Customer Empowerment in New Product Development

Christoph Fuchs and Martin Schreier

A later version of this paper (accepted in fall 2008) has been published in the

Abstract: 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 which 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). In this article, the authors provide 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) and/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) the
authors find that both customer empowerment dimensions (as well as its interaction) 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 non-empowering
companies, ceteris paribus. Customer empowerment thus constitutes a promising positioning
strategy which managers can pursue in order to create a competitive advantage in the
marketplace.
1. Introduction

In this article, the authors argue and show that companies which foster customer empowerment in new product development (NPD), that is, companies which allow customers to create (ideas for) new product designs and/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 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 et al., 2006; Nambisan, 2002; Sawhney and Prandelli, 2000; Sawhney et al., 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, 2005). Enthusiastic software users have collectively developed products which are now seriously competing with – if not outperforming – commercial software created by corporate 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, 2005). Many users have been found to innovate for themselves, and many such user innovations are
characterized by high commercial attractiveness (cf. Franke et al., 2006; Schreier and Prügl, 2008).

These findings have encouraged companies across many industries to empower customers by allowing them to take control of processes which used to be the exclusive domain of marketers. For example, Adidas, BMW, Ducati, Procter & Gamble, 3M and many others have created online platforms which 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 produced (see Figure 1). Therefore, customers may be empowered to (1) submit (ideas for) new products (empowerment to create) and/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 which 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) which 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 which 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 which receive a substantial number of customer pre-orders (“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 marketable product and integrated into one of their product lines. Some of these successful user designs lead to radical new products which clearly outperform concepts developed by traditional means. Interestingly enough, Muji not only democratizes innovation but also their profits through a profit-sharing model for users whose ideas are marketed.

In summary, there are strong arguments which 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 (e.g., Dahan and Hauser, 2002; Lilien et al., 2002; Ogawa and Piller, 2006). Customer empowerment, however, not only affects 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 et al., 2000). As Pitt et al. (2006) suggest, it might also affect 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 article provides an analysis of how customers perceive companies which employ customer empowerment to “create” and/or “select” strategies in NPD. In particular, the focus of analysis is not on those 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 non-participating customers will perceive a company which 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 non-empowering 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.

2. Study 1: Customer Empowerment in NPD and Perceived Customer Orientation

2.1 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 those 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 to the relationship between customers and a single company) or to an indirect (representative) democracy (denoting to 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 only the power 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 *co-create* 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 which allow the greatest degree of customer participation (Frey and Strutzer, 2000; Santerre, 1986). Regardless of whether people actually participate or not (i.e., make us of their right), they ultimately feel less under the control of the classe politique (Frey and Strutzer, 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 industrielle) 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, 1990) and driven consumers to launch a quest for greater sovereignty and empowerment (Holt, 2002; Kozinets, 2002; Murray and Ozanne, 1991; Murray and Ozanne, 1995).

Perceived Customer Orientation. Against this backdrop, the main premise of Study 1 is that customers will also show a stronger preference for companies which 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 et al. (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 on 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., 1993; 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 et al., 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 et al., 1989; Lengnick-Hall, 1996). From the customer’s perspective, it is primarily his/her perception which determines a firm’s degree of customer orientation (Krepapa et al., 2003). It is also this perception which 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 not only be impacted 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; Krepapa et al., 2003; 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” and/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 co-develop new designs and/or 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). It is therefore hypothesized:

HYPOTHESIS 1a. *Non-participating customers (“observers”) will perceive companies which sell products (co-)designed by users (i.e., which empower users to create) as more customer-oriented than zero-empowerment companies.*

HYPOTHESIS 1b. *Non-participating customers (“observers”) will perceive companies which sell products chosen by users (i.e., which empower users to select) as more customer-oriented than zero-empowerment companies.*

HYPOTHESIS 1c. *Non-participating customers (“observers”) will perceive companies which sell products (co-)designed and chosen by users (i.e., which empower users to create and to select) as more customer-oriented than zero-empowerment companies.*
Thus, it is expected that all three empowerment cells (Figure 2) 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 below.

