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WHEN SHOULD COMPANIES STIMULATE CUSTOMER ENGAGEMENT BEHAVIORS? A SHAREHOLDER EVALUATION³

ABSTRACT

In today's connected world, customer engagement behaviors, such as providing (electronic) comments and recommendations, are of growing importance. Companies often stimulate these behaviors without firm evidence about whether they create or destroy company value. This study considers shareholder evaluations of public announcements of companies' initiatives to stimulate customer engagement behaviors and investigates their value-related consequences. Results indicate that, on average, investors evaluate companies' customer engagement initiatives negatively, because companies have no means to ensure that customer engagement behaviors create value instead of destroying it. Yet, for companies with a weak corporate reputation and/or operating in rather stable markets encouraging customer engagement behaviors can create shareholder value, unless these companies stimulate (and announce their management of) customer engagement behaviors too frequently.

Keywords: customer engagement, shareholder value, event study, word-of-mouth

³ This chapter is largely based on Beckers, Sander F. M., Jenny van Doorn, and Peter C. Verhoef (2015), "When Should Companies Stimulate Customer Engagement Behaviors? A Shareholder Evaluation," working paper, University of Groningen.

3.1 INTRODUCTION

Academic and managerial interest in customer engagement behaviors is increasing, with no signs of flagging. Because customer engagement behavior constitutes a “new perspective in customer management” (Verhoef, Reinartz, and Krafft 2010, p. 248) that can contribute to “distinguished marketing” (Leeflang 2011), research on customer engagement is one of the Marketing Science Institute’s (2010) top research priorities. Van Doorn et al. (2010) define customer engagement behaviors as “the customer’s behavioral manifestations toward a brand or firm, beyond purchase, resulting from motivational drivers” (p. 253), consistent with the definition provided by the Marketing Science Institute (2010). Examples of non-transactional customer behaviors are providing ideas for new products, filling out satisfaction surveys, participating in firm related events, discussing product experiences, recommending a product to a fellow customer, and so on. In general such behaviors can be classified into customer co-creation in new product development (NPD), customer-to-customer interactions (i.e., word-of-mouth), and customer feedback (i.e., voice) (cf. Bijmolt et al. 2010; Verhoef, Reinartz, and Krafft 2010). In order to ensure homogeneity of our study, within the wide range of behaviors that fall within the customer engagement domain, we exclude customer co-creation in NPD from our analysis and focus on word-of-mouth and customer voice behaviors (occurring in various industries). Such behaviors are especially prominent in recent years, due to the growth of social media channels that allow customers to interact with other customers and/or companies more widespread, faster, and cheaper than ever before (e.g., Libai et al. 2010).

The rise of these behaviors also challenges ‘classic’ marketing productivity chains (Lehmann 2004), in which customers just react to companies’ value creation activities, such as an advertisement, rather than creating value. Customer engagement behaviors imply that customers take an active role in value creation, participate in the company’s value chain, and become co-producers of value (Vargo and Lusch 2004) through non-transactional activities, such as recommending and giving feedback. Companies have therefore undertaken proactive efforts to initiate, steer, and manage customer engagement behavior (Verhoef, Reinartz, and Krafft 2010), though it remains unclear whether such efforts actually benefit the firm. Verhoef, Beckers, and Van Doorn (2013) warn companies for the dark sides of customer engagement behaviors. Also, many managers fear “there is no room for error” (Porter et al. 2011, p. 80) when executing customer engagement strategies, as they struggle to respond appropriately to empowered customers (IBM

2011). The performance consequences of such initiatives are uncertain (Van Doorn et al. 2010); Porter et al. (2011) assert that half of the customer engagement initiatives offered through online communities ultimately erode firm value and Carrabis (2014) reports that less than 8% of managers are satisfied with the return on investment of their social marketing campaigns. In response to this uncertainty, we investigate:

(1) What are the market value consequences when companies seek to stimulate customer engagement behaviors (word-of-mouth or customer voice)?

Because of the lack of managerial insights and uncertain outcomes of customer engagement behavior (word-of-mouth or customer voice) initiatives we expect substantial heterogeneity of market value consequences across initiatives. In this light, we employ a value-creating/value-destroying framework and investigate under which circumstances encouraging customer engagement behaviors creates rather than destroys value. Marketing strategy literature commonly investigates how the performance implications of marketing activities depend upon strategy characteristics, firm characteristics, and the marketplace (e.g., Homburg, Vollmayr, and Hahn 2014). Similarly, we investigate how the market value consequences of stimulating word-of-mouth and customer voice may be moderated by initiative characteristics (i.e., social media channel utilization and initiative frequency), company characteristics (i.e., corporate reputation and R&D intensity), and market characteristics (i.e., market turbulence). Thereby, we investigate,

(2) Which contingency factors affect the market value consequences of the firm's efforts to stimulate customer engagement behaviors?

To address these key research questions, we use an event study (MacKinlay 1997) and evaluate the effectiveness of companies' customer engagement initiatives according to shareholders' evaluations. The event study methodology relies on a forward-looking performance measure (abnormal stock returns), whereby the underlying intuition is that when the market is informed of a company's marketing strategy (in our case, the stimulation of customer engagement behavior) investors react immediately to the anticipated performance consequences by buying or selling stock. The event study methodology has several advantages over alternative approaches: the methodology aids in isolating the impact of companies' customer engagement programs on firm performance, enables to cope with differences in impact duration between initiatives, studies a net effect

instead of a single benefit or cost, and circumvents potential reversed causality issues. In addition, managers are concerned with shareholder reactions to their marketing efforts (Srivastava, Shervani, and Fahey 1998), including customer engagement behavior strategies. For instance, the CEO of Lowe's (a home improvement retailer) personally discussed the performance of the company's customer engagement program with financial analysts (Blair 2013). Investors, in turn, appear to react to company's customer engagement initiatives. For instance, Groupon (an online coupon firm) was credited by investment funds for being able to trigger positive word-of-mouth and thereby turning consumers into 'product evangelists' (Mourdoukoutas 2012).

With this approach we make two main contributions to extant literature. First, we investigate the market value consequences of customer engagement behaviors (specifically, word-of-mouth and customer voice). Most research on distinct customer engagement behaviors investigates their benefits; with our event study methodology, we recognize that customer engagement behaviors can create as well as destroy value and assess their net effect, in line with a call from Van Doorn et al. (2010). Second, with our contingency perspective, we respond to Leeflang's (2011) call for research on "ways to determine the firms for which [the customer engagement] concept is most appropriate" (p. 78) by examining the determinants of the value potential of customer engagement behaviors.

3.2 CONCEPTUAL DEVELOPMENT AND HYPOTHESES

3.2.1 Do Company Initiated Customer Engagement Behaviors Create or Destroy Value?

When stimulating customer engagement behaviors companies involve customers "in activities that were once reserved for the firm: promoting the brand, suggesting ideas for new products, choosing advertising copy, deciding on logos, and even reacting to competitive actions" (Libai 2011 p. 275). By co-creating value, customers take over functions from companies' employees and thereby companies can save expenditures, such as advertising and product support costs (Villanueva, Yoo, and Hanssens 2008). For instance, by stimulating customer voice, companies hope to get customers to, for example, aid them in product or service support, such as in company-operated online communities that allow customers to provide information to the company and to other customers (Algesheimer et al. 2010). In this case, the customers are non-employee,

voluntary service representatives who perform service and support activities typically done by employees (Dholakia et al. 2009). Similarly, when stimulating word-of-mouth, companies involve customers in advertising and acquisition functions, to such an extent that customers act as a non-employed sales force (Kumar et al. 2010; Villanueva, Yoo, and Hanssens 2008). Beyond cost reductions and increased efficiency, stimulating customer engagement behaviors can also lead to increased effectiveness of value creation (Hoyer et al. 2010), as customers might be able to more effectively perform functions (e.g., promoting the product) than companies. For instance, customer recommendations are likely more trustworthy (and therefore, more effective) than traditional one-way advertising efforts (Liu-Thompkins and Rogerson 2012; Trusov, Bucklin, and Pauwels 2009). Hence, (1) stimulating customer engagement behaviors can increase efficiency and effectiveness of value creation, thereby creating value for the initiating company.

Furthermore, stimulating customer engagement behaviors (word-of-mouth or customer voice) can build and deepen customer relationships, as it creates additional customer-firm interaction points beyond the point of purchase (e.g., Jaakkola and Alexander 2014; Van Doorn et al. 2010). During these additional interactions, customers can actively form opinions about the focal company (Borle et al. 2007), learn about the firm's customer orientation and responsiveness (Borle et al. 2007), and/or become empowered and more attached to the company's offerings (Fuchs, Prandelli, and Schreier 2010). Also the dialogue customers are able to have with companies can provide a favorable experience by itself (e.g., in gamification initiatives) and create relational value (Chan, Yim, and Lam 2010). All in all, (2) stimulating customer engagement behaviors can build customer relationships, thereby creating value for the initiating company.

