} $p > .05$; * $p < .05$; ** $p < .01$; *** $p < .001$ (based on two-tailed tests)

Notes: Unstandardized parameters are shown. Standard errors are in parentheses.

^a Estimated with STATA (version 10.1), procedure xtreg

^b Estimated with R (version 3.0.2), procedure pgls (version 1.4-0)

^c Dummy variable for each year was included in the models in order to account for fixed effects on the time level.

Table 8 – Financial Performance Model

Variable	Dependent Variable: Change in Return on Assets (t)	Dependent Variable: Change in Return on Assets (t)	Dependent Variable: Return on Assets (t)
	Model 1	Model 2	Model 3
Change in Customer Satisfaction (t-1)	—	.17 (.07)*	—
Customer Satisfaction (t-1)	—	—	.57 (.14)***
Downsizing (t-2)	-.11 (.99) ^{n.s.}	.04 (.99) ^{n.s.}	1.07 (.71) ^{n.s.}
Organizational Slack (t-3)	-2.35 (4.86) ^{n.s.}	-2.43 (4.96) ^{n.s.}	-6.26 (5.09) ^{n.s.}
Organizational Slack (t)	-6.47 (5.37) ^{n.s.}	-6.86 (5.38) ^{n.s.}	-6.74 (16.77) ^{n.s.}
Labor Productivity (t-3)	-7.61 (1.71)***	-7.73 (1.73)***	-9.00 (4.15)*
Labor Productivity (t)	6.13 (1.33)***	6.37 (1.35)***	7.69 (2.41)**
Industry R&D Intensity (t-1)	.30 (.90) ^{n.s.}	.33 (.91) ^{n.s.}	.24 (.45) ^{n.s.}
Prior Downsizing (t-3)	.17 (.30) ^{n.s.}	-.18 (.30) ^{n.s.}	.50 (.42) ^{n.s.}
Prior Financial Loss (t-3)	-.46 (1.87) ^{n.s.}	-.85 (1.94) ^{n.s.}	-2.99 (1.68) ^{n.s.}
Total Assets (t-1)	-.10 (.09) ^{n.s.}	-.12 (.10) ^{n.s.}	-.40 (.22) ^{n.s.}
Employees (t-1)	.01 (.00) ^{n.s.}	.01 (.00) ^{n.s.}	-.01 (.01) ^{n.s.}
Downsizing (t-2) × Organizational Slack (t-3)	11.24 (5.30)*	10.14 (5.30) ^{n.s.}	1.50 (7.30) ^{n.s.}
Downsizing (t-2) × Labor Productivity (t-3)	.34 (1.44) ^{n.s.}	.68 (1.42) ^{n.s.}	2.12 (2.15) ^{n.s.}
Downsizing (t-2) × Industry R&D Intensity (t-1)	.86 (.60) ^{n.s.}	1.05 (.58) ^{n.s.}	2.14 (.67)**
Downsizing (t-2) × Prior Downsizing (t-3)	-1.42 (.94) ^{n.s.}	-1.39 (.93) ^{n.s.}	-1.18 (1.00) ^{n.s.}
Downsizing (t-2) × Prior Financial Loss (t-3)	-2.49 (4.00) ^{n.s.}	-2.73 (3.94) ^{n.s.}	-1.95 (1.39) ^{n.s.}
Downsizing (t-2) × Interest	.55 (2.93) ^{n.s.}	.36 (2.89) ^{n.s.}	1.16 (2.46) ^{n.s.}
Downsizing (t-2) × Pleasure	1.15 (1.41) ^{n.s.}	1.26 (1.40) ^{n.s.}	-1.89 (1.36) ^{n.s.}
Downsizing (t-2) × Sign	-1.46 (2.57) ^{n.s.}	-1.50 (2.53) ^{n.s.}	.56 (2.19) ^{n.s.}
Downsizing (t-2) × Risk Importance	-.03 (2.15) ^{n.s.}	.44 (2.09) ^{n.s.}	-1.45 (1.66) ^{n.s.}
Downsizing (t-2) × Probability of Error	1.64 (2.80) ^{n.s.}	.84 (2.75) ^{n.s.}	-.21 (2.19) ^{n.s.}
Downsizing (t-2) × Service Consciousness	-.48 (1.90) ^{n.s.}	-.28 (1.85) ^{n.s.}	-.76 (1.55) ^{n.s.}
Downsizing (t-2) × Brand Consciousness	.50 (2.34) ^{n.s.}	.20 (2.30) ^{n.s.}	-1.74 (1.88) ^{n.s.}
Year Dummies ^a	Included	Included	Included
Number of firms	104	104	104
Number of firm-years	609	609	610
R ² (within)	.11	.12	.23

^{n.s.} $p > .05$; * $p < .05$; ** $p < .01$; *** $p < .001$ (based on two-tailed tests)

Notes: Unstandardized parameters are shown. Standard errors are in parentheses. Estimation method: fixed effects with clustered errors, cutoff year 2007.