2.2 Method

Overview and pilot study. The authors designed a between-subject experiment to test Hypothesis 1. In this context, different product categories and different samples were employed in order 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/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 asked to rate the categories' level of engineering (alphas for all three product categories ≥ .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’s < 0.001).
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).

[INSERT TABLE 1 ABOUT HERE]

**Participants.** In the context of T-shirts, undergraduate students (n = 190) were interviewed at a large European university (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), non-student 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 below). 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. In order 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 co-creation – 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 by Muji, for example; 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 twelve 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 complete a short questionnaire containing items which 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 ≥ 0.70/≥ 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).

2.3 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 can not identify any significant differences between groups in terms of product attitudes, which points to the absence of any carry-over 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 ($p < 0.05$) between groups with regard to newness. However, in this context it is important to note that the findings related to
hypothesis tests as reported below are not affected (i.e., similar effect sizes and significance levels are obtained if ANCOVAs instead of ANOVAs are run; thus accounting for newness as a covariate in the model).

Fourth, and most importantly, the authors find support for Hypothesis 1. Participants do perceive companies which 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: 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; \( p = 0.01, 0.03 \) and 0.00, respectively). The results remain robust when the zero-empowerment scenario is exchanged for the no-cue scenario (Group 5: mean = 4.16; \( p = 0.01, 0.05 \) and 0.00, respectively; the differences in means between Groups 1 and 5 are insignificant). The results are similar for furniture: the “co-create” (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; \( p \) values < 0.001). Third, findings also hold in the bicycle sample. Compared to zero empowerment (Group 1: mean = 4.22), perceived customer orientation is significantly higher (\( p \) values < 0.01) 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”.

[INSERT TABLE 3 ABOUT HERE]

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

3.1 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, 1996; Berens et al., 2005; Brown and Dacin, 1997). In fact, customer orientation has been noted as a positive and effective means of creating favorable corporate ability associations (Brown and Dacin, 1997). On the other hand, consumers
might form negative attitudes toward totalitarian companies which exert too much power (Bernstein et al., 2000; Chun and Davies, 2006). It is therefore hypothesized that companies which empower their customers in NPD will see more favorable corporate attitudes from non-participating customers than companies which do not empower their customers, ceteris paribus.

HYPOTHESIS 2a. Non-participating customers (“observers”) will form more favorable attitudes toward companies which sell products (co-)designed by users (i.e., which empower users to create) than toward zero-empowerment companies.

HYPOTHESIS 2b. Non-participating customers (“observers”) will form more favorable corporate attitudes toward companies which sell products chosen by users (i.e., which empower users to select) than toward zero-empowerment companies.

HYPOTHESIS 2c. Non-participating customers (“observers”) will form more favorable attitudes toward companies which sell products (co-)designed and chosen by users (i.e., which empower users 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 literature cited above. 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, 2001). 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 et al., 2006; Milgrom and Roberts, 1982). Thus:

**HYPOTHESIS 3a.** Non-participating customers (“observers”) will demonstrate more favorable behavioral intentions toward companies which sell products (co-)designed by users (i.e., which empower users to create) than toward zero-empowerment companies.

**HYPOTHESIS 3b.** Non-participating customers (“observers”) will demonstrate more favorable behavioral intentions toward companies which sell products chosen by users (i.e., which empower users to select) than toward zero-empowerment companies.

**HYPOTHESIS 3c.** Non-participating customers (“observers”) will demonstrate more favorable behavioral intentions toward companies which sell products (co-)designed and chosen by users (i.e., which empower users to create and to select) than toward zero-empowerment companies.

As in Study 1, it is thus expected that all three empowerment cells (Figure 2) score higher on corporate attitudes and behavioral intentions than zero-empowerment (the conceptual benchmark). It is again noted that the authors do not make any corroborated claims related to differences between the different empowerment scenarios but instead, again report those differences in an exploratory manner below.

