

Customer Empowerment in New Product Development*

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The traditional new product development (NPD) model, in which companies are exclusively responsible for coming up with new product ideas and for deciding which products should ultimately be marketed, is increasingly being challenged by innovation management academics and practitioners alike. In particular, many have advocated the idea of democratizing innovation by empowering customers to take a much more active stake in corporate NPD. This has become feasible because the Internet now allows companies to build strong online communities through which they can listen to and integrate thousands of customers from all over the world. Extant research has provided strong arguments that indicate that customer empowerment in NPD enables firms to develop better products and at the same time to reduce costs and risks if customers in a given domain are willing and able to deliver valuable input. Customer empowerment, however, not only affects the firm's internal NPD processes as reflected in the products that are ultimately marketed. Instead, it might also affect the way companies are perceived in the marketplace (by customers who observe that companies foster customer empowerment in NPD). This paper provides the first empirical study to explore how customers from the "periphery" (i.e., the mass that does not participate) perceive customer empowerment strategies. Customer empowerment in NPD is conceptualized along two basic dimensions: (1) customer empowerment to create (ideas for) new product designs; and (2) customer empowerment to select the product designs to be produced. Therefore, customers may be empowered to submit (ideas for) new products (empowerment to create) or (2) to "vote" on which products should ultimately be marketed (empowerment to select). In the course of two experimental studies using three different product categories (T-shirts, furniture, and bicycles) both customer empowerment dimensions (as well as its interaction) are found to lead to (1) increased levels of perceived customer orientation, (2) more favorable corporate attitudes, (3) and stronger behavioral intentions. These findings will be very useful to researchers and managers interested in understanding the enduring consequences of customer empowerment in NPD. Most importantly, the results suggest that empowerment strategies might be used to improve a firm's corporate associations as perceived by the broad mass of (potential) customers. In particular, marketers might foster customer empowerment as an effective means of enhancing perceived customer orientation. Customers will in turn provide rewards, as they will form more favorable corporate attitudes and will be more likely to choose the products of empowering as opposed to nonempowering companies, ceteris paribus. Customer empowerment thus constitutes a promising positioning strategy that managers can pursue to create a competitive advantage in the marketplace.

Introduction

This paper argues and shows that companies that foster customer empowerment in new product development (NPD)—that is, com-

panies that allow customers to create (ideas for) new product designs or to decide which products should be produced—can at least sometimes gain a competitive advantage over "traditional" firms that do not empower their customers. This advantage is reflected in consumers' general preference for the former.

The traditional NPD model, in which companies are exclusively responsible for coming up with new product ideas and for deciding which products should ultimately be marketed, is increasingly being challenged by innovation management academics and practitioners alike (e.g., Chesbrough, 2003; Cone, 2006; Lakhani, 2006; Pitt et al., 2006; von Hippel and Katz, 2002). In particular, many have advocated the idea of democratizing innovation by empowering customers to take a much more active stake in corporate NPD (von Hippel, 2005). This has become

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feasible because the Internet now allows companies to build strong online communities through which they can listen to and integrate thousands of customers from all over the world (Dahan and Hauser, 2002; Füller, Jawecki, and Mühlbacher, 2007; Nambisan, 2002; Sawhney and Prandelli, 2000; Sawhney, Verona, and Prandelli, 2005). The success stories of open-source software projects such as Linux and Apache suggest that customer empowerment also makes sense economically (Pitt et al., 2006; von Hippel). Enthusiastic software users have collectively developed products that are now seriously competing with—if not outperforming—commercial software created by corporate research and development (R&D) professionals. Empirical studies on the sources of innovation have shown that this observation is not unique to the software industry, but rather a general phenomenon (for an overview, see von Hippel). Many users have been found to innovate for themselves, and many such user innovations are characterized by high commercial attractiveness (cf. Franke, von Hippel, and Schreier, 2006; Schreier and Prügl, 2008).

These findings have encouraged companies across many industries to empower customers by allowing them to take control of processes that used to be the exclusive domain of marketers. For example, Adidas, BMW, Ducati, Procter & Gamble, 3M, and many others have created online platforms that aim to integrate their customers' innovative new product ideas into NPD processes more actively, more directly, and more systematically (Ogawa and Piller, 2006; Pitt et al., 2006; Sawhney et al., 2005).

It is proposed that it would be useful to think of customer empowerment in NPD in terms of two basic dimensions: (1) customer empowerment to *create* (ideas for) new product designs; and (2) customer empowerment to *select* the product designs to be

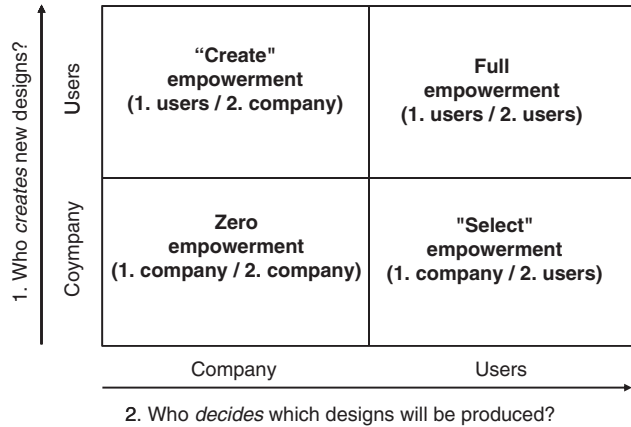


Figure 1. Customer Empowerment Strategies in NPD

produced (see Figure 1). Therefore, customers may be empowered to (1) submit (ideas for) new products (empowerment to create) or (2) to “vote” on which products should ultimately be marketed (empowerment to select).

As an illustrative example from practice, consider Threadless, a Chicago-based fashion start-up that empowers customers in both dimensions (full empowerment; Ogawa and Piller, 2006). Threadless has created a strong online community of more than 120,000 registered users who provide the firm with guidance as to what products should be marketed. In particular, it is not the company (i.e., professional designers) but only the customers—or more generally users—who are invited to submit new T-shirt designs (the company receives 500 new designs from all over the world on average per week). Nor is it the company (i.e., employees) that determines the designs' attractiveness, but once again it is the users who vote for the T-shirts that should ultimately be produced (each design is evaluated by 1,500 users on average). Based on this customer input, Threadless then markets the best five user designs every week and rewards the winning designers with a check for \$2,000.

As a second example, consider Muji, a Japanese manufacturer of consumer goods that has also started to empower its customers in both dimensions (Ogawa and Piller, 2006). Not unlike Threadless, they invite enthusiastic users to submit *ideas* for new products online and to evaluate the attractiveness of those submissions. User-created product concepts that receive a substantial number of customer preorders (“binding votes”) are then examined by Muji in terms of production costs. If a product can be produced at a profit, it is finally taken up by the firm, reworked into a

BIOGRAPHICAL SKETCHES

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marketable product, and integrated into one of their product lines. Some of these successful user designs lead to radical new products that clearly outperform concepts developed by traditional means. Interestingly enough, Muji democratizes not only innovation but also their profits through a profit-sharing model for users whose ideas are marketed.

In summary, there are strong arguments indicating that customer empowerment in NPD enables firms to develop better products and at the same time to reduce costs and risks if customers in a given domain are willing and able to deliver valuable input (e.g., Dahan and Hauser, 2002; Lilien et al., 2002; Ogawa and Piller, 2006). Customer empowerment, however, affects not only the firm's internal NPD processes as reflected in the products that are ultimately marketed and the relationship between the company and its empowered customers (Sawhney et al., 2005; Sheth, Sisodia, and Sharma, 2000) but also, as Pitt et al. (2006) suggest, the way companies are perceived in the marketplace (by customers who observe that companies foster customer empowerment in NPD). To the authors' knowledge, there is currently no empirical research available to address the latter point.

This paper provides an analysis of how customers perceive companies that employ customer empowerment to “create” or to “select” strategies in NPD. In particular, the focus of analysis is not on customers who are actively integrated and empowered (i.e., those who participate). Instead, the target group is customers from the “periphery”—consumers who are aware of, but have not actively participated in, customer empowerment initiatives. This is a very important segment since it represents the bulk of the market; those who actively participate will always be in the minority. From the manager's perspective, this segment's response to customer empowerment in NPD appears to be highly relevant: it can determine whether a firm should either “hide” (not advertise broadly) empowerment initiatives (if the mass market does not like them) or “sell” (advertise broadly) them (if the mass market likes them).

Drawing on customer orientation literature (e.g., Brady and Cronin, 2001), the main premise in Study 1 is that nonparticipating customers will perceive a company that fosters customer empowerment in NPD as significantly more customer oriented (i.e., in a better position to understand the needs and wants of its customers) than a nonempowering company. This hypothesis is tested in the context of T-shirts, furniture, and bicycles using a between-subject experiment.