Nevertheless, stimulating customer engagement behaviors can be a double-edged sword for companies and also destroy value because initiating companies cannot induce customers to comply with company objectives (Hoyer et al. 2010). It is highly uncertain whether companies can obtain the previous mentioned upsides. For instance, when stimulating word-of-mouth the valence of the resulting word-of-mouth might be positive, but can also be negative (e.g., Luo 2009). As such, stimulating customer engagement behaviors is inherently risky due to loss of company control in the outcomes. Yet, for customer engagement behaviors that are directed to companies internally (i.e., customer voice), firms could decide to not make use of their customers' input. However, through customer engagement behaviors and their inherent empowerment, customers get a sense of ownership (Jaakkola and Alexander 2014; Ramani and Kumar 2008), whereby they might not accept the company's ignorance. Besides, customers likely take

credit for success but no blame for failures, and they might even defect or retaliate if their recommendations are not followed (Claus et al. 2012). An inadequate reaction to customer engagement behaviors, such as rejecting a customer idea without proper explanation, can destroy customer relationships (Fombelle, Bone, and Lemon 2014). Hence, (3) stimulating customer engagement behaviors decreases control and increases risk for companies, thereby destroying value.

All in all, we anticipate that company initiated customer engagement behaviors can on the one hand increase efficiency and effectiveness of value creation and enhance customer relationships, and on the other hand decrease control over value creation and pose risks. Investors – who represent the focal stakeholders in our study – may issue positive evaluations after noting the potential of enhanced and accelerated cash flow resulting from the building of market-based assets (e.g., enhanced customer relationship); however they may issue negative evaluations after noting ambiguity and increased volatility (Srivastava, Shervani, and Fahey 1998). In light of these opposing effects, we pose competing hypotheses and leave the main shareholder evaluation of company's customer engagement initiatives open for empirical validation.

H_{1a}: Shareholders' evaluations of companies' customer engagement behavior initiatives are positive on average.

H_{1b}: Shareholders' evaluations of companies' customer engagement behavior initiatives are negative on average.

3.2.2 Contingency Effects

We expect substantial heterogeneity in the effectiveness of company-initiated customer engagement behaviors (word-of-mouth and customer voice), partially due to the inherent trade-off between the potential benefits of customer engagement behaviors and the risks associated with it. Therefore, we aim to identify the circumstances in which stimulating customer engagement behaviors is value enhancing rather than value destroying. Marketing strategy literature documents that the performance implications of new marketing activities are typically contingent upon strategy characteristics, firm characteristics, and the marketplace (e.g., Geyskens, Gielens, and Dekimpe 2002; Homburg, Vollmayr, and Hahn 2014; Wiles et al. 2010). We provide an overview of exemplary contingency variables used in the marketing strategy literature in Appendix A (at the end of this Chapter). In light of this previous work, we investigate how the shareholders' evaluations of companies' customer engagement behavior initiatives are moderated by social media usage and initiative frequency as initiative contingencies,

corporate reputation and R&D intensity as company contingencies, and market turbulence as market contingency. We expect these contingencies to influence the value creating and value destruction of company-initiated customer engagement behaviors (word-of-mouth and customer voice), as graphically represented in our conceptual framework in Figure 3.1, indicated in a summary of anticipated effects in Table 3.1, and discussed next in our hypothesizing.

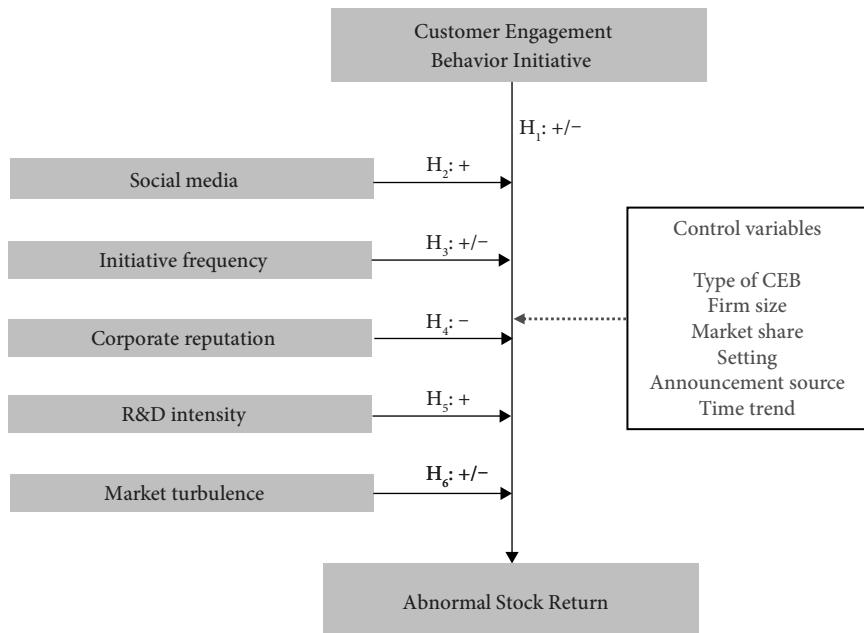


Figure 3.1: Conceptual framework

3.2.3 Initiative Contingencies

3.2.3.1 Social media

Customer engagement behavior initiatives are more likely to create value when they are supported by a social media channel, such as Facebook, YouTube, and Twitter. First, through social media it is possible to reach a larger audience in a shorter time period (e.g., Libai et al. 2010; Liu-Thopkins and Rogerson 2012), making a customer engagement initiative more effective. For instance, word-of-mouth campaigns likely benefit from increased customer reach and faster delivery (Trusov, Bucklin, and Pauwels 2009). Also, increased customer-firm connectivity through social media channels makes customer feedback more accessible on a larger scale. Nonetheless, negative customer engagement behaviors might also spread quicker through social media channels. Second, a social media channel is a relatively low cost channel to support a customer engagement behavior initiative (e.g., Bayus 2013; Godes et al. 2005; Verhoef, Beckers, and Van Doorn 2013); hence initiatives utilizing social media can obtain more cost reductions and are therefore more efficient (Trusov, Bucklin, and Pauwels 2009), which increases the value creation potential of stimulating customer engagement behaviors. Third, social media can improve the quality of customer-firm interactions (e.g., sensory content of interactions can be enhanced by including video and sound in a social media channel) (Libai et al. 2010), which may yield a more favorable customer experience and thereby further aids in building customer relationships. Recent studies indicate that social media can indeed create a favorable experience, thereby amongst others fostering customer retention (e.g., Malthouse et al. 2013), influencing brand evaluations (e.g., De Vries, Gensler, and Leeflang 2012; Haenlein and Kaplan 2009), and leading to increased sales (e.g., Kumar et al. 2013).

These considerations suggest that social media enhance the value of customer engagement initiatives rather than destroying value; we therefore hypothesize the following:

H₂: *Returns on stimulating customer engagement behaviors are higher when the initiative is supported by social media.*

Table 3.1: Value enhancement / value depreciation-framework

		Value Enhancement		Value Depreciation	Net effect
		Increased Efficiency & Effectiveness of Value Creation	Building Customer Relationship	Risk & Less Control	
Main Effect		✓	✓	✓	+ / -
Initiative	Social media	↑ (larger scale & lower cost)	↑ (favorable experience)	↑ (negative behaviors can spread faster)	+
Contingencies	Initiative frequency	↑ (learning) / ↓ (wear-out)	↑ (learning) / ↓ (wear-out)	↓ (learning)	+ / -
	Corporate reputation	↓ (already invested & less to gain)	↓ (less to gain)	↑ (more to lose) / ↓ (more loyal customer base)	-
Company Contingencies	R&D intensity	↑ (customer engagement can aid in product diffusion & new product success)	↑ (capability to make use of customers' input)		+
Market Contingency	Market turbulence	↑ (uncover changing needs and wants) / ↓ (customers may not envision radical changes)	↑ (increased importance of customer relationships)	↑ (volatile behavior)	+ / -

Notes: ↑ and ↓ mean an enhancement or decline, respectively, of that particular benefit or drawback (depending on interplay with that particular moderator). For instance, a ↑ under 'risk & less control' means enhanced risk under that circumstance, contributing to a negative net effect, whereas a ↑ under a value enhancement element (e.g., 'increased efficiency') contributes to a positive net effect.

3.2.3.2 *Initiative frequency*

On the one hand, irrespective of type of customer engagement behavior stimulated, the recurrence of customer engagement behavior initiatives by the same company implies that managers can learn how to deal with these behaviors, develop capabilities, and better reap value and avoid drawbacks (Williamson 1999). The likelihood of evoking negative customer engagement behaviors thus should decrease with increasing initiative frequency, while the likelihood of creating value by enhancing customer relationships and increasing efficiency and effectiveness should increase. This pledges for a positive effect of frequency on returns of customer engagement behavior initiatives.

On the other hand, the potential added value of customer engagement may decline with every initiative, because the novelty of customers' input decreases and information redundancy is more likely. Customers may already have reacted to earlier initiatives (Karniouchina, Moore, and Cooney 2009) by providing new ideas, promoting to peers, or giving feedback, so the quality and quantity of their input likely wears out with repeated requests. A study of the Dell IdeaStorm Community (Bayus 2013) indicates that customers often come up with ideas that already have been implemented, and the number of ideas submitted has decreased rapidly since the first months the community was active. Thus, irrespective of type of customer engagement behavior, potential benefits of these behaviors are expected to wear-out over initiatives.