^a Dummy variable for each year was included in the models in order to account for fixed effects on the time level.

Table 9 – Mediation Analysis

	$\beta_{DS \rightarrow CS}$	$\beta_{DS \rightarrow CS} \times \beta_{CS \rightarrow ROA}$	Sobel test statistic	p value (two-tailed)
Main model, i.e. average values for all moderators	-0.97 (.32)**	-.17	-1.98*	.047
Low Organizational Slack	-1.46 (.35)***	-.25	-2.21*	.027
High Labor Productivity	-1.30 (.36)***	-.24	-2.15*	.032
High Industry R&D Intensity	-1.66 (.37)***	-.29	-2.25*	.025
High Risk Importance	-1.99 (.49)***	-.34	-2.19*	.028
Low Probability of Error	-2.54 (.58)***	-.44	-2.24*	.025
Low Brand Consciousness	-1.57 (.53)**	-.27	-1.95 ^{n.s.}	.051
All of the above	-5.76 (1.07)***	-1.00	-2.34*	.019

^{n.s.} $p > .05$; * $p < .05$; ** $p < .01$; *** $p < .001$ (based on two-tailed tests)

Notes: DS = downsizing, CS = customer satisfaction, ROA = return on assets. Unstandardized parameters are shown. Standard errors are in parentheses. Estimation method: fixed effects with clustered errors, cutoff year 2007. Low/high values for moderators are calculated as one standard deviation below/above the mean value.

Figure 1 – Conceptual Framework

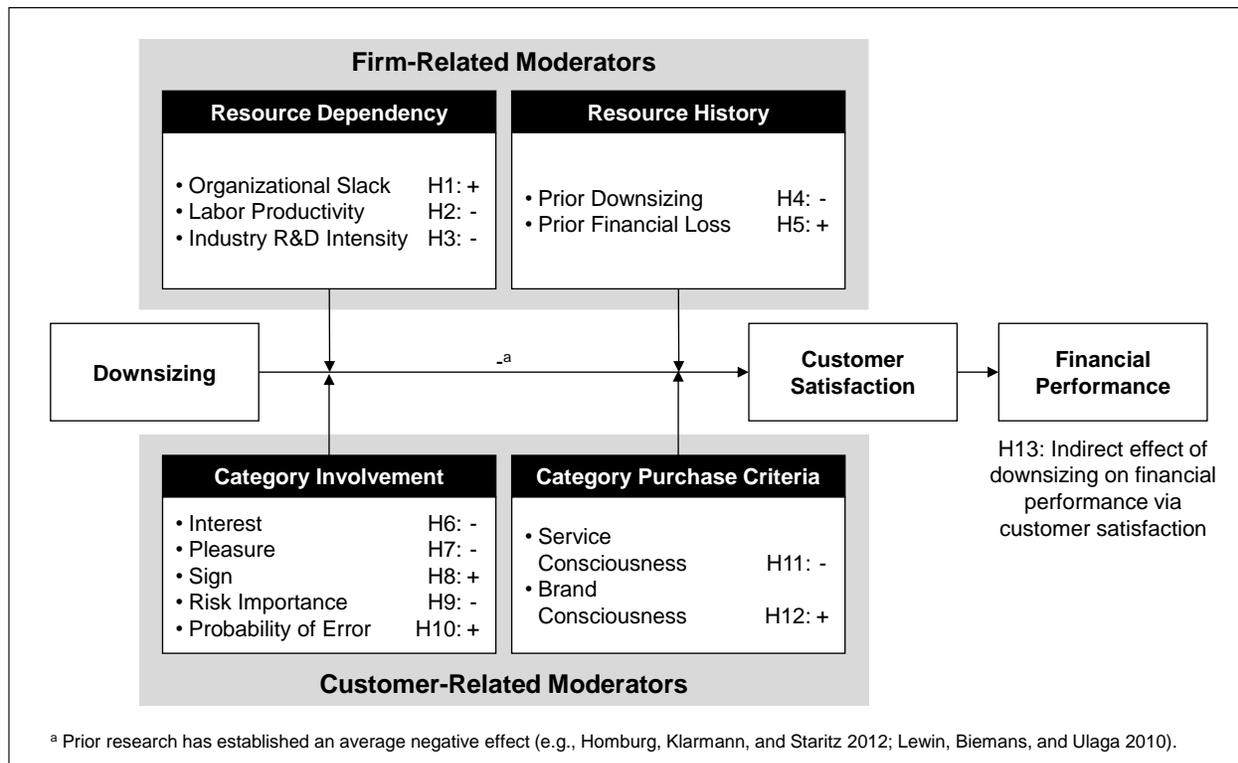


Figure 2 – Interaction Plots