Findings are affirmative. Customer empowerment is positively and significantly related to perceived customer orientation. On this basis, it is also hypothesized in Study 2 that customer empowerment will produce more favorable corporate attitudes and more favorable behavioral intentions (purchase, loyalty, positive word of mouth, corporate commitment). These hypotheses are tested in the course of a within-subject experiment (again in the context of T-shirts, furniture, and bicycles; controlling for product quality). Findings are thoroughly affirmative. Customer empowerment leads to better corporate attitudes and behavioral intentions. The results of both studies are robust to the two empowerment dimensions—both “create” as well as “select” strategies show the expected relationships.

Study 1: Customer Empowerment in NPD and Perceived Customer Orientation

Conceptual Background and Development of Hypotheses

Traditionally, companies have been exclusively responsible for developing new product concepts and for deciding which concepts should be marketed (zero-empowerment strategy; see Figure 1). Of course, they have listened closely to the voice of the customer, as this has been identified as a clear prerequisite for successful NPD (Cooper, 1999; Dahan and Hauser, 2002; Griffin and Hauser, 1993). However, power and control have been strictly centralized, as ultimately the companies designed the products and had the final word on what should be produced (Pitt et al., 2006). Guided by the success stories of open-source software, firms have only recently started to outsource certain tasks in NPD (von Hippel and Katz, 2002), thereby shifting more power to their customers (along the two empowerment dimensions). In other words, users have begun to switch from the role of passive consumers who “speak only when spoken to” (von Hippel, 1978, p. 40) to active partners in NPD. It seems logical that customers who actively participate in such empowerment activities will reward companies with, for example, increased loyalty (Sawhney et al., 2005; Sheth et al., 2000). But why should it make a difference to customers from the periphery (i.e., those who do not actively participate) whether firms sell products generated in the zero-empowerment paradigm

(company creates; company decides) versus one of the empowerment paradigms?

For an initial theoretical argument on why it should make a difference, one can draw an analogy from research on political systems. The traditional company approach to NPD (zero empowerment) can be likened to a totalitarian regime (denoting the relationship between customers and a single company) or to an indirect (representative) democracy (denoting the relationship between customers and various companies) (Horkheimer and Adorno, 1996; Murray and Ozanne, 1991). If the focus of analysis is only one company (totalitarian regime), customers have the power only to buy or not (to stay or fly); if the focus of analysis is more than one company (indirect democracy), customers have the power to choose from which company to buy (which party to vote for). In both scenarios, the single company of course aims at offering good product quality (political activities) and to satisfy the people. However, people are not actively empowered to *cocreate* value in NPD (i.e., to directly influence what products are being marketed). In more direct (participative) democracies, on the other hand, power is delegated in part to the people (empowerment). The people can put any issue on the ballot (ideas for new products) and also directly vote on what should be realized. Customer empowerment is thus reflected in the *right of individual participation* (Dalton, 1994; Zimmerman and Rappaport, 1988).

Not surprisingly, economic literature acknowledges that people are generally more satisfied with (participative) democratic systems (cf Frey and Stutzer, 2002). In fact, it has been found that the *degree* of direct democracy affects how “customer-oriented” systems and their outcomes are perceived to be (Pommerehne, 1990). As people also directly benefit from “using” political products, it makes sense to them that they should be empowered to participate actively in the creation of such products. As a result, they generally tend to prefer living in more direct democratic systems. This is reflected in key economic indicators such as property values or people’s general well-being measured in terms of “happiness,” which have been found to be highest in systems that allow the greatest degree of customer participation (Frey and Stutzer, 2000; Santerre, 1986). Regardless of whether people actually participate (i.e., make use of their right), they ultimately feel less under the control of the *classe politique* (Frey and Stutzer, 2002).

In recent years, marketing scholars have also reported similar tendencies in the corporate world. Specifically, consumers perceive an increasing power imbalance between corporations (the *classe industriel*) and customers,

with the latter complaining that the former exert too much control on their daily lives and are not willing to share power with them (Bernstein et al., 2000). Such companies are frequently perceived to abuse their power by seducing consumers instead of actually trying to help them satisfy their needs (Holt, 2002; Varadarajan and Thirunarayana, 1990). This has fueled consumer skepticism toward corporations in general and marketing in particular (e.g., Barksdale et al., 1982; Darke and Ritchie, 2007; Klein, 1999; Varadarajan and Thirunarayana) and has driven consumers to launch a quest for greater sovereignty and empowerment (Holt; Kozinets, 2002; Murray and Ozanne, 1991, 1995).

Perceived Customer Orientation. Against this backdrop, the main premise of Study 1 is that customers will also show a stronger preference for companies that employ customer empowerment to “create” or “select” strategies in NPD because such strategies should lead to higher perceived customer orientation (controlling for product quality). Customer orientation, which refers to a firm’s ability to satisfy (which implies anticipating and responding to) customers’ needs adequately (Brady and Cronin, 2001), has been the cornerstone of marketing theory and practice for decades (e.g., Jaworski and Kohli, 1993; Narver and Slater, 1990; Saxe and Weitz, 1982). Deshpandé, Farley, and Webster (1993, p. 27) broadly define it as “the set of beliefs that puts the customer’s interest first,” and more specifically related to innovation, Gatignon and Xuereb (1997, p. 78) define a customer-oriented firm as one “with the ability and the will to identify, analyze, understand, and answer user needs.” In a nutshell, the literature suggests that customer-oriented firms are more successful in the market than others because they are better at identifying the customers’ needs, which puts them in a better position to deliver goods and services of superior value (Deshpandé et al.; Kelley, 1992; Slater and Narver, 1995; Stock and Hoyer, 2005).

A substantial number of empirical studies provide evidence that customer orientation is significantly related to firm performance (Kirca, Jayachandran, and Bearden, 2005). From the firm’s perspective, customer orientation is achieved if the voice of the customer is systematically integrated into various stages of the NPD process (Bowen, Siehl, and Schneider, 1989; Lengnick-Hall, 1996). From the customer’s perspective, it is primarily his or her perception that determines a firm’s degree of customer orientation (Krepapa et al., 2003). It is also this perception that impacts the individual company–customer relationship (Stock and

Hoyer, 2005, for example, report a significant relationship between perceived customer orientation and customer satisfaction). The perceived customer orientation of an organization might be impacted not only by the products ultimately offered but also by other relevant and observable firm behavior. Especially in studies on personal selling and services, consumers have been shown to perceive high levels of customer orientation if they see that companies generally try, for example, to keep the customers' best interests in mind, to help customers achieve their goals, or to discuss their needs with them actively (Brady and Cronin, 2001; Kreppa et al.; Saxe and Weitz, 1982; Stock and Hoyer, 2005).

The way companies behave (i.e., how they develop new products) will thus impact how customer oriented they are perceived to be in the marketplace. From the customer's point of view, customer empowerment in NPD (along the "create" or "select" dimensions) is probably the most direct and consistent form of customer orientation (similar to direct democracies). As it is the customers who expect to benefit from using products, it also makes sense to let them codevelop new designs or to decide what should ultimately be produced. To frame it in the terminology of customer orientation literature, customers will more strongly perceive companies that foster customer empowerment in NPD to "have the customers' best interest in mind," to "try to figure out what customers' needs are," or to "try to find out what kind of product would be most helpful to customers" (Brady and Cronin, 2001; Saxe and Weitz, 1982). Therefore, the following is hypothesized:

H1a: Nonparticipating customers ("observers") will perceive companies that sell products (co)designed by users (i.e., that empower users to create) as more customer oriented than zero-empowerment companies.

H1b: Nonparticipating customers ("observers") will perceive companies that sell products chosen by users (i.e., that empower users to select) as more customer oriented than zero-empowerment companies.

H1c: Nonparticipating customers ("observers") will perceive companies that sell products both (co)designed and chosen by users (i.e., that empower users both to create and to select) as more customer oriented than zero-empowerment companies.

Thus, it is expected that all three empowerment cells (Figure 1) score higher on perceived customer orientation than zero empowerment (the conceptual benchmark). Given the limited knowledge in that area of

research, however, it is noted that one can hardly make any corroborated claims related to differences between the different empowerment scenarios (e.g., whether empowerment to create scores higher or lower than empowerment to select). Instead, those differences will be reported in an exploratory manner in the following section.