In line of these diverging arguments we pose competing hypotheses regarding the moderating effect of initiative frequency and leave the effect open for empirical validation:

H_{3a} : *Returns on stimulating customer engagement behaviors increase with increasing initiative frequency.*

H_{3b} : *Returns on stimulating customer engagement behaviors decrease with increasing initiative frequency.*

3.2.4 **Company Contingencies**

3.2.4.1 *Corporate reputation*

We expect corporate reputation to moderate the performance implications of companies' customer engagement behavior (word-of-mouth or customer voice) initiatives. First, with respect to potential value enhancements, companies with a good reputation have less to gain from stimulating customer engagement behaviors. Both customer engagement behaviors and corporate reputation create value for companies through relational mechanisms (Fombrun and Shanley 1990; Kumar et al. 2010); yet highly-reputed

companies already have strong customer relationships, so might not be able to make large improvements on that terrain, and have less potential to obtain cost reductions, since reputational investments have already been made.

Second, with respect to potential value reduction due to diminished control over outcomes and (reputational) risks of customer engagement behaviors, there are arguments for and against an enhancement of these risks for highly reputed firms. On the one hand, highly reputed firms may have a higher propensity of evoking positive behaviors through their loyal customer base (De Matos and Rossi 2008). Research on customer reviews by Ho-Dac, Carson, and Moore (2013) indicates that strong brands (versus weak brands) indeed have more positive reviews, while strong brands do not have more negative reviews. On the other hand, companies with a good corporate reputation have more to lose, because negative customer engagement behaviors (such as, negative word-of-mouth) might erode corporate reputation. For example, when General Motors invited customers to adjust its advertisements, the result was a rash of satirical advertisements poking fun at the company (Hoyer et al. 2010). Reputations are usually slowly and carefully build, but when stimulating customer engagement behaviors companies could face potential negative customer engagement behaviors that can undo their careful efforts (Verhoef, Beckers, and Van Doorn 2013). In addition, with respect to customer voice, even the very act of asking for customers' input might harm corporate reputation, in that high reputation companies seemingly should not need help from customers but instead should be able to rely on their own capabilities (Fombrun and Shanley 1990). Also, customers might provide feedback and suggestions which might conflict with the competences on which a firm built its reputation (Hoyer et al. 2010) and customers might have higher expectations regarding firm's responsiveness (addressing received customer feedback) for highly reputed firms.

Taken together, the added value of customer engagement initiatives for highly reputed companies is unsure, while the risks and potential value destruction due to negative customer engagement behaviors are, although perhaps less common, large. Accordingly, we predict that investors attach a lower value to the performance implications of customer engagement behavior initiatives of highly reputed firms, since these companies face more potential negative effects than potential positive effects:

H₄: Returns on stimulating customer engagement behaviors decrease with increasing corporate reputation.

3.2.4.2 *R&D intensity*

For companies with higher R&D intensity stimulating customer engagement behaviors likely creates rather than destroys value. Companies with higher R&D intensity are more innovative (Kotabe, Srinivasan, and Aulakh 2002) and have a more continuous stream of new and innovative products. Social network effects play an important role in product adoption decisions (e.g., Risselada, Verhoef, and Bijmolt 2014); in the well-known Bass Diffusion Model internal influence ('pressure' from adopting peers) is one of the key parameters driving the adoption of new product (Bass 1969). In this light, Libai, Muller, and Peres (2013), for instance, show that word-of-mouth programs can accelerate and expand the diffusion of innovative products. Therefore, there are synergetic effects for companies between having high R&D intensity and stimulating such network effects through engagement campaigns (e.g., through viral marketing).

Also, input derived from customer engagement behaviors (e.g., from customer feedback or from listening-in on online word-of-mouth) aids in identifying customer preferences, which can put R&D resources to better use in being able to satisfy customers' needs and wants and enhances new product success (Kumar et al. 2010).

Overall, arguments suggest that customer engagement behaviors (word-of-mouth and customer voice) create rather than destroy value for firms with high R&D intensity. We predict:

H₅: Returns on stimulating customer engagement behaviors increase with increasing R&D intensity.

3.2.5 **Market Contingencies**

3.2.5.1 *Market turbulence*

Market fluctuations cause an inability to determine the requested volume for a product or service in advance (Walker and Weber 1984). Such turbulence arises because customers' needs and wants change rapidly, so their overall behavior is volatile (Anderson, Day, and Rangan 1997).

On the one hand, market turbulence (i.e., dynamic demand) creates a greater need to monitor customers to discover their evolving needs and wants (Gatignon and Xuereb 1997; Kohli and Jaworski 1990); stimulating customer engagement behaviors may be a valuable tool to achieve this (Kumar et al. 2010). Also, in turbulent times customer-firm relationships are more important (Rapp, Trainor, and Agnihotri 2010). Hence, strengthening the bond with customers may be particularly valuable in times of market turbulence.

On the other hand, although the value enhancement possibilities of customer engagement behaviors might be particularly acute when the market is dynamic, those benefits are more difficult to achieve under such circumstances, while risks are enhanced. First, under demand uncertainty firms find it “hard to specify the tasks that must be performed, in what manner, and at what level” (Anderson and Weitz 1986, p. 10), increasing the difficulty to coordinate customer engagement behaviors, for instance for building customer relationships. Second, changing customer preferences may require radical shifts to marketing mix elements, such as complex or dynamic promotion decisions (Hitsch 2006), which customers are unlikely to envision (Gatignon and Xuereb 1997). Customers may not precisely know yet what it is they want. For example, though Porsche faced negative customer reactions to its announcement of its new SUV model, its Cayenne turned out to be successful (Raymond 2013). Therefore, the ability to increase efficiency and effectiveness of value creation may be decreased under market turbulence, since the potential value of customers’ input may be reduced under these circumstances. Third, since customers’ overall behavior is more volatile, there is more uncertainty regarding outcomes of customer engagement behaviors and the propensity of unexpectedly obtaining negative customer engagement behaviors may increase. Hence, under market turbulence, stimulating customer engagement behaviors increases risks and uncertainty for companies, rather than decreasing it.

All in all, value enhancement potential of stimulating customer engagement behaviors (word-of-mouth and customer voice) might be particularly valuable under market turbulence, yet also more difficult to achieve, while risks are enhanced. Therefore, we pose competing hypotheses regarding the moderating effect of market turbulence:

H_{6a}: Returns on stimulating customer engagement behaviors increase with increasing market turbulence.

H_{6b}: Returns on stimulating customer engagement behaviors decrease with increasing market turbulence.

3.3 RESEARCH DESIGN

3.3.1 Event Study Methodology

Event studies have become popular in marketing research in order to investigate the impact of marketing actions on firm performance, i.e. shareholder value (e.g., Karniouchina, Usley, and Erenburg 2011). Recent literature demonstrates that

shareholders indeed react to new marketing activities (Srinivasan and Hanssens 2009) and incorporate soft, nonfinancial information when updating their beliefs about future company performance, which they usually derive from hard financial information (e.g., through stock analyst recommendations; Luo, Homburg, and Wieseke 2010). Investors and stock analysts react to a wide range of marketing phenomena, including outsourcing decisions (Raassens, Wuyts, and Geyskens 2012), announcements of celebrity endorsers (Agrawal and Kamakura 1995), and changes in customer satisfaction (Luo, Homburg, and Wieseke 2010). We are interested in how they react to the new marketing phenomenon in which companies actively stimulate customer engagement behaviors (word-of-mouth and customer voice), which makes an event study a preferred methodology. For our research questions, the event study methodology and associated stock return metric offer several advantages over alternative approaches. First, unlike accounting measures that use temporal aggregation levels (e.g., sales, profit, return on assets) (Geyskens, Gielens, and Dekimpe 2002), an event study methodology allows us to investigate and separate the impact of a single press release of a company's customer engagement initiative on firm performance, as measured by shareholder value. In contrast, for temporal aggregated metrics it is questionable to attribute effects to a single event, since various confounding factors may have influenced temporal aggregated performance (e.g., Elberse 2007). Second, stock prices are a forward-looking performance metric (Gielens et al. 2008), which is beneficial because, contrary to backward-looking performance metrics (e.g., sales, return on equity), it enables us to cope with differences in impact duration across customer engagement strategies and across initiatives aimed at different types of customer engagement behavior. Besides, costs of engagement campaigns may already be present in the short-term, whereas potential benefits (e.g., enhanced customer relationships) may take longer to fully materialize. Third, common performance metrics often study a single benefit or cost. Using abnormal stock returns allows us to assess the net effect of companies' engagement behavior initiatives, by which we can recognize a cost-benefit trade-off between various value enhancing and value depreciation elements of these initiatives. Fourth, an event study can circumvent reversed causality issues, because the methodology supports cause-and-effect inferences in a quasi-experimental setting (Srinivasan and Hanssens 2009).

All in all, event studies are very common and widely accepted to study the effect of marketing activities on firm performance (see, for instance, Srinivasan and Hanssens (2009) and the Appendix A). In this light, we apply the event study methodology to investigate the impact of a company announcing a customer engagement behavior initiative (event) on firm performance. Specifically, we compare the stock return of firm i

at the event date (time t) with the expected stock return had the event not taken place (see MacKinlay 1997). According to market efficiency theories, the expected performance impact of public disclosure of new company information should be immediately, fully, and unbiasedly captured in stock price reactions, because investors update their beliefs about company performance and respond instantaneously by buying or selling stock shares (Geyskens, Gielens, and Dekimpe 2002).