### 3.2 Method

**Overview.** As in Study 1, different product categories (once again T-shirts, furniture, and folding bicycles) and different samples (students and mixed samples) were employed in order to attain a
high level of generalizability. In Study 2, however, a within-subject design was employed to test Hypotheses 2 and 3. A within-subject design was primarily chosen because behavioral intentions were aimed to be operationalized as choice questions (allowing respondents to choose the company/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 et al., 1986; Wathieu et al., 2004). Moreover, this design appears to be more externally valid compared to evaluating only one isolated company/scenario because participants need to make direct trade-off decisions, and this design thus allows to provide 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). In order to eliminate the effects of any existing company knowledge/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. As regards 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) / “empowerment to co-create” (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). In order 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/the four sets of products (i.e., the order of empowerment strategies was randomized). After each task, participants completed a short questionnaire containing items which measure product attitudes (control variable, alphas for all three product categories ≥ .93) and corporate attitudes (dependent variable to test H2, alphas ≥ .93). At the end of the experiment (after the four tasks), respondents completed a set of multiple-choice questions which captured their behavioral intentions (dependent variable to test H3). The Appendix lists these items, all of which were taken from the relevant literature.

3.3 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 product attitudes (this also indicates that it is very unlikely that certain demand effects might be
at work). Second, the authors find support for Hypothesis 2: 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; $p < 0.10$ and 0.05, respectively). In support of H2c it is also found that full empowerment produces significantly stronger corporate attitudes (mean = 4.71) than zero empowerment ($p < 0.01$). In a similar vein, the “empowerment to co-create” (mean = 4.76), “empowerment to select” (mean = 4.76) as well as the full empowerment scenario (mean = 5.18) are clearly superior in terms of corporate attitudes compared to the zero-empowerment scenario in the case of furniture (mean = 4.00; $p$ values < 0.001). Third, the same patterns are found for bicycles: “co-create” (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; $p$ values < 0.001). 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 ($p$ values < 0.01 for furniture and $p$ values < 0.10 for bicycles). Finally, it is noted that corporate attitudes generally appear to be
somewhat lower in the case of “(co-)create” empowerment as compared to “select” empowerment. These effects, however, are only significant in the bicycle sample ($p < 0.05$).

Third, and most importantly, the authors also find support for Hypothesis 3. Customer empowerment in NPD pays off because customers develop significantly stronger behavioral intentions compared to 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 0.04 to 0.00) 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 percent (!) 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/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, observed frequencies generally appear to be somewhat lower for “(co-)create” than for “select” empowerment.

4. Discussion
In the course of two studies the authors were able 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 which empower their customers a) to (co-)create new products which are then marketed to the public or b) 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 its interaction) lead to higher perceived customer orientation, more favorable corporate attitudes, and more favorable behavioral intentions (keeping product quality constant) compared to 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 which empower 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 article 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 non-empowering companies, ceteris paribus. It seems logical that this can provide start-ups in particular with a clear indication of how they can differentiate themselves in order to enter a (mature) market successfully. Since customer empowerment is associated with positive corporate associations, it constitutes a promising positioning strategy which managers can pursue in order 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 which 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 *co*-create (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 and/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 et al., 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 their peer users are.

Second, the experiments contained mostly “black and white” comparisons (empowerment versus 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 “only” add highly attractive product modules developed by users (as can be seen, for example, in the statistics software Stata or the computer game The Sims; von Hippel and Katz, 2002; Prügl and Schreier, 2006). 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 authors only established 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, suchlike 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 was stressed (Calder et al., 1981). Most importantly, product quality was held constant in both experiments (or in other words, only empowerment was manipulated) in order to test the hypotheses. In reality (non-artificial settings), however, specific approaches to NPD (degree of empowerment) will certainly also influence the resulting products. Future research might thus employ non-experimental survey designs to
establish whether the reported findings are generalizable to more natural purchase settings where, for example, also product quality (and other relevant variables like price etc.) 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 or not 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 – and even more companies plan to do so – in order to develop more competitive products.
References


Figure 1: Customer empowerment strategies in NPD

1. Who creates new designs?

2. Who decides which designs will be produced?

- **No empowerment**
  - (1. company / 2. company)

- **"Create" empowerment**
  - (1. users / 2. company)

- **"Select" empowerment**
  - (1. company / 2. users)

- **Full empowerment**
  - (1. users / 2. users)
Table 1: Perceived risk and level of engineering associated with T-shirts, furniture, and bicycles