Method

Overview and Pilot Study. The authors designed a between-subject experiment to test H1. In this context, different product categories and different samples were employed to attain a high level of generalizability. Based on practical applications of customer empowerment in NPD and on discussions with scholars in marketing and innovation, T-shirts, furniture, and (folding) bicycles were selected as the product categories to study (in such categories, customer empowerment might generally make sense from an NPD perspective). These categories also appear to be distinct in terms of (1) perceived risk and (2) the level of engineering and technology necessary to design such products. A pilot study ($n = 32$ students) was conducted to analyze how consumers perceive these product categories in terms of these two variables. Respondents were confronted with representative pictures from the three product categories and were asked to rate the categories' level of engineering (alphas for all three product categories $\geq .78$) and perceived risk (overall perceived risk is operationalized as an index formed by three major components of risk, namely, financial, functional, and physical risk; cf Jacoby and Kaplan, 1972; Stone and Gronhaug, 1993). Established scales were used to operationalize these two variables (items and sources are listed in the Appendix). As shown in Table 1, respondents indeed perceive these three product categories to be significantly different in terms of risk and engineering ($p < .001$). First, T-shirts are generally perceived to be associated with "low" overall risk (mean = 1.35, where 1 = low and 7 = high), furniture with "medium" risk (mean = 3.19), and bicycles with "high" risk (mean = 4.77). Second, whereas T-shirts are perceived to involve "low" levels of engineering (mean = 1.57, where 1 = low and 7 = high), furniture can be classified as involving "medium" engineering (mean = 3.14) and bicycles as an example of "high" engineering (mean = 4.72).

Table 1. Perceived Risk and Level of Engineering Associated with T-Shirts, Furniture, and Bicycles^a

	Engineering	Overall Risk	Financial Risk	Functional Risk	Physical Risk
	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)
T-Shirts	1.57 (.15) → <i>LOW</i>	1.35 (.11) → <i>LOW</i>	1.34 (.13)	1.41 (.16)	1.31 (.15)
Furniture	3.14 (.22) → <i>MEDIUM</i>	3.19 (.18) → <i>MEDIUM</i>	3.94 (.24)	2.66 (.26)	2.70 (.29)
Bicycles	4.72 (.24) → <i>HIGH</i>	4.77 (.20) → <i>HIGH</i>	4.44 (.27)	4.44 (.32)	5.44 (.29)
F-Value	67.464	97.334	98.737	31.319	74.103
p-Value	0.00	0.00	0.00	0.00	0.00

^a All variables are measured on seven-point scales (1 = low; 7 = high); $n = 32$. All pairwise comparisons (engineering and overall risk) are significant at $p < .001$.

Participants. In the context of T-shirts, interviews were conducted with undergraduate students at a large European university ($n = 190$) (66% female) who were 23 years old on average and indicated an average disposable monthly income of EUR 300 to 399. For furniture ($n = 166$) and bicycles ($n = 160$), nonstudent samples were used. The average participant was 27 years old and indicated a disposable monthly income of EUR 601 to 1,000 (57% females).

Procedures. Participants in all three product categories were randomly assigned to one of four groups (for T-shirts, a fifth group was added; see following). Before being exposed to their individual treatment, participants were shown one exemplary T-shirt design (a collection of furniture; one folding bicycle) and were asked to answer several questions related to their specific and general product category involvement (items are listed in the Appendix). Participants were then instructed to read some prepared background information on the company (T-shirts: Threadless; furniture and bicycles: brand kept blind) and how it develops its products (note that for T-shirts none of the participants indicated that they had heard of the underlying company before). Group 1 was exposed to the “zero-empowerment” scenario (company creates; company selects); Group 2 to the “empowerment to create” scenario (users create; company selects); Group 3 to the “empowerment to select” scenario (company creates; users select); and Group 4 to the “full-empowerment” scenario. For T-shirts, Group 5 (no cue) was added as a control group to test whether Group 1 might show arbitrary downward bias, as one might argue that zero-empowerment companies usually do not have to stress (because it is implicitly given) that they are responsible for creating and selecting the designs to be marketed. To rule out the

alternative explanation that mere “newness” or “believability” effects (instead of empowerment effects) might bring about differences in the dependent variable, a “uniqueness cue” was added in all scenarios (limited new design line). The manipulation details for T-shirts are summarized in Table 2.

For furniture and bicycles, these manipulations were adapted accordingly. Most notably, there was one major difference between the product categories. In contrast to T-shirts (empowerment to *create*; users design the final products), “creation empowerment” was framed for furniture and bicycles as cocreation—that is, users design product concepts, and firms rework them into marketable products. This increased the external validity of the scenarios because user designs for more complicated products generally require some fine-tuning from the underlying company (as is done, e.g., by Muji; cf Ogawa and Piller, 2006).

Participants were then instructed to evaluate (an extract from) the company’s new T-shirt (furniture, bicycle) collection based on 12 T-shirts (six pieces of furniture, one bicycle) depicted in a booklet. The selection of T-shirts (furniture collections, bicycles) to be included in the booklet was guided by a pilot study ($n = 30$ for T-shirts, $n = 32$ for furniture and bicycles) in which students were asked to evaluate the design quality of 33 T-shirts (10 furniture collections, 12 bicycles) picked from real companies. The most attractive products (product collections) were included in the booklet. All participants were exposed to exactly the same products (i.e., the product collection) within each category. In this way, it was possible to keep product quality constant between groups. The only difference between groups was the degree and type of customer empowerment in NPD (who creates new designs; who selects the designs to be marketed). After inspecting the booklet, respondents were asked to

Table 2. Manipulations Used in Study 1 (T-Shirts)

Group	Treatment
General Information	<i>Threadless</i> is a Chicago-based fashion label (founded in 2000) which is well-known for their hip T-shirts. Having a very large customer base, the company is now planning to launch the limited NEW DESIGN LINE (series). As of spring 2007, a small number of new and exciting designs will be sold on a strictly <i>limited edition</i> basis every three months (1,000 shirts per design worldwide).
• Group 1 (Zero Empowerment)	This is how the new T-shirt design line is developed: They ask professional <u>Threadless designers</u> to <u>create</u> (submit) highly creative <u>designs</u> . In this process, the designers are free of any constraints and can let their ideas and visions flow. From the large set of highly attractive designs, the <u>Threadless company selects</u> the 12 best <u>designs</u> to be included in the NEW DESIGN LINE.
• Group 2 (Empowerment to Create)	This is how the new T-shirt design line is developed: They ask enthusiastic <u>Threadless customers</u> from all over the world to <u>create</u> (submit) highly creative <u>designs</u> – any customer can participate. In this process, customers are free of any constraints and can let their ideas and visions flow. From the large set of highly attractive designs, the <u>Threadless company selects</u> the 12 best <u>designs</u> to be included in the NEW DESIGN LINE.
• Group 3 (Empowerment to Select)	This is how the new T-shirt design line is developed: They ask their professional <u>Threadless designers</u> to <u>create</u> (submit) highly creative <u>designs</u> . In this process, the designers are free of any constraints and can let their ideas and visions flow. From the large set of highly attractive designs, <u>Threadless customers</u> from all over the world <u>select</u> (“vote for”) the 12 best <u>designs</u> to be included in the NEW DESIGN LINE.
• Group 4 (Full Empowerment)	This is how the new T-shirt design line is developed: They ask enthusiastic <u>Threadless customers</u> from all over the world to <u>create</u> (submit) highly creative <u>designs</u> – any customer can participate. In this process, customers are free of any constraints and can let their ideas and visions flow. From the large set of highly attractive designs, <u>Threadless customers</u> from all over the world <u>select</u> (“vote for”) the 12 best <u>designs</u> to be included in the NEW DESIGN LINE.
• Group 5 (No Cue) General Information	- Have a look at the outcome of the first edition.

complete a short questionnaire containing items that measure specific and general product category involvement (before treatment; control variables; alphas for all three product categories ≥ 0.67 and 0.90 , respectively), product attitudes (alphas ≥ 0.89), the newness/believability of the campaign (control variables; alphas $\geq 0.70/ \geq 0.90$) as well as the perceived customer orientation of the underlying company (dependent variable to test H1; alphas ≥ 0.82). Established scales were used to operationalize these constructs (item sources and exemplary items for T-shirts are listed in the Appendix).

Findings

Findings are summarized in Table 3. First, it is found that within each of the three product categories there are no significant differences between groups with regard to specific and general product category involvement (both measured before treatment), which indicates that randomization procedures were effective. Second, one cannot identify any significant differences between

groups in terms of product attitudes, which points to the absence of any carryover effects of empowerment treatments on the respondents’ general product attitudes. Third, there are no significant differences between groups with regard to the perceived newness of the campaign and the campaign’s credibility for T-shirts and bicycles. For furniture, there are significant differences ($p < .05$) between groups with regard to newness. However, in this context it is important to note that the findings related to hypothesis tests as reported subsequently are not affected (i.e., similar effect sizes and significance levels are obtained if analyses of covariance [ANCOVAs] instead of analyses of variance [ANOVAs] are run, thus accounting for newness as a covariate in the model).