3.3.2 Sample

We considered a wide variety of search terms, grounded in prior literature (e.g., Godes and Mayzlin 2004; Hirschman 1970; Kumar, Petersen, and Leone 2010), that relate to customer engagement behavior in general or specific types of customer engagement behaviors (customer co-creation in NPD, which we collected but for means of homogeneity exclude, customer voice, and customer word-of-mouth) to find articles in which a company announces an initiative to stimulate customer engagement behavior. To validate the exhaustiveness of our search terms, we contacted renowned academic researchers working in the customer engagement field: 6 of them provided feedback, which we addressed by adding 12 search terms. We provide a list of exemplary search terms in Appendix B (at the end of this Chapter). Through an extensive search in the Lexis-Nexis database of journal and newspaper articles, we identified 197 articles that announced companies' customer engagement behavior initiatives. The event date 0 of these articles is the date of the earliest / first appearance of the news report on Lexis-Nexis (cf. e.g., Mathur and Mathur 2000).

To isolate stock price reactions to the event, we removed 43 observations for which there were confounds. For instance, if an article of a customer engagement behavior initiative was coincided by novel financial statements of a company (such as, the announcement of quarterly earnings), we removed it. For 47 observations there was no stock price data available in the Datastream database (e.g., for non-stock listed companies). Therefore, our remaining sample consists of 107 articles announcing customer engagement behavior initiatives.

These initiatives relate to various manifestations of customer engagement behavior: customer co-creation in NPD, customer word-of-mouth, and customer voice (cf. Bijmolt et al. 2010; Verhoef, Reinartz, and Krafft 2010). Two researchers not involved in the project, together with one of the authors, independently coded the 107 customer engagement initiatives into distinctive types of customer engagement behaviors. The

Table 3.2: Sample descriptive statistics

<i>Variable</i>		<i>Number of initiatives</i>
Region	North-America	46
	Europe	25
	Asia	4
Year	1999-2002	4
	2003-2006	10
	2007-2010	61
Social Media	Yes	62
	No	13
Initiative Frequency	First announcement	57
	Second announcement	11
	Third announcement	5
	Fourth announcement	2
Word-of-mouth vs. voice	Word-of-mouth	52
	Voice	23
B2B vs. B2C ⁴	B2B firms	18
	B2C firms	56
Products vs. services	Product firms	57
	Service firms	17

proportional reduction in loss reliability of the classification among coders was .96, which implied adequate reliability (Rust and Cooil 1994). Disagreements among coders were resolved by majority vote. Out of the 107 announcements, 32 were classified as co-creation initiatives, 52 as word-of-mouth initiatives, and the remaining 23 as voice initiatives. As specified in the introduction, to ensure the homogeneity of our sample, we decided to exclude customer co-creation initiatives from our sample (later we test the sensitivity of our findings to this exclusion). Contrary to voice and word-of-mouth, co-creation behaviors have a more long-term focus and are primarily aimed at (internal) product development and value creation (e.g., Hoyer et al. 2010). The voice and word-of-mouth initiatives that we study occurred in various industries (for products as well as for service firms and in a B2B and B2C setting). Given sample size considerations,

⁴ For one announcing company industry SIC codes were not available, therefore we could not classify this company into product or service firms and B2B or B2C firm.

we decided to not put further restrictions (such as, potentially limiting the number of included industries) on our sample. Nevertheless, we test the sensitivity of our findings to alternative sample restrictions.

Our final sample consists of 75 announcements of customer engagement behavior initiatives from 57 companies located in several countries (e.g., United States, Canada, United Kingdom, Germany) over an 11-year period (1999-2010). These initiatives include, for instance, the launch of online games, by companies as 3M and JetBlue Airways, and the design of user generated content competitions, for instance by HomeDepot and PetHealth, in order to drive customer buzz and word-of-mouth. Other firms, for example, create mobile applications (e.g., AT&T) and launch blogs to engage in dialogue with customers (e.g., Lantronix, Samsung), thereby stimulating customer voice. Descriptive statistics of our sample can be found in Table 3.2 and exemplary initiative headlines can be found in Appendix B (at the end of this Chapter).

3.3.3 Measures

3.3.3.1 *Dependent variable*

Our dependent variable is shareholder value, which we measure with the standardized cumulative abnormal change in stock price over an event window.

3.3.3.2 *Independent variables*

We define *social media* as “a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content” (Kaplan and Haenlein 2010, p. 61) and classified the channel used to support the customer engagement behavior initiative from the announcement; distinguishing customer engagement initiatives that used versus did not use social media, such as blogs, forums, and user networks.

The natural logarithm of a count variable of how many customer engagement initiatives a company had announced (within our sample) denotes *initiative frequency*, with the first (announced) engagement initiative of company *i* taking a count value of 1, the second (announced) initiative of company *i* having a count value of 2, and so on.

We used a company’s score on *Fortune’s* World’s Most Admired Companies list or, if it had no score on that list, on *Fortune’s* America’s Most Admired Companies list as our measure of *corporate reputation* (Fombrun and Shanley 1990). The customer engagement behavior announcement might take place on any day of the year on which the stock market is open, so we used the company’s score one year prior to the announcement year.

If an announcement took place before *Fortune* began publicly listing the Most Admired Companies, we used the score in the first publicly listed year, that is, 2006. If the company did not appear on either list, we assigned it the lowest score on the *Fortune's* World's Most Admired Companies list⁵.

We measured *R&D intensity*, one year prior to the announcement year, as the ratio of the firm's investment in R&D to the firm's assets.

We measured *market turbulence* with the natural logarithm of the absolute value of the percentage change in sales by company *i* from two years prior to one year prior to the announcement. This measure represents an adaptation of Anderson and Schmittlein's (1984) archetypical, objective measure of environmental uncertainty (Ashill and Jobber 2010). We took the absolute value of the sales change to distinguish sales volatility (which reflects market turbulence) from sales growth.

3.3.3.3 *Control variables*

We differentiated between customer-to-customer interactions (*word-of-mouth*) and customer feedback (*voice*) (Bijmolt et al. 2010; Verhoef, Reinartz, and Krafft 2010).

We also controlled for firm size; larger firms have more financial leverage, which they can use to support their initiatives. In addition, larger firms are expected to have a greater customer base, which creates more scope for customer engagement behaviors. We measured *firm size* as the natural logarithm of the assets of the company one year prior to the initiative.

Because companies with a larger market share have greater market power and more customer patronage, we also controlled for market share. A critical mass of customers may be a prerequisite for the effectiveness of customer engagement behaviors (Weber 2004). We determined *market share*, one year prior to the announcement, by dividing company *i*'s total sales by the total sales of all companies with the same primary four-digit standard industrial classification (SIC) code as company *i* (Srinivasan, Lilien, and Sridhar 2011).

⁵ For 26 (out of the total of 75) announcements the announcing company did not appear on either the *Fortune's* World's Most Admired Companies list or *Fortune's* America's Most Admired Companies list. We assigned these announcements the lowest score on the *Fortune's* World's Most Admired Companies list in order to be conservative regarding the lack of reputation for these announcing companies. We also re-estimated our model assigning the value 0, the lowest possible score, to these 26 announcements; this yielded similar results. In addition, we collected Interbrand values as alternative measure for *corporate reputation*, however there was a substantial amount of missing observations; for 51 (out of the total of 75) announcements the announcing company did not appear on the Interbrand list.

Furthermore, we accounted for potential differences in the effectiveness of customer engagement initiatives in a business-to-business (*B2B*) (18 initiatives) vs. business-to-consumer (*B2C*) (56 initiatives) setting and in a *goods* (57 initiatives) or *services* (17 initiatives) setting. For instance, stimulating customer engagement behavior in a B2C setting may be more difficult, considering its generally lower customer loyalty levels and larger customer heterogeneity (Hoyer et al. 2010). We distinguished companies operating in different industries according to their primary four-digit SIC code (Srinivasan, Lilien, and Sridhar 2011).

We also controlled for the announcement source by a dummy variable taking the value of 1 if an announcement originated in Lexis-Nexis from a newswire (e.g., PR Newswire) and the value of 0 if the announcement originated in Lexis-Nexis from another source (e.g., a newspaper such as the New York Times).

To investigate whether investors reacted differently to companies' customer engagement initiatives over time, we included a *trend* variable, equal to 1 for the earliest and 75 for the last announcement in our sample.

Finally, to control for unobserved heterogeneity, we added dummy variables for each country, announcement year, and season; to avoid overparameterization, we first included all dummy variables and retained only significant ones (i.e., 2 country and 2 announcement year dummies) in our final analyses (Raassens et al. 2014).