<table>
<thead>
<tr>
<th></th>
<th>Engineering</th>
<th>Overall risk</th>
<th>Financial risk</th>
<th>Functional risk</th>
<th>Physical risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SE)</td>
<td>M (SE)</td>
<td>M (SE)</td>
<td>M (SE)</td>
<td>M (SE)</td>
</tr>
<tr>
<td>T-shirts</td>
<td>1.57 (.15)</td>
<td>1.35 (.11)</td>
<td>1.34 (.13)</td>
<td>1.41 (.16)</td>
<td>1.31 (.15)</td>
</tr>
<tr>
<td></td>
<td>LOW</td>
<td>LOW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Furniture</td>
<td>3.14 (.22)</td>
<td>3.19 (.18)</td>
<td>3.94 (.24)</td>
<td>2.66 (.26)</td>
<td>2.70 (.29)</td>
</tr>
<tr>
<td></td>
<td>MEDIUM</td>
<td>MEDIUM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycles</td>
<td>4.72 (.24)</td>
<td>4.77 (.20)</td>
<td>4.44 (.27)</td>
<td>4.44 (.32)</td>
<td>5.44 (.29)</td>
</tr>
<tr>
<td></td>
<td>HIGH</td>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-value</td>
<td>67.464</td>
<td>97.334</td>
<td>98.737</td>
<td>31.319</td>
<td>74.103</td>
</tr>
<tr>
<td>p-value</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Notes: All variables are measured on seven-point scales (1 = low; 7 = high); \( n = 32 \). All pairwise comparisons (engineering and overall risk) are significant at \( p < 0.001 \).
Table 2: Manipulations used in Study 1 (T-shirts)

<table>
<thead>
<tr>
<th>Group</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General information</td>
<td>Threadless 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 <em>limited edition</em> basis every three months (1,000 shirts per design worldwide).</td>
</tr>
<tr>
<td>Group 1 (zero empowerment)</td>
<td>This is how the new T-shirt design line is developed: They ask professional Threadless designers to <em>create</em> (submit) highly creative designs. 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 Threadless company selects the 12 best designs to be included in the NEW DESIGN LINE.</td>
</tr>
<tr>
<td>Group 2 (empowerment to create)</td>
<td>This is how the new T-shirt design line is developed: They ask enthusiastic Threadless customers from all over the world to <em>create</em> (submit) highly creative designs – 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 Threadless company selects the 12 best designs to be included in the NEW DESIGN LINE.</td>
</tr>
<tr>
<td>Group 3 (empowerment to select)</td>
<td>This is how the new T-shirt design line is developed: They ask their professional Threadless designers to <em>create</em> (submit) highly creative designs. 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, Threadless customers from all over the world select (“vote for”) the 12 best designs to be included in the NEW DESIGN LINE.</td>
</tr>
<tr>
<td>Group 4 (full empowerment)</td>
<td>This is how the new T-shirt design line is developed: They ask enthusiastic Threadless customers from all over the world to <em>create</em> (submit) highly creative designs – 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, Threadless customers from all over the world select (“vote for”) the 12 best designs to be included in the NEW DESIGN LINE.</td>
</tr>
<tr>
<td>Group 5 (no cue)</td>
<td>-</td>
</tr>
<tr>
<td>General information</td>
<td>Have a look at the outcome of the first edition.</td>
</tr>
</tbody>
</table>
Table 3: Customer empowerment and customer orientation (Study 1 findings)