Fourth, and most importantly, support is found for H1. Participants do perceive companies that foster customer empowerment in NPD to be significantly more customer oriented than zero-empowerment companies. This holds true for all three product categories and for both empowerment dimensions as well as its interaction (H1a, H1b, and H1c, respectively; see Table 3). First, for T-shirts the “empowerment to create” (Group 2:

Table 3. Customer Empowerment and Customer Orientation (Study 1 Findings)^a

	Group 1: Zero Empowerment	Group 2: Empowerment to Create	Group 3: Empowerment to Select	Group 4: Full Empowerment	Group 5: No Cue	Significance Tests
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	F-Value (p-Value)
<i>T-shirts</i>	(n = 41)	(n = 38)	(n = 37)	(n = 40)	(n = 34)	
H1:						
Customer Orientation	4.15 (1.23)	4.81 (1.05)	4.67 (0.79)	4.98 (1.10)	4.16 (1.01)	4.998 (0.00)
Control Variables:						
Specific p.cat. Involvement	2.96 (1.48)	2.67 (1.17)	3.03 (1.37)	2.96 (1.26)	3.18 (1.49)	0.671 (0.61)
General p.cat. Involvement	3.19 (1.50)	3.86 (1.34)	3.99 (1.41)	3.72 (1.57)	3.82 (1.44)	1.759 (0.14)
Product Attitudes	4.97 (1.11)	4.89 (1.01)	5.00 (0.78)	5.11 (0.83)	4.82 (1.03)	0.525 (0.72)
Newness	4.39 (1.38)	4.87 (1.29)	4.49 (1.28)	4.82 (1.39)	4.50 (1.39)	1.000 (0.41)
Credibility	4.63 (1.39)	4.39 (1.34)	4.53 (1.44)	4.41 (1.50)	4.37 (1.44)	0.222 (0.93)
<i>Furniture</i>	(n = 41)	(n = 47)	(n = 40)	(n = 38)		
H1:						
Customer orientation	3.92 (1.37)	5.63 (1.14)	5.31 (1.30)	5.71 (1.05)		19.370 (0.00)
Control variables:						
Specific p.cat. involvement	3.73 (1.58)	3.78 (1.75)	4.11 (1.61)	3.86 (1.57)		0.443 (0.72)
General p.cat. involvement	5.07 (1.42)	4.91 (1.46)	4.96 (1.52)	5.24 (1.49)		0.385 (0.76)
Product attitudes	4.85 (1.46)	4.91 (1.30)	5.02 (1.54)	4.82 (1.41)		0.141 (0.94)
Newness	4.55 (1.62)	5.43 (1.60)	5.31 (1.54)	5.50 (1.38)		3.293 (0.02)
Credibility	4.62 (1.32)	4.63 (1.28)	4.95 (1.21)	4.83 (1.27)		0.663 (0.58)
<i>Bicycles</i>	(n = 36)	(n = 42)	(n = 44)	(n = 38)		
H1:						
Customer Orientation	4.22 (1.51)	5.30 (1.15)	5.14 (1.15)	5.63 (1.36)		8.019 (0.00)
Control Variables:						
Specific p.cat. Involvement	2.36 (1.42)	2.65 (1.54)	2.74 (1.48)	2.45 (1.32)		0.589 (0.62)
General p.cat. Involvement	2.70 (1.63)	2.83 (1.56)	2.93 (1.66)	2.87 (1.60)		0.145 (0.93)
Product Attitudes	4.16 (1.57)	4.31 (1.70)	4.49 (1.32)	4.40 (1.40)		0.353 (0.79)
Newness	4.29 (1.68)	4.50 (1.56)	4.64 (1.77)	5.00 (1.76)		1.157 (0.33)
Credibility	4.24 (1.53)	4.58 (1.40)	4.56 (1.38)	4.62 (1.34)		0.580 (0.63)

^aAll variables are measured on seven-point scales (1 = low; 7 = high). Significant differences *between* empowerment scenarios are observed for customer orientation: T-shirts: (1) – (2) ($p < .01$); (1) – (3) ($p < .05$); (1) – (4) ($p < .001$); customer orientation: furniture: (1) – (2) ($p < .001$); (1) – (3) ($p < .001$); (1) – (4) ($p < .001$); customer orientation: bicycles: (1) – (2) ($p < .001$); (1) – (3) ($p < .01$); (1) – (4) ($p < .001$).

mean = 4.81), the “empowerment to select,” (Group 3: mean = 4.67) as well as the full-empowerment scenario (Group 4: mean = 4.98) produces significantly higher levels of perceived customer orientation than the zero-empowerment scenario (Group 1: mean = 4.15; $p = .01$, $.03$, and $.00$, respectively). The results remain robust when the zero-empowerment scenario is exchanged for the no-cue scenario (Group 5: mean = 4.16; $p = .01$, $.05$, and $.00$, respectively; the differences in means between Groups 1 and 5 are insignificant). The results are similar for furniture: the “cocreate” (Group 2: mean = 5.63), “select” (Group 3: mean = 5.31), and full-empowerment (Group 4: mean = 5.71) scenarios produce significantly higher levels of perceived customer orientation than zero empowerment (Group 1: mean = 3.92;

$p < .001$). Third, findings also hold in the bicycle sample. Compared with zero empowerment (Group 1: mean = 4.22), perceived customer orientation is significantly higher ($p < .01$) for all three empowerment companies (Group 2: mean = 5.30; Group 3: mean = 5.14; Group 4: mean = 5.63).

When contrasting the different empowerment scenarios among each other, similar patterns are found in the three product categories, with the full-empowerment scenario consistently producing the highest level of customer orientation. However, these tendencies do not appear to be statistically significant. Finally, it is noted that “empowerment to (co)create” scores slightly higher on customer orientation—albeit not significantly—than “empowerment to select.”

Study 2: Customer Empowerment in NPD, Corporate Attitudes, and Intentions

Development of Hypotheses

The findings of Study 1 imply that customer empowerment in NPD creates favorable corporate associations (= high customer orientation). In turn, this suggests that customer empowerment might bring about favorable attitudes toward the company (corporate attitudes) and better behavioral intentions. In the following, hypotheses are developed in more detail.

Corporate Attitudes. First, customer empowerment in NPD may positively impact corporate attitudes. It is well established that corporate or secondary associations—a general term for all of the information a person holds about a company beyond specific product associations (Brown and Dacin, 1997)—can be a promising source of sustainable competitive advantage and are thus highly relevant to strategic management and marketing (Aaker, 1996; Keller, 1993). More specifically, customers use secondary associations (e.g., countries of origin or distribution channels) when forming an impression of a company (Winters, 1986, 1988), and if these associations are positive (negative) in nature they are likely to strengthen (weaken) the customer's preference for the company (Aaker; Berens, van Riel, and van Bruggen, 2005; Brown and Dacin). In fact, customer orientation has been noted as a positive and effective means of creating favorable corporate ability associations (Brown and Dacin). On the other hand, consumers might form negative attitudes toward totalitarian companies that exert too much power (Bernstein et al., 2000; Chun and Davies, 2006). It is therefore hypothesized that companies empowering their customers in NPD will see more favorable corporate attitudes from nonparticipating customers than companies not empowering their customers, *ceteris paribus*.

H2a: Nonparticipating customers (“observers”) will form more favorable attitudes toward companies that sell products (co)designed by users (i.e., that empower users to create) than toward zero-empowerment companies.

H2b: Nonparticipating customers (“observers”) will form more favorable corporate attitudes toward companies that sell products chosen by users (i.e., that empower users to select) than toward zero-empowerment companies.

H2c: Nonparticipating customers (“observers”) will form more favorable attitudes toward companies that sell products both (co)designed and chosen by users (i.e., that

empower users both to create and to select) than toward zero-empowerment companies.

Behavioral Intentions. Second, it is argued that customers will also forge stronger bonds with companies that foster customer empowerment in NPD than with companies that do not. This is reflected in more favorable behavioral intent, such as purchase intentions, loyalty, and positive word of mouth (Brady and Cronin, 2001; Zeithaml et al., 1996). Theoretically, support for this idea can be found in the streams of previously cited literature. First, it has been found that perceived customer orientation is linked to customer intentions to (re)purchase a firm's products and to produce positive word-of-mouth advertising (Brady and Cronin). Second, positive corporate associations have also been found to create a basis for strong behavioral outcomes such as purchase intentions and loyalty (Beatty and Ritter, 1986; Brown and Dacin, 1997; Ellen, Webb, and Mohr, 2006; Milgrom and Roberts, 1982). Thus:

H3a: Nonparticipating customers (“observers”) will demonstrate more favorable behavioral intentions toward companies that sell products (co)designed by users (i.e., that empower users to create) than toward zero-empowerment companies.

H3b: Nonparticipating customers (“observers”) will demonstrate more favorable behavioral intentions toward companies that sell products chosen by users (i.e., that empower users to select) than toward zero-empowerment companies.