We log-transformed the non-normally distributed variables and replaced missing data points for the independent and control variables with the mean value of the associated variable.⁶

An overview of all measures and associated data sources appears in Table 3.3; the overview of the descriptive statistics and correlations of variables is in Table 3.4.⁷

⁶ We tested sensitivity of our findings to this approach of mean replacing missing data points. R&D intensity was the variable with the most missing data points (25 missing data points). Besides R&D intensity, the following variables had also missing data points; market share and firm size (each 10 missing data points), market turbulence (2 missing data point), and B2B and products (each 1 missing data point). Given that R&D intensity was the variable with the most missing data point we tested sensitivity in three ways. First, we reestimated our focal model using pairwise deletion instead of mean replacement for all missing data points; 57 announcements remained, of the hypothesized effects corporate reputation and market turbulence were still significant. Second, we reestimated our model without R&D intensity, using pairwise deletion for the remaining variables; the same 57 announcements remained. Third, we reestimated our model replacing missing data points for R&D intensity with the value 0, thereby assuming that these companies did not have any R&D expenditures; results are similar to the results of the focal model.

⁷ To alleviate concerns for potential overparameterization we re-estimated our model by first estimating a model with only control variables and include only significant control variables in a subsequent model in which we test hypothesized effects; results are similar to our focal model (equal signs and significance of hypothesized effects; expect for the enhanced significance, from 10% to 5% significance level, of initiative frequency).

Table 3.3: Summary of measures

<i>Construct</i>	<i>Measure</i>	<i>Data Source(s)</i>
Dependent variable		
Shareholder value	Standardized cumulative abnormal stock return over an event window	Lexis-Nexis, Datastream
Independent variables		
Social media	Dummy variable indicating whether the customer engagement behavior initiative is supported by a social media channel	Lexis-Nexis
Initiative frequency	Count variable of the number of times company i stimulates customer engagement behaviors (per announcement) (log-transformed)	Lexis-Nexis
Corporate reputation	Score on the <i>Fortune's</i> World's Most Admired Companies (1-year lagged)	Fortune
R&D intensity	The ratio of the firm's investment in R&D to the firm's assets (1-year lagged)	Compustat
Market turbulence	Absolute value of the percentage change in sales for company i from two years prior to the announcement to one year prior to the announcement (log-transformed)	Compustat
Control variables		
Type of customer engagement behavior	Dummy coding of customer engagement behavior announcement into customer word-of-mouth or voice behavior	Lexis-Nexis
Firm size	Total amount of company assets (1-year lagged) (log-transformed)	Compustat
Market share	A company's sales divided by total industry sales (1-year lagged)	Compustat
B2B	Dummy variable distinguishing companies primarily operating in a B2B or B2C setting, based on the companies' primary four-digit SIC code	Compustat
Goods	Dummy variable distinguishing companies primarily operating in a goods or services setting, based on the companies' primary four-digit SIC code	Compustat
Announcement source	Dummy variable distinguishing announcements in Lexis-Nexis originating from newswires (=1) versus other sources (=0)	Lexis-Nexis
Trend	Variable counting the number of announcements (within-sample) made by all companies, up to and including the current announcement	Lexis-Nexis

Table 3.4: Descriptive statistics and correlation matrix

	<i>Mean</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Standardized CAR _{<i>i</i>} [0,+1]	-.24	1.22	1.00													
2. Social media	.83	n.a.	.11	1.00												
3. Initiative frequency	.22	.40	-.02	.09	1.00											
4. Corporate reputation	5.30	1.71	-.11	-.06	.33***	1.00										
5. R&D intensity	.07	.07	.07	.03	.05	.13	1.00									
6. Market turbulence	1.93	1.33	-.29**	-.12	-.24**	-.17	.06	1.00								
7. Voice	.31	n.a.	-.12	-.31***	.06	.15	.34**	.17	1.00							
8. Word-of-mouth	.69	n.a.	.12	.31***	-.06	-.15	-.34**	-.17	-1.00***	1.00						
9. Firm size	16.05	2.63	.15	-.09	.19	.44***	-.18	-.11	.17	-.17	1.00					
10. Market share	.27	.25	.10*	.18	.06	.16	-.33**	-.15	-.02	.02	.35***	1.00				
11. B2B	.24	n.a.	.21	-.09	.14	.20*	.75***	.07	.39***	-.39***	.01	-.14	1.00			
12. Goods	.77	n.a.	.10	-.15	.05	.05	.01	-.17	.00	-.00	.23*	.27**	.16	1.00		
13. Announcement source	.67	n.a.	-.08	.13	-.20*	-.11	.02	.14	-.08	.08	-.19	.03	-.01	-.17	1.00	
14. Trend	38.00	21.79	.28**	.33***	.27**	-.09	-.09	-.24**	-.18	.18	.09	-.09	-.09	-.03	-.03	1.00

* $p < .10$ ** $p < .05$ *** $p < .01$.

3.3.4 Modeling Approach

Our modeling approach is in line with common practice in event studies in marketing (e.g., Boyd, Chandy, and Cunha 2010; Homburg, Vollmayr, and Hahn 2014; Raassens, Wuyts, and Geyskens 2014). We first estimated normal stock returns using the world market model, the most appropriate benchmark for computing normal stock returns in a multicountry event study (Park 2004). That is,

$$(1) \quad E(R_{ijt}) = \hat{\alpha}_i + \hat{\beta}_i R_{mjt} + \hat{\gamma}_i R_{wmt} + \hat{\delta}_i X_{jt},$$

where $\hat{\alpha}_i$, $\hat{\beta}_i$, $\hat{\gamma}_i$, and $\hat{\delta}_i$ are ordinary least squares parameters; R_{ijt} is the day t ($t = -250, \dots, -30$, where $t = 0$ is the event date) stock return of company i in its home country j ; R_{mjt} is the return of the market portfolio m in country j on day t ; R_{wmt} is the return of the world market portfolio on day t ; and X_{jt} is the currency exchange rate in country j on day t . We used the MSCI World index as our world market portfolio, together with several local market portfolios (e.g., AEX Index for the Netherlands, Standard & Poor's 500 Index for the United States) and the currency exchange rate between the U.S. dollar and each local currency, in our estimation.

The difference between R_{ijt} and $E(R_{ijt})$ is a measure of the abnormal return AR_{ijt} for firm i from country j at time t :

$$(2) \quad AR_{ijt} = R_{ijt} - E(R_{ijt}) = R_{ijt} - (\hat{\alpha}_i + \hat{\beta}_i R_{mjt} + \hat{\gamma}_i R_{wmt} + \hat{\delta}_i X_{jt}).$$

According to the semi-strong version of market efficiency, AR_{ijt} provides an unbiased estimate of the expected future financial benefits that accrue from the studied event (Fama 1970).

Ideally, the announcement content would not be leaked before the event day, and the dissemination of content occurs fully during the event day (Geyskens, Gielens, and Dekimpe 2002). However, these conjectures are often violated (Gielens et al. 2008). To control for potential information leakage (for t_1 time periods before the event) and information dissemination (for t_2 time periods after the event), we aggregated the abnormal returns over the event period into a cumulative abnormal return (CAR_i) and drew overall inferences for the event of interest:

$$(3) \quad CAR_i[-t_1, t_2] = \sum_{t=-t_1}^{t_2} AR_{ijt}$$

Our event study comprised 75 (N) announcements of companies initiating customer engagement behaviors, so we averaged the CAR into a cumulative average abnormal return (CAAR):

$$(4) \quad CAAR[-t_1, t_2] = \sum_{i=1}^N CAR_i[-t_1, t_2]/N.$$

Next, we assessed the significance of the CAAR using Patell's (1976) statistic (cf. Gielens et al. 2008; Raassens, Wuyts, and Geyskens 2014) and standardizing the abnormal returns by the standard deviation of the estimation period's abnormal returns, to account for potential variation in stock return volatility across firms and/or events. The length of the event window $(-t_1, t_2)$, reflecting the extent of information leakage and/or dissemination, remained open to empirical verification. Ultimately, we selected the event window on the basis of the significance and parsimony of various estimated CAARs for different event windows (cf. McWilliams and Siegel 1997). We investigated a 10-day window surrounding the announcement.

We empirically tested our main hypothesis regarding the financial impact of stimulating customer engagement behaviors using the sign and significance of the chosen CAAR. For our contingency hypotheses, we used a regression analysis of the standardized cumulative abnormal stock returns for individual company announcements (e.g., Agrawal and Kamakura 1995; Geyskens, Gielens, and Dekimpe 2002):

$$(5) \quad CAR_i[-t_1, t_2] = \beta_0 + \beta_1 \text{social media} + \beta_2 \text{initiative frequency} + \beta_3 \text{corporate reputation} \\ + \beta_4 \text{R\&D intensity} + \beta_5 \text{market turbulence} + \beta_6 \text{type of customer engagement behavior} \\ + \beta_7 \text{firm size} + \beta_8 \text{market share} + \beta_9 \text{B2B} + \beta_{10} \text{goods} + \beta_{11} \text{announcement source} + \beta_{12} \\ \text{trend} + \mu_i,$$

where β_0 is the intercept, β_1 - β_{12} are regression parameters belonging to the independent and control variables, and μ_i is the error term.

Finally, we assessed the potential threat of multicollinearity. The variance inflation factors (VIF) were all below 5.0 (average VIF = 1.596; largest VIF = 2.216) indicating that multicollinearity was not a problem.