<table>
<thead>
<tr>
<th></th>
<th>Group 1: Zero empowerment</th>
<th>Group 2: Empowerment to create</th>
<th>Group 3: Empowerment to select</th>
<th>Group 4: Full empowerment</th>
<th>Group 5: No cue</th>
<th>Significance tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>F-value (p-value)</td>
</tr>
<tr>
<td><strong>T-shirts</strong></td>
<td>(n = 41)</td>
<td>(n = 38)</td>
<td>(n = 37)</td>
<td>(n = 40)</td>
<td>(n = 34)</td>
<td></td>
</tr>
<tr>
<td>Hypothesis 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer orientation</td>
<td>4.15 (1.23)</td>
<td>4.81 (1.05)</td>
<td>4.67 (0.79)</td>
<td>4.98 (1.10)</td>
<td>4.16 (1.01)</td>
<td>4.998 (0.00)</td>
</tr>
<tr>
<td>Control variables:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific p.cat. involvement</td>
<td>2.96 (1.48)</td>
<td>2.67 (1.17)</td>
<td>3.03 (1.37)</td>
<td>2.96 (1.26)</td>
<td>3.18 (1.49)</td>
<td>0.671 (0.61)</td>
</tr>
<tr>
<td>General p.cat. involvement</td>
<td>3.19 (1.50)</td>
<td>3.86 (1.34)</td>
<td>3.99 (1.41)</td>
<td>3.72 (1.57)</td>
<td>3.82 (1.44)</td>
<td>1.759 (0.14)</td>
</tr>
<tr>
<td>Product attitudes</td>
<td>4.97 (1.11)</td>
<td>4.89 (1.01)</td>
<td>5.00 (0.78)</td>
<td>5.11 (0.83)</td>
<td>4.82 (1.03)</td>
<td>0.525 (0.72)</td>
</tr>
<tr>
<td>Newness</td>
<td>4.39 (1.38)</td>
<td>4.87 (1.29)</td>
<td>4.49 (1.28)</td>
<td>4.82 (1.39)</td>
<td>4.50 (1.39)</td>
<td>1.000 (0.41)</td>
</tr>
<tr>
<td>Credibility</td>
<td>4.63 (1.39)</td>
<td>4.39 (1.34)</td>
<td>4.53 (1.44)</td>
<td>4.41 (1.50)</td>
<td>4.37 (1.44)</td>
<td>0.222 (0.93)</td>
</tr>
</tbody>
</table>

| **Furniture**          | (n = 41)                  | (n = 47)                      | (n = 40)                       | (n = 38)                 |               |                   |
| Hypothesis 1:          |                           |                               |                                |                          |               |                   |
| 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)     |

Notes: All 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 < 0.01); (1) – (3) (p < 0.05); (1) – (4) (p < 0.001)
Customer orientation: Furniture: (1) – (2) (p < 0.001); (1) – (3) (p < 0.001); (1) – (4) (p < 0.001)
Table 3 cont.: Customer empowerment and customer orientation (Study 1 findings)

<table>
<thead>
<tr>
<th></th>
<th>Group 1: Zero empowerment (n = 41)</th>
<th>Group 2: Empowerment to create (n = 38)</th>
<th>Group 3: Empowerment to select (n = 37)</th>
<th>Group 4: Full empowerment (n = 40)</th>
<th>Significance tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>F-value (p-value)</td>
</tr>
<tr>
<td>Bicycles</td>
<td>(n = 36)</td>
<td>(n = 42)</td>
<td>(n = 44)</td>
<td>(n = 38)</td>
<td></td>
</tr>
<tr>
<td>Hypothesis 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer orientation</td>
<td>4.22 (1.51)</td>
<td>5.30 (1.15)</td>
<td>5.14 (1.15)</td>
<td>5.63 (1.36)</td>
<td>8.019 (0.00)</td>
</tr>
<tr>
<td>Control variables:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific p.cat. involvement</td>
<td>2.36 (1.42)</td>
<td>2.65 (1.54)</td>
<td>2.74 (1.48)</td>
<td>2.45 (1.32)</td>
<td>0.589 (0.62)</td>
</tr>
<tr>
<td>General p.cat. involvement</td>
<td>2.70 (1.63)</td>
<td>2.83 (1.56)</td>
<td>2.93 (1.66)</td>
<td>2.87 (1.60)</td>
<td>0.145 (0.93)</td>
</tr>
<tr>
<td>Product attitudes</td>
<td>4.16 (1.57)</td>
<td>4.31 (1.70)</td>
<td>4.49 (1.32)</td>
<td>4.40 (1.40)</td>
<td>0.353 (0.79)</td>
</tr>
<tr>
<td>Newness</td>
<td>4.29 (1.68)</td>
<td>4.50 (1.56)</td>
<td>4.64 (1.77)</td>
<td>5.00 (1.76)</td>
<td>1.157 (0.33)</td>
</tr>
<tr>
<td>Credibility</td>
<td>4.24 (1.53)</td>
<td>4.58 (1.40)</td>
<td>4.56 (1.38)</td>
<td>4.62 (1.34)</td>
<td>0.580 (0.63)</td>
</tr>
</tbody>
</table>