H3c: Nonparticipating customers (“observers”) will demonstrate more favorable behavioral intentions toward companies that sell products both (co)designed and chosen by users (i.e., that empower users both to create and to select) than toward zero-empowerment companies.

As in Study 1, it is thus expected that all three empowerment cells (Figure 1) score higher on corporate attitudes and behavioral intentions than zero empowerment (the conceptual benchmark). It is again noted that this paper does not make any corroborated claims related to differences between the different empowerment scenarios but instead, again, reports those differences in an exploratory manner in the following section.

Method

Overview. As in Study 1, different product categories (T-shirts, furniture, and folding bicycles) and differ-

ent samples (students and mixed samples) were employed to attain a high level of generalizability. In Study 2, however, a within-subject design was employed to test H2 and H3. A within-subject design was primarily chosen because behavioral intentions were aimed to be operationalized as *choice* questions (allowing respondents to choose the company or scenario for which they would form the most favorable intentions). This approach is an appropriate and frequently used method of revealing consumer preferences for one company (brand) *over another* (e.g., Huber, Holbrook, and Kahn, 1986; Wathieu, Muthukrishnan, and Bronnenberg, 2004). Moreover, this design appears to be more externally valid compared with evaluating only one isolated company or scenario because participants need to make direct trade-off decisions, and this design thus provides fairly accurate predictions of the consumer's actual behavior (e.g., Burke et al., 1992; Huber and Zwerina, 1996). As in Study 1, product quality was held constant between tasks.

Participants. In the case of T-shirts, participants ($n = 92$) were management students (53% female) who were 24 years old on average and indicated an average disposable monthly income of EUR 300–399. For furniture ($n = 158$) and bicycles ($n = 153$), mixed samples were used (consisting of students and non-students). The average participant was 26 years old and indicated a disposable monthly income of EUR 601 to 1,000 (48% females).

Procedures. Participants in all three product categories were told that they would be taking part in a study that involved assessing the new products (product collections) of distinct start-up companies in the fashion (furniture, bicycle) industry, each employing a different business strategy (business model). To eliminate the effects of any existing company knowledge or familiarity, the real corporate names were replaced by the labels A, B, C, and D. Each participant received a booklet containing corporate information on four start-up firms. Regarding empowerment treatments, the same descriptions used in Study 1 were employed (but without the uniqueness cue; see Table 1). One company pursues a zero-empowerment strategy in NPD (company creates; company selects); one company uses the “empowerment to create” (T-shirts) and “empowerment to cocreate” (furniture, bicycles) strategy (users [co]create; company selects); one the “empowerment to select” strategy (company creates;

users select); and one the full-empowerment strategy (users [co]create; users select).

Immediately after reading each company's information, participants were shown an excerpt from that company's product collection (five T-shirts, six pieces of furniture, one bicycle per company). To control for product quality, four different but similarly attractive product sets per category were compiled based on the results of the pilot study. The order in which these four sets were presented was held constant across subjects (Companies A, B, C, D). However, for each participant the authors randomly matched the four treatment scenarios to the four companies or the four sets of products (i.e., the order of empowerment strategies was randomized). After each task, participants completed a short questionnaire containing items that measure product attitudes (control variable, alphas for all three product categories $\geq .93$) and corporate attitudes (dependent variable to test H2, alphas $\geq .93$). At the end of the experiment (after the four tasks), respondents completed a set of multiple-choice questions that captured their behavioral intentions (dependent variable to test H3). The Appendix lists these items, all of which were taken from the relevant literature.

Findings

The findings of Study 2 are summarized in Tables 4 and 5. First—and in line with the findings of Study 1—it is found that empowerment treatments in all three product categories do not significantly affect general product attitudes (this also indicates that it is very unlikely that certain demand effects might be at work). Second, support is found for H2: customer empowerment in NPD affects the corporate attitudes formed by customers from the periphery (i.e., observers). This holds true for T-shirts, furniture, and bicycles and for both empowerment dimensions and its interaction. In support of H2a and H2b, respectively, it is first found (using repeated measures ANOVAs) that the “empowerment to create” scenario (mean = 4.49) as well as the “empowerment to select” scenario (mean = 4.57) produced significantly stronger corporate attitudes in the case of T-shirts than the zero-empowerment scenario (mean = 4.20; $p < .10$ and $.05$, respectively). In support of H2c it is also found that full empowerment produces significantly stronger corporate attitudes (mean = 4.71) than zero empowerment ($p < .01$). In a similar vein, the “empowerment to cocreate” (mean = 4.76), “empowerment to select” (mean = 4.76), as well as the

Table 4. Customer Empowerment and Corporate Attitudes (Study 2 Findings)^a

	(1) Zero Empowerment Mean (SE)	(2) Empowerment to Create Mean (SE)	(3) Empowerment to Select Mean (SE)	(4) Full Empowerment Mean (SE)	Significance Tests F-Value (<i>p</i> -Value)
<i>T-shirts</i> (<i>n</i> = 92)					
H2:					
Corporate Attitudes	4.20 (0.13)	4.49 (0.14)	4.57 (0.14)	4.71 (0.14)	3.063 (0.03)
Control Variable: Product Attitudes	4.17 (0.14)	4.20 (0.15)	4.23 (0.14)	4.35 (0.14)	0.425 (0.74)
<i>Furniture</i> (<i>n</i> = 158)					
H2:					
Corporate Attitudes	4.00 (0.09)	4.76 (0.11)	4.76 (0.10)	5.18 (0.10)	25.156 (0.00)
Control Variable: Product Attitudes	4.35 (0.11)	4.28 (0.13)	4.36 (0.12)	4.43 (0.12)	0.320 (0.81)
<i>Bicycles</i> (<i>n</i> = 153)					
H2:					
Corporate Attitudes	3.69 (0.10)	4.67 (0.11)	4.90 (0.10)	5.09 (0.11)	31.801 (0.00)
Control Variable: Product Attitudes	3.77 (0.12)	3.94 (0.12)	3.98 (0.13)	4.04 (0.13)	1.142 (0.33)

^a All variables are measured on seven-point scales (1 = low; 7 = high). Significant differences *between* empowerment scenarios are observed for corporate attitudes: T-shirts: (1)–(2) ($p < .10$); (1)–(3) ($p < .05$); (1)–(4) ($p < .01$); furniture: (1)–(2); (1)–(3); (1)–(4) (p -values $< .001$); (2)–(4); (3)–(4) (p -values $< .01$); bicycles: (1)–(2); (1)–(3); (1)–(4) (p -values $< .001$); (2)–(3) ($p < .05$); (2)–(4) ($p < .001$); (3)–(4) ($p < .10$).

full-empowerment scenario (mean = 5.18) are clearly superior in terms of corporate attitudes compared with the zero-empowerment scenario in the case of furniture (mean = 4.00; $p < .001$). Third, the same patterns are found for bicycles: “cocreate” (mean = 4.67), “select” (mean = 4.90), and full-empowerment (mean = 5.09) companies are associated with significantly higher corporate attitudes than zero-empowerment firms (mean = 3.69; $p < .001$). Thus H2a, H2b, and H2c can be confirmed (see Table 4).

When contrasting the different empowerment scenarios against each other, one again finds similar patterns for the three product categories, with the full-empowerment scenario consistently producing the highest level of corporate attitudes. Whereas these effects are insignificant for T-shirts, significant interactions are found for furniture and bicycles: full empowerment produces significantly better corporate attitudes than the other two empowerment scenarios ($p < .01$ for furniture and $p < .10$ for bicycles). Finally, it is noted that corporate attitudes generally appear to be somewhat lower in the case of “(co)create” empowerment compared with “select” empowerment. These effects, however, are significant only in the bicycle sample ($p < .05$).

Third, and most importantly, support is found for H3. Customer empowerment in NPD pays off because customers develop significantly stronger behavioral intentions compared with the zero-empowerment scenario (see Table 5). Overall, it is found that observed frequencies for the individual empowerment scenarios

deviate significantly from expected frequencies (with p values ranging from .04 to .00) in all three product categories and for all choice questions related to behavioral intentions. In particular, participants in the T-shirt group chose the zero-empowerment company far less frequently with regard to purchase intentions (residual = -10), loyalty (-11), positive word of mouth (+WOM: -13), and corporate commitment intentions (commitment: -11 ; bond: -11). This indicates that preferences for the zero-empowerment scenario were nearly 50% below the expected frequencies. In other words, all empowerment scenarios received substantially higher observed intention frequencies than their zero-empowerment counterpart. Similar effects are also found for furniture and bicycles: participants in the furniture and bicycles groups chose the zero-empowerment company far less frequently with regard to purchase intentions (residual = -17.5)/(-19.5), loyalty (-14.5)/(-20.5), +WOM (-16.5)/(-21.5), and corporate commitment intentions (commitment: -22.5 ; bond: -18.5)/(-23.5 ; -21.5). Again, all empowerment scenarios received substantially higher observed intention frequencies than their zero-empowerment counterpart. Thus also H3a, H3b, and H2c can be confirmed (see Table 5).