3.4 RESULTS

3.4.1 Main Market Valuation of Stimulating Customer Engagement Behavior (CAAR)

We examined various event windows to assess the extent of information leakage and/or dissemination empirically. In support of H_{1b} , all significant CAARs for different event windows were negative; shareholders, on average, negatively evaluated companies' customer engagement initiatives (i.e., word-of-mouth and customer voice initiatives). The most significant and parsimonious (for means of market efficiency and to limit confounding events) CAAR was $CAAR[0, +1] = -.24\%$ ($p < .05$). Therefore, we used this event window in our further analyses. The .24% decrease in stock returns corresponded to a US\$74.09 million decrease in market value for a median-sized company in our sample.

This negative main effect does not imply that all customer engagement behavior initiatives yield the same impact; there is considerable variation in the returns that companies achieve from stimulating customer engagement behaviors. In our sample, 45.3% (34) of the initiatives exhibited positive abnormal returns over the event period (average $CAR_i = .76\%$), and the remaining 54.7% (41) indicated a negative abnormal return (average $CAR_i = -1.07\%$). To test whether this variation in cumulative abnormal returns might be explained by our contingency variables, we regressed the individual customer engagement behavior initiatives' standardized $CAR_i [0,+1]$ on our independent and control variables.

3.4.2 Contingency Effects

The results in Table 3.5 indicate that a contingency perspective on stimulating customer engagement behaviors adds explanatory power, over and above a model that includes only control variables ($\Delta R^2 = .128$; $\Delta F = 3.254$, sig. $< .05$).

We predicted that returns are higher for initiatives utilizing social media (H_2). We could not find support for this prediction ($\beta = .27$, n.s.).

In support of H_{3b} , although only at the 10% significance level, initiative frequency decreased the financial impact of a company's customer engagement behavior initiatives ($\beta = -.65$, $p < .10$)⁸. In Figure 3.2, Panel a, we depict the simulated abnormal stock returns for an average customer engagement behavior initiative for companies with

⁸ We also investigated a potential non-linear, inverted U-shaped, effect of initiative frequency. We added a quadratic term of initiative frequency to our focal model. This variable was not significant.

Table 3.5: Drivers of the return on stimulating customer engagement behavior

	Control variables only	Focal model (voice and word-of-mouth initiatives)	Initiatives in a B2C setting only	Initiatives in a products setting only	First initiatives only	All initiatives
Hypothesized Effects						
Social media ($H_{2,+}$)	N.A.	.274 (.438)	.649 (.421)	.353 (.294)	.880 (.313)**	.352 (.273)
Initiative frequency ($H_{3,+/-}$)	N.A.	-.646 (.323)*	-.413 (.349)	-.207 (.259)	N.A.	-.288 (.243)
Corporate reputation ($H_{4,-}$)	N.A.	-.190 (.078)**	-.267 (.098)**	-.409 (.087)**	-.182 (.078)**	-.173 (.074)**
R&D intensity ($H_{5,+}$)	N.A.	-.411 (2.528)	-.384 (5.122)	-.559 (2.248)	-.220 (1.737)	-.393 (1.615)
Market turbulence ($H_{6,+/-}$)	N.A.	-.204 (.092)**	-.258 (.121)**	-.301 (.100)**	-.254 (.104)**	-.224 (.086)**
Control Variables						
Co-creation (vs. word-of-mouth)	N.A.	N.A.	.556 (.384)	.696 (.308)**	.166 (.317)	.317 (.281)
Voice (vs. word-of-mouth)	-.356 (.313)	-.184 (.308)	-.097 (.464)	.304 (.366)	-.536 (.366)	-.015 (.306)
Firm size	.110 (.062)*	.200 (.065)**	.228 (.076)**	.292 (.064)**	.213 (.058)**	.201 (.060)**
Market share	.503 (.571)	.263 (.571)	-.332 (.675)	.390 (.529)	-.803 (.567)	-.035 (.508)
B2B (vs. B2C)	.689 (.319)**	.930 (.375)**	N.A.	.797 (.342)**	.731 (.331)**	.682 (.298)**
Goods (vs. services)	-.060 (.325)	-.040 (.317)	-.045 (.349)	N.A.	.014 (.280)	.188 (.263)
Announcement source	.103 (.268)	.059 (.251)	.005 (.317)	-.071 (.253)	-.507 (.295)*	.022 (.241)
Trend	.013 (.006)**	.011 (.007)*	.010 (.008)	.004 (.007)	.001 (.007)*	.005 (.004)
Intercept	-2.511 (1.083)**	-2.612 (1.151)**	-2.775 (1.554)*	-2.746 (1.094)**	-2.210 (1.075)**	-2.646 (1.074)**
Number of observations	75	75	68	77	69	107
R ²	.418	.545	.523	.535	.591	.426
Adjusted R ²	.316	.420	.373	.412	.466	.317
F-value	4.109***	4.347***	3.491***	4.322***	4.702***	3.889***
Δ F-value (relative to control model)	N.A.	3.254**	3.188**	6.266***	5.255***	3.188**

Notes: Parameter estimates (standard errors). Two-sided tests are used for all effects. The dependent variable is the standardized abnormal stock returns CAR_[0, +1]. Models include significant country and year dummies; we do not report them for simplicity of presentation. * $p < .10$ ** $p < .05$ *** $p < .01$.

both high and low initiative frequency. On average, an earlier, in terms of announcement order, customer engagement behavior initiative increased firm value, whereas a later one decreased it.

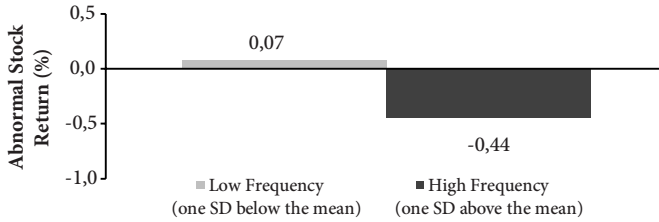


Figure 3.2A: Frequency and return on stimulating customer engagement behaviors

In support of H_4 , corporate reputation decreased investors' evaluations of the company's customer engagement behavior initiative ($\beta = -.19, p < .05$). An average initiative for a company with high corporate reputation reduced firm value; an average customer engagement behavior initiative for a low reputed company increased it (see Figure 3.2, Panel b)⁹.

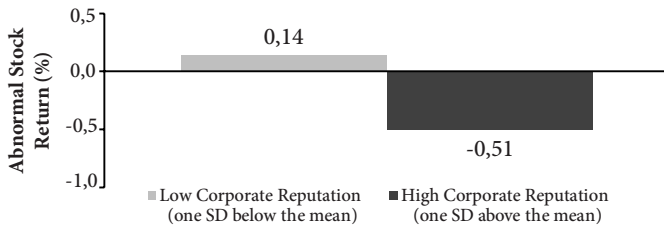


Figure 3.2B: Corporate reputation and return on stimulating customer engagement behaviors

⁹ We also investigated a potential non-linear, inverted U-shaped, effect of corporate reputation. We added a quadratic term of corporate reputation our focal model. This variable was not significant.

We also predicted that with greater R&D intensity, the returns on the initiatives for companies would increase (H_5). We could not find support for this prediction ($\beta = -.41$, n.s.).

In support of H_{6b} , negative effects of market turbulence seem to dominate ($\beta = -.20$, $p < .05$)¹⁰. When market turbulence was low, an average customer engagement behavior initiative increased firm value, whereas when market turbulence was high, such an initiative reduced firm value (see Figure 3.2, Panel c).

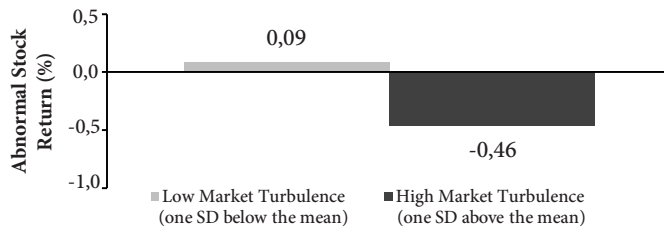


Figure 3.2C: Market turbulence and return on stimulating customer engagement behaviors

In addition to these hypothesized effects, we find that larger companies ($\beta = .20$, $p < .01$) and companies acting in a B2B environment ($\beta = .93$, $p < .05$) benefit more from initiating word-of-mouth and customer voice behaviors. Also, although only at the 10% significance level, the significant trend variable ($\beta = .11$, $p < .10$) indicates that investors express more positive evaluations of these customer engagement behavior initiatives over time.

3.4.3 No Differences Between Types of Customer Engagement Behavior

We found no significant difference in the effectiveness of various manifestations of customer engagement behaviors (word-of-mouth or voice). We also investigated whether the contingency effects of social media, initiative frequency, corporate reputation, R&D intensity, and market turbulence differ between word-of-mouth and voice activities; this was not the case (Chow F statistic = .35, n.s.).

3.4.4 Similar Results for Alternative Samples

In our focal model we decided to focus on word-of-mouth and voice activities occurring in various settings (B2B as well as a B2C setting and product as well as service firms).

¹⁰ We also investigated a potential non-linear, inverted U-shaped, effect of market turbulence. We added a quadratic term of market turbulence to our focal model. This variable was not significant.