Notes: All variables are measured on seven-point scales (1 = low; 7 = high). Significant differences between empowerment scenarios are observed for:
Customer orientation: Bicycles: (1) – (2) (p < 0.001); (1) – (3) (p < 0.01); (1) – (4) (p < 0.001)
## Table 4: Customer empowerment and corporate attitudes (Study 2 findings)

<table>
<thead>
<tr>
<th></th>
<th>(1) Zero empowerment Mean (SE)</th>
<th>(2) Empowerment to create Mean (SE)</th>
<th>(3) Empowerment to select Mean (SE)</th>
<th>(4) Full empowerment Mean (SE)</th>
<th>Significance tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T-shirts (n = 92)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate attitudes</td>
<td>4.20 (0.13)</td>
<td>4.49 (0.14)</td>
<td>4.57 (0.14)</td>
<td>4.71 (0.14)</td>
<td>3.063 (0.03)</td>
</tr>
<tr>
<td>Control variable:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product attitudes</td>
<td>4.17 (0.14)</td>
<td>4.20 (0.15)</td>
<td>4.23 (0.14)</td>
<td>4.35 (0.14)</td>
<td>0.425 (0.74)</td>
</tr>
<tr>
<td><strong>Furniture (n = 158)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate attitudes</td>
<td>4.00 (0.09)</td>
<td>4.76 (0.11)</td>
<td>4.76 (0.10)</td>
<td>5.18 (0.10)</td>
<td>25.156 (0.00)</td>
</tr>
<tr>
<td>Control variable:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product attitudes</td>
<td>4.35 (0.11)</td>
<td>4.28 (0.13)</td>
<td>4.36 (0.12)</td>
<td>4.43 (0.12)</td>
<td>0.320 (0.81)</td>
</tr>
<tr>
<td><strong>Bicycles (n = 153)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate attitudes</td>
<td>3.69 (0.10)</td>
<td>4.67 (0.11)</td>
<td>4.90 (0.10)</td>
<td>5.09 (0.11)</td>
<td>31.801 (0.00)</td>
</tr>
<tr>
<td>Control variable:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product attitudes</td>
<td>3.77 (0.12)</td>
<td>3.94 (0.12)</td>
<td>3.98 (0.13)</td>
<td>4.04 (0.13)</td>
<td>1.142 (0.33)</td>
</tr>
</tbody>
</table>

**Notes:** 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 < 0.10); (1) – (3) (p < 0.05); (1) – (4) (p < 0.01);
- Corporate attitudes: Furniture: (1) – (2); (1) – (3); (1) – (4) (p values < 0.001); (2) – (4); (3) – (4) (p values < 0.01)
- Corporate attitudes: Bicycles: (1) – (2); (1) – (3); (1) – (4) (p values < 0.001); (2) – (3) (p < 0.05); (2) – (4) (p < 0.001); (3) – (4) (p < 0.10)
Table 5: Customer empowerment and behavioral intentions (Study 2 findings, cont’d.)

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

Notes:
O = Observed;
E = Expected (assuming a uniform distribution)
Appendix: Measurement Items
(Rating items are measured on 7-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 and 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 and 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/appicing; 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, 2003 and 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 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 and Yoo and MacInnis, 2005). What is your attitude toward the T-shirts of company __? dislike/like; boring/interesting; not appealing/appicing; 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 et al., 2005 and 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 __

* Since the authors were interested in consumer preferences for one brand over another, hypothetical behavior was measured with choice questions. Each focal behavioral intention construct (purchase, loyalty etc.) can be regarded as concrete in nature, therefore measurement with single items corresponds to the state of the art in measurement theory (and thus no alpha is reported; Bergkvist and Rossiter, 2007).