When contrasting the different empowerment scenarios, patterns similar to those identified in corporate attitudes are found. First, full empowerment tends to receive the highest observed frequencies for furniture and bicycles (for T-shirts, full empowerment appears to be comparable to empowerment to select). Second,

Table 5. Customer Empowerment and Behavioral Intentions (Study 2 Findings, cont'd.)^a

Intentions H3	(1)	(2)	(3)	(4)	Significance Tests χ^2 -Value (<i>p</i> -Value)
	Zero Empowerment Residual (Observed/Expected)	Empowerment to Create Residual (O/E)	Empowerment to Select Residual (O/E)	Full Empowerment Residual (O/E)	
<i>T-shirts</i> (<i>n</i> = 92)					
Purchase	– 10 (13/23)	– 3 (20/23)	+ 7 (30/23)	+ 6 (29/23)	8.435 (0.04)
Loyalty	– 11 (12/23)	– 1 (22/23)	+ 9 (32/23)	+ 3 (26/23)	9.217 (0.03)
+ WOM	– 13 (10/23)	– 3 (20/23)	+ 8 (31/23)	+ 8 (31/23)	13.304 (0.00)
Commitment	– 11 (12/23)	– 5 (18/23)	+ 9 (32/23)	+ 7 (30/23)	12.000 (0.01)
Bond	– 11 (12/23)	– 3 (20/23)	+ 10 (33/23)	+ 4 (27/23)	10.696 (0.01)
<i>Furniture</i> (<i>n</i> = 154)					
Purchase	– 17.5 (21/38.5)	– 4.5 (34/38.5)	+ 7.5 (46/38.5)	+ 14.5 (53/38.5)	15.403 (0.00)
Loyalty	– 14.5 (24/38.5)	– 9.5 (29/38.5)	+ 2.5 (41/37.5)	+ 21.5 (60/38.5)	19.974 (0.00)
+ WOM	– 16.5 (22/38.5)	– 13.5 (25/38.5)	– 1.5 (37/37.5)	+ 31.5 (70/38.5)	37.636 (0.00)
Commitment	– 22.5 (16/38.5)	– 13.5 (25/38.5)	+ 6.5 (45/38.5)	+ 29.5 (68/38.5)	41.584 (0.00)
Bond	– 18.5 (20/38.5)	– 10.5 (28/38.5)	– .5 (38/38.5)	+ 29.5 (68/38.5)	34.364 (0.00)
<i>Bicycles</i> (<i>n</i> = 150)					
Purchase	– 19.5 (18/37.5)	+ 4.5 (42/37.5)	+ 4.5 (42/37.5)	+ 10.5 (48/37.5)	14.160 (0.00)
Loyalty	– 20.5 (17/37.5)	+ 2.5 (40/37.5)	– 0.5 (37/37.5)	+ 18.5 (56/37.5)	20.507 (0.00)
+ WOM	– 21.5 (16/37.5)	– 2.5 (35/37.5)	– 8.5 (29/37.5)	+ 32.5 (70/37.5)	42.587 (0.00)
Commitment	– 23.5 (14/37.5)	– 8.5 (29/37.5)	– 4.5 (33/37.5)	+ 36.5 (74/37.5)	52.720 (0.00)
Bond	– 21.5 (16/37.5)	– 1.5 (36/37.5)	– 0.5 (37/37.5)	+ 23.5 (61/37.5)	27.120 (0.00)

^aO, observed. E, expected (assuming a uniform distribution).

observed frequencies generally appear to be somewhat lower for “(co)create” than for “select” empowerment.

Discussion

In the course of two studies it was possible to shed initial light on the consequences of customer empowerment in NPD, a potentially important area of research that has seen hardly any attention thus far. How do customers from the periphery (i.e., those who do not participate but merely observe) react to companies that empower their customers (1) to (co)create new products that are then marketed to the public or (2) to vote on which products a firm should ultimately market? In the domains of T-shirts, furniture, and bicycles, it is found that both empowerment dimensions (and their interaction) lead to higher perceived customer orientation, more favorable corporate attitudes, and more favorable behavioral intentions (keeping product quality constant) compared with zero-empowerment strategies (company creates; company selects).

To date, the primary focus of analysis in the field of customer empowerment in NPD has been the product. It has been argued and shown that firms empowering their customers can generate better products at lower cost and risk if customers are willing and able to deliver valuable NPD input (e.g., Dahan and Hauser,

2002; Lilien et al., 2002; Ogawa and Piller, 2006; Sawhney et al., 2005). The findings reported in this paper add a completely new argument in favor of customer empowerment in NPD. Empowerment strategies might be used to improve a firm's corporate associations as perceived by the broad mass of (potential) customers. In particular, marketers might foster customer empowerment as an effective means of enhancing customer orientation. Customers will in turn provide rewards, as they will form more favorable corporate attitudes and will be more likely to choose the products of and to produce positive word of mouth for empowering as opposed to nonempowering companies, *ceteris paribus*. It seems logical that this can provide start-ups in particular with a clear indication of how they can differentiate themselves to enter a (mature) market successfully. Since customer empowerment is associated with positive corporate associations, it constitutes a promising positioning strategy managers can pursue to create a competitive advantage in the marketplace.

It is suggested that these findings will be very useful to researchers and managers interested in understanding the enduring consequences of customer empowerment for a firm's positioning in the market. At the same time, the study has several limitations that warrant discussion.

First, although it has been shown that empowerment to create (users design the final products) and select seems to produce favorable results in the context of

T-shirts and that these findings also hold for empowerment to cocreate (users design concepts; firms rework them into marketable products) and to select in more risky and more engineered product domains (furniture, bicycles), one can only speculate regarding the product categories for which these findings can and cannot be generalized. Whereas perceived customer orientation should generally not be affected by the underlying product domain, the reported effects of customer empowerment on corporate attitudes and behavioral intentions might very well depend on this perceived orientation. For example, can one expect similar results for car engines or other technology-intensive products of high complexity? Although not tested empirically in these studies, it might be that in the case of T-shirts, furniture, and bicycles, customers “see” many other users as potentially competent and motivated enough to be empowered along both NPD dimensions. However, the opposite might apply to car engines: customers may believe that users do not stand a chance of competing with corporate R&D professionals when it comes to (co)creating new products or selecting the products to be marketed. However, this does not mean that one can expect the findings to hold only in low-tech fields. Instead, it is proposed that the effects might be moderated by the distribution of relevant knowledge and competence within a category as perceived by consumers. The effects might be stronger (weaker) in fields where consumers believe that many (few) users possess high relevant knowledge. In fields where it is hardly conceivable that there are any knowledgeable users (as is probably the case in the car engine example), the effects might even be negative (i.e., customer empowerment might produce unfavorable corporate attitudes and behavioral intentions). To further illustrate this argument, consider the medical equipment industry as an example. In this high-tech field, many commercially important and truly new innovations can be traced back to ideas and prototypes developed by surgeons, and the creative potential of users is well acknowledged among both firms and customers (Lettl, Herstatt, and Gemünden, 2006; von Hippel, 2005). In such high-tech settings, it is therefore conjectured that customer empowerment could have similar positive effects because the consumers (i.e., surgeons) tend to know how knowledgeable some of their peer users are.

Second, the experiments contained mostly “black and white” comparisons (empowerment vs. zero empowerment). In reality, however, empowerment in these two dimensions might be more continuous or “mixed.” For example, companies might develop and

provide the core of the product themselves and add “only” highly attractive product modules developed by users (as can be seen, e.g., in the statistics software Stata or the computer game *The Sims*; Prügl and Schreier, 2006; von Hippel and Katz, 2002). Companies might also employ customer empowerment “only” for some parts of their business (e.g., users creating new ads as in the case of Coors Light or L’Oreal; Trendwatching, 2006), whereas they might not foster customer empowerment strategies in other parts of their business (e.g., product development). Future research should analyze how such “hybrid” empowerment strategies affect consumer reactions. Third, one cannot make any corroborated claims as to the consequences of customer empowerment for established brands. For example, what effects would arise if a successful, traditionally “totalitarian” brand (zero empowerment) switched to a more democratic approach (empowerment)? Fourth, and on a more theoretical note, the present study established only the “common source” of the two empowerment dimensions—namely, perceived customer orientation. However, these two dimensions are obviously quite distinct from one another (and in fact, some differences in the dependent variables were found between the two empowerment dimensions). Future research might, for example, theoretically and empirically establish the different mechanisms and consequences of empowering customers to (co)create new products versus to select which products should be produced. Whereas consumers might perceive the former as a sound means of deriving creative new products and breaking with common standards, the latter might produce a stronger sense of direct democracy. A qualitative research approach to this issue would be particularly promising. As a result, such like findings would also help to theorize why empowerment to (co)create versus empowerment to select might produce different effect sizes on outcome variables like corporate attitudes and behavioral intentions.