This focal model does not contain customer co-creation initiatives in order to establish homogeneity, but includes various settings in order to not further reduce our sample size. We tested the sensitivity of our findings to this selection in several ways (see Table 3.5 for the related estimation results). First, instead of excluding customer co-creation initiatives, we limited our sample to initiatives occurring in a B2C setting. Companies operating in B2C environments in general have more customers and less close relationships with them (e.g., Hoyer et al. 2010), which might impair these companies in overseeing their customer engagement behavior campaign. Second, we limited our sample to initiatives occurring in a products setting. Engagement initiatives for companies operating in a products setting may differ from initiatives for service firms, since due to simultaneity of production and consumption in the latter case engagement is more likely to happen during the purchase moment (e.g., Beckers, Risselda, and Verhoef 2013). Third, we limited our sample to first initiatives of a company, since both companies and customers might learn over initiatives, making the first (announced) initiative distinct from following initiatives. Fourth, we also tested a model in which we made no restrictions whatsoever. Despite differences in sample size, in all cases results are substantially very similar.

Within the model without restrictions we also tested potential differences between customer engagement behavior primarily focused at the focal company (voice and co-creation) versus customer engagement behavior primarily aimed at follow customers (word-of-mouth). Effects do not differ between them as evidenced by non-significant interaction effects with hypothesized effects and a non-significant Chow test (Chow F statistic = 1.03, n.s.).

3.4.5 Robustness Checks

In line with event study literature, we carried out several additional analyses to test the robustness of our findings. In Table 3.6, we provide an overview of the applied robustness checks.¹¹

3.4.5.1 Market signaling

Companies are not obligated to announce their customer engagement initiatives, so public disclosures of the announcement might be interpreted as a market signal. That is, investors may not react to the direct content of an announcement but rather to the signals

¹¹ The related estimation results of the robustness checks are available from the authors upon request. We also performed these robustness checks for the extended sample including customer co-creation initiatives. Results for this sample are even more robust, likely due to a larger sample size, and the related estimation results are also available from the authors.

that these announcements issue to the financial market (Agrawal and Kamakura 1995). Although it is virtually impossible to investigate all latent meaning investors derive from an announcement (Agrawal and Kamakura 1995), we focus on it as a potential signal of company performance (i.e., inviting customers to participate in the value chain might be a last resort for struggling companies) or corporate innovativeness (i.e., initiating customer engagement behaviors might signal innovativeness). To determine if our results are robust to these alternative explanations, we include sales and R&D expenditure changes as additional variables. These alternative explanations assume differential impacts of growing versus declining firms in terms of sales and R&D expenditures. However, the coefficient for sales change was insignificant. The coefficient for R&D change was marginally significant and negative ($\beta = -.01, p < .10$), yet the same hypothesized effects remained significant, thus significance of hypothesized effects was not impacted by including these extra variables.

3.4.5.2 *Long-term updating*

To test the market efficiency assumption that shareholders unbiasedly and immediately react to the studied initiatives, we investigated potential long-term stock return effects. The CAARs for various event windows following the event (CAAR[+2, +5], CAAR[+2, +10], CAAR[+2, +25]) were not significant, and a pooled regression of CARi[+2, +3], CARi[+2, +4], ..., CARi[+2, +100] against the number of trading days since the event showed no significant drift (cf. Gielens et al. 2008; Tipton, Bharadwaj, and Robertson 2009); indicating an efficient stock market reaction to the studied event.

3.4.5.3 *Portfolio normal returns*

To validate the event study methodology assumption that we used an appropriate benchmark to determine normal stock returns (Srinivasan and Hanssens 2009), we replicated our results using Carhart's (1997) four-factor model, a common alternative to the world market model. The four factors were the market model ($R_{mt} - R_{ft}$), size premium (SMB), book-to-market premium (HML), and momentum (UMD). Because these factors are available only for U.S. listed firms, we could not validate the full sample of initiatives, yet only the U.S. subsample (cf. Wiles, Morgan, and Rego 2012). The four-factor model for the U.S. subsample also showed significant and negative event windows, for instance CAAR[0, +2] = -.43%, $p < .01$. Also, the CARi[0, +1] values across both portfolios were highly correlated (.94, $p < .01$). Although only 44 observations remained, a moderation analysis yielded substantially similar but less significant results. This can partially be attributed to the smaller sample size.

Table 3.6: Overview of robustness checks

<i>Robustness Check</i>	<i>Relevant Literature</i>	<i>Research Question</i>	<i>Robust?</i>
Alternative explanation			
Market signaling	– Agrawal and Kamakura (1995) – Geyskens, Gielens, and Dekimpe (2002)	Are results robust to alternative market signaling interpretations?	✓
Event study assumptions			
Long-term updating	– Gielens et al. (2008) – Tipton, Bharadwaj, and Robertson (2009)	Does the market efficiency assumption hold? Is there no long-run updating?	✓
Portfolio normal returns	– Carhart (1997) – Srinivasan and Hanssens (2009) – Wiles, Morgan, and Rego (2012)	Is an appropriate benchmark used to calculate normal stock returns?	✓
Sensitivity analyses			
Statistic main effect	– Boehmer, Musumeci, and Poulsen (1991) – Patell (1976)	Does another test statistic to determine the significance of the main market valuation yield similar results?	✓
Outlier analysis	– Ang (1998) – Geyskens, Gielens, and Dekimpe (2002) – Wiles et al. (2010)	Do the results hold after accounting for potential outliers in the dependent and independent variables?	✓
Alternative event window	– Boyd, Chandy, and Cunha (2010) – Gielens et al. (2008)	Are the results robust to alternative operationalizations of the dependent variable?	✓
Alternative measures	– Boyd et al. (2010) – Swaminathan and Moorman (2009)	Are the results robust to alternative operationalizations of key independent variables?	✓

3.4.5.4 *Main effect test statistic*

Various statistics are available to test for the significance of the CAAR, each with inherent drawbacks and benefits. A common alternative to the Patell (1976) statistic we used

is Boehmer, Musumeci, and Poulsen's (1991) statistic, which yielded similar results ($t_{\text{Patell}} = -2.09, p < .05$; $t_{\text{BMP}} = -2.16, p < .05$).

3.4.5.5 Outlier analysis

We investigated the potential impact of outliers on the dependent variable by reestimating the model after capping each tail of the dependent variable at the 1%, 2%, and 5% levels (cf. e.g., Wiles et al., 2010). The results remained substantially the same. We also investigated the stability of the findings for the hypothesized effects using a jackknife procedure (Ang 1998; cf. Geyskens, Gielens, and Dekimpe 2002); the coefficient for initiative frequency was not significant, yet the significant jackknife coefficients for reputation and market turbulence indicated estimate stability and insensitivity to potential outliers for these variables.

3.4.5.6 Alternative event windows

To assess the sensitivity of our results to the chosen event window, we also investigated CARi[-2, +1], CARi[-1, +1], CARi[0, 0], CAR[0, +2], and CAR[0, +3]. All these windows are highly correlated with our focal CARi [0, +1] window (average correlation of .75, $p < .01$). Furthermore, of the hypothesized effects using alternative event windows as dependent variable, initiative frequency and corporate reputation remain significant in various event windows, despite additional noise entering longer event windows (Dutordoir, Verbeeten, and De Beijer 2015). For instance, when using CAR[0, +3] as dependent variable corporate reputation ($\beta = -.31, p < .05$) and also social media ($\beta = 1.13, p < .05$) are significant. Our results thus appeared substantially robust to alternative specifications of the dependent variable.

3.4.5.7 Alternative measures

Finally, we investigated whether alternative specifications of frequency, reputation, R&D intensity, and market turbulence would yield similar results. We reestimated our model using dichotomous measures for initiative frequency (0 = first announcement of company i , 1 = subsequent announcements), corporate reputation (0 = low reputation, or values below the median, 1 = high reputation), R&D intensity (0 = low reputation, or values below the median, 1 = high R&D intensity), and market turbulence (0 = low market turbulence, or values below the median, 1 = high market turbulence). We used an alternative specification for R&D intensity in which we scaled R&D expenditures by sales instead of by assets. We also used an alternative specification for market turbulence

in which we regressed firm sales on year (based on a range of three years prior to the announcing year), then divided the standard error of the regression slope coefficient by the mean of firm sales (Raassens 2011). The results remained substantially similar.

3.5 DISCUSSION

Customer engagement behaviors have changed customer–firm interactions, prompting companies to undertake proactive efforts to initiate and manage customer engagement behaviors. With this study, we have investigated the financial consequences for companies that stimulate customer engagement behaviors (word-of-mouth and customer voice) and the contingency factors that drive these consequences. We reasoned that customer engagement behaviors entail that, rather than being passive responders, customers take an active role in company value creation. Through non-transactional customer behaviors as providing feedback and recommending or warning for products, customers actively participate in value enhancement or depreciation for companies. The stimulation of customer engagement behaviors thus might offer a novel way to create value for companies. Marketing scholars also clearly recognize the importance of external value creation (Leeflang 2011; Vargo and Lusch 2004) and advocate a view of customers as co-creators of value (e.g., Prahalad and Ramaswamy 2004a; Vargo and Lusch 2004). We reconcile both visions and add to these perspectives by determining how shareholders react to company's customer engagement behavior initiatives.

