

# **Collective Customer Commitment: Turning market research expenditures into sales**

SUSUMU OGAWA,

Graduate School of Business of Kobe University, Japan

(ogawa@kobe-u.ac.jp)

FRANK T. PILLER,

TUM Business School, Munich, Germany, and MIT Sloan School of Management, USA,

(piller@mit.edu)

October 2005. Forthcoming in a revised version in January 2006 in:  
Sloan Management Review, Vol. 47 (Winter 2006).

*Forecasting the demand for new products is becoming increasingly difficult in many markets. But collective customer commitment, a new method to decrease the flop rate of new products, offers a solution by integrating customers deeply in the innovation process and asking for their commitment to purchase before development is finalized and manufacturing starts.*

The manufacturer's nirvana is to develop and produce exactly what its customers want and when they want it and to do this with no risk of overstocks or inventory. The increasing heterogeneity of demand, a rapid change of preferences, and the resulting micro-segmentation of many product categories however prevents manufacturers to reach this state easily. In many consumer goods markets, manufacturers today are forced to create fitting assortments for smaller market niches than ever, as these markets frequently are the only way for growth and to escape from heavy price competition. In such a situation, new product development projects often cause enormous investments and are highly risky. While new products or

product variants have to be developed and introduced at high pace, forecasting their exact specification and potential sales volumes is becoming more difficult than ever. Recent research studies confirm large failure rates in new product commercialization.<sup>1</sup> Newly launched products have shown notoriously high failure rates over the years, often reaching fifty percent or more. The primary reason for these flops has been found to be inaccurate understanding of user needs. Many new product development projects are unsuccessful because of poor commercial prospects rather than due to technical problems. Research found that timely and reliable information on customer preferences and requirements is the most critical information for successful product development.<sup>2</sup> Conventionally, heavy investments in market research are seen as the only measure to access this information.

## **Threadless.com's idea to substitute market research expenditures by sales**

But Threadless, a young Chicago-based fashion company follows an innovative business model that allows it to create a high variety of products without risk and without heavy investments in market research to access customer preferences before production starts. In fact, it follows a strategy that turns market research expenditures into quick sales. Started in 2000 by designers Jake Nickell and Jacob DeHart, Threadless focuses on a hot fashion item, t-shirts with colorful graphics. This is a typical hit-or-miss product. Its success is defined by fast changing trends, peer recognition, and finding the right distribution outlets for specific designs. Despite these challenges, none of the company's many product variants ever flopped. But Threadless has neither sophisticated market research or forecasting capabilities nor a complicated flexible manufacturing system.

Rather, all products sold by Threadless are inspected and approved by user consensus before any larger investment is made into a new product. Only after a sufficient number of customers have expressed their explicit willingness to buy a new design, the garment is produced. If this commitment is missing, a potential design concept is dismissed. But if enough customers pledge to purchase the product, the design will be finalized and go into production. In this way, market research expenditures are turned into early sales. New designs regularly sell out fast, but are reproduced only if a large enough number of additional customers commit to purchase a reprint. Some customers are even integrated deeper in the new product development process. All new designs are submitted entirely by the community, which

includes hobbyists, but also professional graphic designers. The company exploits a large pool of talent and ideas to get new designs (much larger than it could afford if the design process would have been internalized). Creators of submissions which are selected by other users get a \$1000 reward, and their name is printed on the particular t-shirt's label. Since Threadless' opening, over 400 winning designs have been chosen for print from more than 35,000 submissions. The Threadless community is thriving with over 120,000 users signed up to submit, evaluate, score, and purchase new designs.

This method, which we call *collective customer commitment*, exploits the commitment of users to screen, evaluate and score new designs as a powerful mechanism to reduce flops of new products. The method breaks with the known practices of new product development. It utilizes the capabilities of customers and users for the innovation process.<sup>3</sup> The process starts when an idea for a product is posted on a dedicated web site by either a (potential) customer or the developers of a manufacturer. Second, reactions and evaluations of other consumers towards the posted idea are encouraged in form of internet forums and opinion polls. Based on the results of this process, the manufacturer investigates the possibility of commercialization of the most popular designs. If this evaluation is positive, the company decides about a minimum amount of purchasers necessary to produce the item for a given sales price, covering its initial development and manufacturing costs (and the desired margin). The new product idea is then presented to the customer community, and interested customers are invited to express their commitment to this idea by voting for the design or even placing an order. Accordingly, only if the number of interested purchasers exceeds the minimum necessary lot size, investments in final product development are made, merchandising is settled and sales are commenced.<sup>4</sup>