Fifth (as with any experiment), it is acknowledged on the methodological side that primarily issues of internal as opposed to external validity were stressed (Calder, Phillips, and Tybout, 1981). Most importantly, product quality was held constant in both experiments (or in other words, only empowerment was manipulated) to test the hypotheses. In reality (nonartificial settings), however, specific approaches to NPD (degree of empowerment) will certainly also influence the resulting products. Future research might thus employ nonexperimental survey designs

to establish whether the reported findings are generalizable to more natural purchase settings where, for example, product quality (and other relevant variables, e.g., like price) is different across firms.

Finally, it is noted that the “indirect” effects of customer empowerment reported in this article should not primarily drive a firm’s decision regarding whether to empower their customers in NPD. Instead, it should first focus on the potential “direct” effects (e.g., can one expect creative ideas for new products from users?) and only then address the enduring consequences of marketing these initiatives to the mass market. Scholars pursuing this line of research can make a significant contribution to the understanding of the theoretical and practical implications of customer empowerment in NPD. Similar studies will become more and more relevant, as a significant number of companies already empower their customers to develop more competitive products and even more companies plan to do so in the near future.

References

- Aaker, D. 1996. *Building strong brands*. New York: Free Press.
- Anderson, E. 1985. The salesperson as outside agent or employee: A transaction cost analysis. *Marketing Science* 4 (3): 234–54.
- Barksdale, H. C., W. D. Perreault, J. Arndt, J. A. Barnhill, W. A. French, and M. Halliday, et al. 1982. A cross-national survey of consumer attitudes towards marketing practices, consumerism and government regulations. *Columbia Journal of World Business* 17 (2): 71–96.
- Beatty, R. P., and J. R. Ritter. 1986. Investment banking, reputation, and the underpricing of initial public offerings. *Journal of Financial Economics* 15 (1–2): 213–32.
- Berens, G., C.B.M. van Riel, and G. H. van Bruggen. 2005. Corporate associations and consumer product responses: The moderating role of corporate brand dominance. *Journal of Marketing* 69 (3): 35–48.
- Bernstein, A., M. Arndt, W. Zellner, and P. Coy. 2000. Too much corporate power? *Business Week* 11:52–60 (September).
- Bowen, D. E., C. Siehl, and B. Schneider. 1989. A framework for analyzing customer service orientations in manufacturing. *Academy of Management Review* 14 (1): 75–95.
- Brackett, L. K., and B. N. Carr, Jr. 2001. Cyberspace advertising vs. other media: Consumer vs. mature student attitudes. *Journal of Advertising Research* 41 (5): 23–32.
- Brady, M. K., and J. J. Cronin, Jr. 2001. Customer orientation: Effects on customer service perceptions and outcome behaviors. *Journal of Service Research* 3 (3): 241–51.
- Brown, T. J., and P. Dacin. 1997. The company and the product: Corporate associations and consumer product responses. *Journal of Marketing* 61 (1): 68–84.
- Burke, R. R., B. A. Harlam, B. E. Kahn, and L. M. Lodish. 1992. Comparing dynamic consumer choice in real and computer-simulated environments. *Journal of Consumer Research* 19 (1): 71–82.
- Calder, B. J., L. W. Phillips, and A. M. Tybout. 1981. Designing research for application. *Journal of Consumer Research* 8 (2): 197–08.
- Chesbrough, H. W. 2003. The era of open innovation. *Sloan Management Review* 44 (3): 35–41.
- Chun, R., and G. Davies. 2006. The influence of corporate character on customers and employees: Exploring similarities and differences. *Journal of the Academy of Marketing Science* 34 (2): 138–46.
- Cone, E. 2006. With a little help of my friends. *CIO Insight* 74 (11): 84–92.
- Cooper, R. G. 1999. *Winning at new products: Accelerating the process from idea to launch*, (2d ed.). Reading, MA: Perseus Books.
- Cox, D. S., and W. B. Locander. 1987. Product novelty. Does it moderate the relationship between ad attitudes and brand attitudes? *Journal of Advertising* 16 (3): 39–44.
- Dalton, R. 1994. Communists and democrats: Democratic attitudes in two Germanies. *British Journal of Political Science* 24: 469–93.
- Dahan, E., and J. R. Hauser. 2002. The virtual customer. *Journal of Product Innovation Management* 19 (5): 332–53.
- Darke, P. R., and R. J. B. Ritchie. 2007. The defensive consumer: Advertising deception, defensive processing, and distrust. *Journal of Marketing Research* 44: 114–27 (February).
- Deshpandé, R., J. U. Farley, and F. E. Webster, Jr. 1993. Corporate culture, customer orientation, and innovativeness in Japanese firms: A quadrad analysis. *Journal of Marketing* 57 (1): 23–37.
- Ellen, P. S., D. J. Webb, and L. A. Mohr. 2006. Building corporate associations: Consumer attributions for corporate socially responsible programs. *Journal of the Academy of Marketing Science* 34 (2): 147–57.
- Franke, N., E. von Hippel, and M. Schreier. 2006. Finding commercially attractive user innovations: A test of lead-user theory. *Journal of product innovation management* 23 (4): 301–15.
- Frey, B. S., and A. Stutzer. 2000. Happiness, economy and institutions. *Economic Journal* 110 (466): 918–38 (October).
- Frey, B. S., and A. Stutzer. 2002. What can economists learn from happiness research? *Journal of Economic Literature* 40 (2): 402–35.
- Füller, J., G. Jawecki, and H. Mühlbacher. 2007. Innovation creation by online basketball communities. *Journal of Business Research* 60 (1): 60–71.
- Gatignon, H., and J.-M. Xuereb. 1997. Strategic orientation of the firm and new product performance. *Journal of Marketing Research* 34 (1): 77–90.
- Griffin, A., and J. R. Hauser. 1993. The voice of the customer. *Marketing Science* 12 (1): 1–27.
- Holt, D. B. 2002. Why do brands cause trouble? A dialectical theory of consumer culture and branding. *Journal of Consumer Research* 29:70–90 (June).
- Horkheimer, M., and T. W. Adorno. 1996. *Dialectic of enlightenment*. New York: Continuum.
- Huber, J., M. B. Holbrook, and B. Kahn. 1986. Effects of competitive context and of additional information on price sensitivity. *Journal of Marketing Research* 23 (3): 250–60.
- Huber, J., and K. Zwerina. 1996. The importance of utility balance in efficient choice designs. *Journal of Marketing Research* 33 (3): 307–17.
- Jacoby, J., and L. B. Kaplan. 1972. The components of perceived risk. In: *Proceedings of the 3rd annual conference of the Association for Consumer Research*, ed. M. Venkatesan. College Park, MD: Association for Consumer Research, 382–92.
- Jaworski, B. J., and A. K. Kohli. 1993. Market orientation: Antecedents and consequences. *Journal of Marketing* 57 (3): 53–70.
- Keller, K. L. 1993. Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing* 57 (1): 1–22.
- Kelley, S. W. 1992. Developing customer orientation among service employees. *Journal of the Academy of Marketing Science* 20 (1): 27–36.
- Kirca, A. H., S. Jayachandran, and W. O. Bearden. 2005. Market orientation: A meta-analytic review and assessment of its