In particular, our first key finding is that companies' customer engagement initiatives decrease, on average, market value by US\$74.09 million for a median-sized company in our sample. We thus establish the economic value, in terms of shareholder wealth, of companies' customer engagement programs, in line with a Marketing Science Institute (2010) priority. The negative shareholder response to customer engagement initiatives indicates that shareholders expect potential drawbacks of customer engagement initiatives to exceed potential benefits. Shareholders likely respond negatively to customer engagement initiative because the initiating companies cannot dictate the outcomes, making it ambiguous whether benefits can actually be achieved. This finding implies that researchers should explicitly incorporate potential negative aspects (e.g., reduced control) when studying customer engagement behaviors.

Our second key finding is that there is considerable variation in shareholders' responses to various engagement initiatives. In support of our theorizing, we found that

the value enhancing and value depreciating elements of word-of-mouth and customer voice behaviors are moderated by initiative, firm, and market characteristics. First, frequent customer engagement initiatives are evaluated more negatively. This effect is in contrast with the notion that companies might learn how to reap the benefits of stimulating customer engagement behaviors from their previous initiatives, and in support of the rival notion that the benefits of stimulating customer engagement behaviors wear out with repetition. Second, customer engagement initiatives launched by companies with strong corporate reputation are evaluated more negatively, since such companies have less opportunity to make gains from customer engagement behaviors and may potentially suffer more risk of customer engagement behavior initiatives backfiring. Third, initiatives launched by companies operating in volatile markets are also evaluated more negatively. Though there is more need to monitor customers in a volatile market, the instability of customers' needs and wants in such environments makes it questionable whether benefits can actually be achieved and increases potential risk.

We could not find support for the hypothesized effects of social media utilization and company R&D intensity. First, although the coefficient of social media was positive, it was not significant. This could be due to low variation in social media utilization; in our sample, 83% of the initiatives utilize a social media channel. Hence, when stimulating customer engagement behaviors it seems to be the standard to support the initiative by a social media channel, expectedly since managers recognize that social media are major facilitators of engagement behaviors, especially by increasing customer connectivity (Libai et al. 2010) and decreasing the customer-firm interaction costs (Godes et al. 2005). The insignificant effect of R&D intensity could also be explained by low variation; the mean value of this variable was .07, indicating that most companies that stimulate customer engagement behaviors do not have (relatively) high R&D expenditures. Moreover, for many initiating companies we were not able to collect data on their R&D expenditures as R&D intensity was the variable with the most missing data points.

Taken together, these key findings indicate that investors are predominantly risk-averse with respect to word-of-mouth and customer voice initiatives. When being risk-averse and seeking predictability customer engagement is not the way to go (e.g., Hoyer et al. 2010). Stimulating customer engagement behaviors can increase efficiency and effectiveness of value creation and build market-based assets (e.g., stronger customer relationships), thereby enhancing and accelerating future cash flows. Yet, stimulating customer engagement behaviors can also lead to increased risk and thereby volatility of future cash flows. In general, investors led the latter effect dominate in their evaluations.

Furthermore, in circumstances where risks may be enhanced (i.e., for companies with a good reputation – they may trigger more positive behaviors, but also have more to lose – or under market turbulence – when customer behavior is more volatile) investors appear to react even more negative.

Beyond these key findings, we found some interesting effects of the control variables. Engagement initiatives for larger firms are evaluated more positively than for smaller firms, perhaps because larger firms have more financial leverage and a larger customer base, which creates more scope for customer engagement behaviors. Furthermore, customer engagement behavior initiatives toward business customers are more positively valued than initiatives by companies that sell to consumers, perhaps due to lower customer heterogeneity and higher customer loyalty levels in most B2B environments (Hoyer et al. 2010). In addition, investors become more positive towards customer engagement behavior over time, indicated by a significant time trend. Also, half of all initiatives took place in the last two years of our sample. This warrants discussion whether the negative main effect of stimulating customer engagement behavior may be a temporary effect, caused by its novelty (e.g., investors are unsure yet what to expect, such that they react skeptically to these initiatives), or if there is a systematic explanation. Yet, our main moderating findings points to a fundamental driver of the negative main effect; as explained above, investors systematically respond negatively when companies face increased risk or give away too much control over value creation by stimulating engagement behaviors.

3.5.1 Managerial Implications

This study offers several guidelines for managers on how to deal with customer engagement behaviors (specifically, word-of-mouth and customer voice behaviors). Empirically and on average, investors expect downsides (e.g., threat of negative word-of-mouth) that outweigh potential benefits (e.g., stronger customer relationships, lower support costs) of customer engagement behaviors. Therefore, managers need to be cautious and not just proactively manage customer engagement behaviors by default, because they might face performance ambiguity. Still, approximately half of companies' customer engagement initiatives increase company value. That is, some companies benefit from stimulating customer engagement behaviors – especially those who are not reputed and those operating in stable markets. Furthermore, larger companies and companies operating in B2B markets could benefit more from stimulating customer engagement. If such firms choose to design a customer engagement behavior initiative, they need to take care to not

overdo it by stimulating (and announcing their management of) customer engagement behaviors too frequently.

3.5.2 Limitations and Further Research Opportunities

Our study has several limitations, which provide potential paths for further research. First, despite the substantial benefits of an event study methodology, it rests on a set of stringent assumptions (Srinivasan and Hanssens 2009). We tested several assumptions to demonstrate the robustness of our findings, but an event study invariably regards shareholders as the primary relevant group of stakeholders (Geyskens, Gielens, and Dekimpe 2002). To assess the effectiveness of a company strategy, additional stakeholders might be taken into account, such as employees and customers. We call for additional research to investigate the impact of company-initiated customer engagement behaviors on customers and employees, specifically by considering metrics such as customer satisfaction.

Second, we used publicly available, secondary data, to gain access to events in the past and avoid subjective bias. However, these data do not offer deep, professional insights (Geyskens, Gielens, and Dekimpe 2002). Research using other methods (e.g., qualitative or survey methods) might investigate exactly how customers react to various companies' customer engagement behavior programs in different circumstances, as well as how they translate into bottom-line performance. Especially fruitful might be to investigate what motivates customers to participate in engagement behaviors and relating these motivators to campaign outcomes.

Third, customer engagement behaviors resulting from company's initiatives likely have a different impact than customer engagement behaviors that occur naturally (i.e., without the company's interference) (Villanueva, Yoo, and Hanssens 2008). Researchers could compare customer- and company-initiated customer engagement behaviors. Customer-initiated engagement behaviors are intrinsically motivated, whereas the customers' implementation of firm initiatives is extrinsically motivated, such that they might prompt weaker customer performance than intrinsic forms.

Appendix A: Common contingencies in (exemplary) market strategy event studies

	<i>Event / strategy characteristics</i>	<i>Firm characteristics</i>		<i>Market characteristics</i>
	E.g., order / frequency	E.g., reputation	firm size	resources (e.g., SG&E, R&D expenditures)
				E.g., turbulence / growth / uncertainty
Boyd, Chandy, and Cunha (2010)		✓	✓	✓
Chen, Ganesan, Liu (2009)		✓	✓	
Geyskens, Gielens, and Dekimpe (2002)	✓		✓	✓
Gielens et al. (2008)			✓	
Homburg et al. (2014)	✓		✓	✓
Karniouchina, Moore, and Cooney (2009)	✓		✓	
Karniouchina, Uslay, and Erenburg (2011)	✓		✓	✓
Malhotra and Malhotra (2011)	✓		✓	
Raassens, Wuyts, and Geyskens (2012)			✓	✓
Raassens, Wuyts, and Geyskens (2014)			✓	✓
Sood and Tellis (2009)	✓		✓	
Swaminathan and Moorman (2009)		✓	✓	✓
Swaminathan, Murshed, & Hulland (2008)			✓	✓
Tellis and Johnson (2007)			✓	
Tipton, Bharadwaj, and Robertson (2009)			✓	✓
Wiles (2007)		✓	✓	✓
Wiles and Danielova (2009)				✓
Wiles et al. (2010)	✓	✓	✓	

Appendix B: List of exemplary announcement search terms & exemplary initiative headlines

EXEMPLARY SEARCH TERMS	
<i>Customer engagement behavior (in general)</i>	
Customer engagement	Customer empowerment
Customer value creation	Customer cooperation
<i>Customer co-creation in NPD</i>	
Customer co-creation in NPD	Crowdsourcing
Customer innovation input	User generated
<i>Customer voice</i>	
Customer voice	Customer feedback
Customer complaint	Customer advice
<i>Word-of-mouth</i>	
Customer word of mouth	Customer buzz
Customer referral	Customer advocacy
EXEMPLARY INITIATIVE HEADLINES	
– “Sony eyes blogosphere in latest outreach effort”	
– “Bayshore Solutions connects cruise enthusiasts with the world’s leading cruise lines new Facebook fan page”	
– “Traction unveils game to drive social media brand engagement for Adobe”	
– “Bayer goes viral in web pitch for painkiller”	
– “TUI looks to social media for online user engagement”	
– “Domino’s engages social media pioneer, New Media Strategies, for customer engagement strategy”	
– “Zale Corporation adds Bazaarvoice Stories™ to deepen customer engagement and loyalty; Customers on Zales.com share their real-life stories about the celebration in their lives and the role Zales played in making them memorable”	