- antecedents and impact on performance. *Journal of Marketing* 69 (2): 24–41.
- Klein, N. 1999. *No logo*. New York: Picador.
- Kozinets, R. V. 2002. Can consumers escape the market? Emancipatory illuminations from Burning Man. *Journal Consumer Research* 29 (1): 20–38.
- Krepapa, A., P. Berthon, D. Webb, and L. Pitt. 2003. Mind the gap: An analysis of service provider versus customer perception of market orientation and the impact on satisfaction. *European Journal of Marketing* 37 (1–2): 197–17.
- Lakhani, K. 2006. Broadcast search in problem solving: Attracting solutions from the periphery. Working Paper, Sloan School of Management, MIT, Cambridge, MA.
- Lengnick-Hall, C. A. 1996. Customer contributions to quality: A different view of the customer-oriented firm. *Academy of Management Review* 21 (3): 791–24.
- Lettl, C., C. Herstatt, and H. G. Gemünden. 2006. Users' contributions to radical innovation: Evidence from four cases in the field of medical equipment technology. *R&D Management* 36 (3): 251–72.
- Lilien, G. L., P. D. Morrison, K. Searls, M. Sonnack, and E. von Hippel. 2002. Performance assessment of the lead user idea generation process. *Management Science* 46 (12): 1513–27.
- Milgrom, P., and J. Roberts. 1982. Limit pricing and entry under incomplete information. An equilibrium analysis. *Econometrica* 50 (2): 443–59.
- Mittal, B. 1995. A comparative analysis of four scales of consumer involvement. *Psychology & Marketing* 12 (7): 663–82.
- Murray, J. B., and J. L. Ozanne. 1991. The critical imagination: Emancipatory interests in consumer research. *Journal of Consumer Research* 18 (2): 129–44.
- Murray, J. B., and J. L. Ozanne. 1995. Uniting critical theory and public policy to create the reflexively defiant consumer. *American Behavioral Scientist* 38 (4): 516–25.
- Nambisan, S. 2002. Designing virtual customer environments for new product development: Toward a theory. *Academy of Management Review* 27 (3): 392–13.
- Narver, J. C., and S. F. Slater. 1990. The effect of a market orientation on business profitability. *Journal of Marketing* 54 (4): 20–35.
- Ogawa, S., and F. T. Piller. 2006. Reducing the risks of new product development. *Sloan Management Review* 47 (2): 65–71.
- Pitt, L. F., R. T. Watson, P. Berthon, D. Wynn, and G. Zinkhan. 2006. The penguin's window: Corporate brands from an open-source perspective. *Journal of the Academy of Marketing Science* 34 (2): 115–27.
- Pommerehne, W. W. 1990. The empirical relevance of comparative institutional analysis. *European Economic Review* 34 (2–3): 458–69.
- Priluck, R., and B. D. Till. 2004. The role of contingency awareness, involvement, and need for cognition in attitude formation. *Journal of the Academy of Marketing Science* 32 (3): 329–44.
- Prügl, R., and M. Schreier. 2006. Learning from leading-edge customers at *The Sims*: Opening up the innovation process using toolkits. *R&D Management* 36 (3): 237–50.
- Santerre, R. E. 1986. Representative versus direct democracy: A Tiebout test of relative performance. *Public Choice* 48 (1): 55–63.
- Sawhney, M., and E. Prandelli. 2000. Communities of creation: Managing distributed innovation in turbulent markets. *California Management Review* 42 (4): 24–54.
- Sawhney, M., G. Verona, and E. Prandelli. 2005. Collaborating to create: The Internet as a platform for customer engagement in product innovation. *Journal of Interactive Marketing* 19 (4): 4–17.
- Saxe, R., and B. A. Weitz. 1982. The SOCO Scale: A measure of the customer orientation of salespeople. *Journal of Marketing Research* 19 (3): 343–51.
- Schreier, M., and R. Prügl. 2008. Extending lead-user theory: Antecedents and consequences of consumers' lead user status. *Journal of Product Innovation Management* 25 (4): 331–46.
- Sheth, J. N., R. S. Sisodia, and A. Sharma. 2000. The antecedents and consequences of customer-centric marketing. *Journal of the Academy of Marketing Science* 28 (1): 55–66.
- Shimp, T. A., and W. O. Bearden. 1982. Warranty and other extrinsic cue effects on consumers' risk perceptions. *Journal of Consumer Research* 19 (2): 229–39.
- Slater, S. F., and J. C. Narver. 1995. Market orientation and the learning organization. *Journal of Marketing* 59 (3): 63–74.
- Stock, R., and W. D. Hoyer. 2005. An attitude-behavior model of salespeople's customer orientation. *Journal of the Academy of Marketing Science* 33 (4): 536–52.
- Stone, R. L., and K. Gronhaug. 1993. Perceived risk: Further considerations for the marketing discipline. *European Journal of Marketing* 27 (3): 39–50.
- Thomson, M., D. J. MacInnis, and C. W. Park. 2005. The ties that bind: Measuring the strength of consumers' emotional attachments to brands. *Journal of Consumer Psychology* 15 (1): 77–91.
- Trendwatching. 2006. *Customer-made: Time to tap into the global brain*. Report (May 2006) retrieved from <http://www.trendwatching.com/> (October 2006).
- Varadarajan, R. P., and P. N. Thirunarayana. 1990. 'Consumers' attitudes towards marketing practices, consumerism and government regulations: Cross-national perspectives. *European Journal of Marketing* 24 (6): 6–23.
- von Hippel, E. 1978. Successful industrial products from customer ideas. *Journal of Marketing* 42 (1): 39–49.
- von Hippel, E. 2005. *Democratizing Innovation*. Cambridge, MA: MIT Press.
- von Hippel, E., and R. Katz. 2002. Shifting innovation to users via toolkits. *Management Science* 48 (7): 821–33.
- Wathieu, L., A. V. Muthukrishnan, and B. J. Bronnenberg. 2004. The asymmetric effect of discount retraction on subsequent choice. *Journal of Consumer Research* 31 (3): 652–57.
- Winters, L. C. 1986. The effect of brand advertising on company image: Implications for corporate advertising. *Journal of Advertising Research* 26: 54–59 (April–May).
- Winters, L. C. 1988. Does it pay to advertise hostile audiences with corporate advertising? *Journal of Advertising Research* 28: 11–18 (June–July).
- Yoo, C., and D. MacInnis. 2005. The brand attitude formation process of emotional and informational ads. *Journal of Business Research* 58 (10): 1397–06.
- Zaichkowsky, J. L. 1985. Measuring the involvement construct. *Journal of Consumer Research* 12 (3): 341–52.
- Zeithaml, V. A., L. L. Berry, and A. Parasuraman. 1996. The behavioral consequences of service quality. *Journal of Marketing* 60 (2): 31–46.
- Zimmerman, M. A., and J. Rappaport. 1988. Citizen participation, perceived control, and psychological empowerment. *American Journal of Community Psychology* 16 (5): 725–50.

Appendix. Measurement Items

(Rating items are measured on seven-point scales where 1 = strongly disagree and 7 = strongly agree)

(1) Pilot Study

- *Level of engineering* (items are based on the work of Anderson, 1985). These are highly engineered products. Developing such products is technologically (technically) highly demanding. These products are technologically very complex.
- *Risk* (items are adapted from Shimp and Bearden, 1982; Stone and Gronhaug, 1993). Financial risk: The purchase decision for such products is associated with high financial risk. Functional risk: The risk that these products will not perform as expected (after purchase) is high. Physical risk: If these products do not work as expected, they pose a physical (safety) risk to me (e.g., risk of injury).

(2) Study 1 (T-shirts)

- *Specific product category involvement* (items are adapted from Mittal, 1995). How much do you like this kind of T-shirt? How likely is it that you will buy a comparable T-shirt within the next month?
- *General product category involvement* (items are taken from Zaichkowsky, 1985). To me, this product category . . . is important/unimportant; means a lot to me/means nothing to me; matters to me/does not matter to me.
- *Product attitudes* (items are taken from Priluck and Till, 2004; Yoo and MacInnis, 2005). What is your attitude toward the designs of Threadless T-shirts? bad/good; dislike very much/like very much; boring/interesting; not appealing/appealing; unpleasant/pleasant; inferior/superior.
- *Newness of campaign* (items are taken from Cox and Locander, 1987). In general, I think that the Threadless campaign is . . . very unusual; very new.
- *Credibility of campaign* (items are taken from Brackett and Carr, 2001). In general, I think that the Threadless campaign is . . . highly credible; very believable.
- *Perceived customer orientation* (items are adapted from Brady and Cronin, 2001; Saxe and Weitz, 1982). In general, what is your attitude toward the company Threadless? This company tries to help customers to achieve their goals; . . . has the customers' best interest in mind; . . . tries to figure out what customers' needs are; . . . tries to find out what kind of product would be most helpful to a customer; . . . tries to get customers to discuss their needs with them; Customers can count on this company to take action to address customers' needs.

(3) Study 2 (T-shirts)

- *Product attitudes* (items are taken from Priluck and Till, 2004; Yoo and MacInnis, 2005). What is your attitude toward the T-shirts of company? dislike/like; boring/interesting; not appealing/appealing; unpleasant/pleasant; inferior/superior.
 - *Corporate brand attitudes* (items are adapted from Yoo and MacInnis, 2005). Based on the information you have, please comment on your attitudes toward company: dislike/like; negative/positive; very bad/very good; not interesting/very interesting.
 - *Behavioral intentions* (items are adapted from Brady and Cronin, 2001; Thomson, MacInnis, and Park, 2005; Zeithaml et al. 1996). Purchase intention: Imagine you had the chance to buy a T-shirt from one of those companies. From which company would you be most likely to buy one? (Company A, B, C, or D); Loyalty intention: I most would likely see myself as a loyal customer of Company __ in the future; Word-of-mouth intention: For which company would you provide the most positive word-of-mouth advertising? Corporate commitment: I feel most strongly committed to Company __; I feel the strongest bond to Company __.
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