At Threadless, the entire business model is based on collective customer commitment. Users can evaluate each week between 400 and 600 new designs on a scale from zero ("I don't like this design") to five ("I love this design"). In average, each design is scored by 1500 people. A good score corresponds to a value above 3.0. But in addition, customers not only express their marked preference for specific designs, but can also opt-in to purchase the design directly once it has been chosen by the collective. For this, they check a box "I'd buy it" next to the scale. From the designs receiving the top votes and largest commitment of users to purchase, Threadless is producing today between four to six new products each week. To keep the competition interesting and encourage users to participate continuously, the number of designs at one give time has to be limited so that users don't get confused. Usually, each

design gets seven days to be scored. But if a new design has received a low arbitrary score (made up of multiple variables including the number of “I’d buy it” requests and the design’s average score) within the first 24 hours of its posing, it will be dropped from the running. This happens to about one third of the submissions. The early user feedback has proven to be a very strong indicator of the success of a design in the competition and enables the company to increase the usability and experience for users who vote. Motivated by its success in the fashion market, Threadless’ founders have recently extended their categories to formal wear like ties or polo shirts (NakedandAngry.com) or music (15MegsofFame.com).<sup>5</sup>

## **Failure of conventional market research**

Contrast Threadless’ model of collecting customer purchase orders in advance of expenditures on detailed design and production with the conventional model of conducting market research and building agile manufacturing systems. Common wisdom says that to learn about customer preferences and requirements, companies should invest in market research activities. To transfer this information into fitting assortments with short lead times, many companies have built large systems of quick response manufacturing or even mass customization. But these measures are often costly and do not deliver what companies expect.

Consider market research: Questionnaires, surveys, or interviews ask consumers what they like and dislike. Among the methods for testing new concepts, the most common are focus groups. They are popular because the results are easy to interpret and the method is fast, inexpensive, flexible, and confidential. Unfortunately, focus group research has a number of severe limitations.<sup>6</sup> One problem is that the results from a test with a few consumers are not a reliable indicator of the reactions of the broader population. In addition, focus groups lack realism. Consumers have to react to verbal descriptions of concepts or a rendering of a product. As a consequence, this research method tends to underestimate the benefits of a truly unique new product concept. Focus group research – and most other common market research methods – also does not measure real consumer purchasing behavior. It reveals information about the consumers’ attitudes toward new products or their intentions to purchase them. But it does not provide quantitative estimates of sales, market share, product cannibalization, and profitability. More reliable and accurate measures like test markets are demanding expensive set-ups and take very long to deliver results. Also, there is a high level of noise in these tests like competitors’ activities, manufacturers’ advertising, and economic change. Finally, most market research measures demand background data to calibrate forecasting or to correct for

biases in stated purchase intentions. This data may be available in established categories for consumer packaged-goods, but not for radical innovations or products targeting highly heterogeneous market segments.

Anticipating these problems, many companies perform no market research at all. Studies of the actual practice of market research report that companies regularly fail to undertake thorough market research and use only very few of the available tools and methods to include customer input in the development process. A survey of Fortune 500 firms found that only the focus groups method was used by more than the half of the companies studied, and only two other methods (limited rollouts and concept tests) were used by more than 25% of the respondents.<sup>7</sup> Also our own interviews with executives of consumer goods companies stressed the understanding that, despite prominent exceptions like Procter&Gamble or Unilever, most firms do not regularly survey their potential customers when introducing a new product. This is rather surprising, given the huge amount of scholarly study and a whole industry providing these market research services. One frequent excuse is that customers are difficult to predict: they often cannot express what they want or are internally inconsistent, often many people with different needs are involved in one purchase decision, and it is likely that customers have changed their mind by the time the product is launched. As a result, many manufacturers tend to stick with existing assortments, building their new products first of all on a revision of the existing offerings. This may improve the capability to forecast demand for new variants, but places suppliers in a persistent danger to miss important trends. It also prevents them to surprise their customers with really new products and innovative applications.

## **Collective customer commitment versus postponement and mass customization**

Thus, manufacturers had to find new ways to increase the probability in meeting heterogeneous and fast changing customer needs. Studies have shown that the forecasting accuracy can be improved dramatically after observing just twenty percent of the initial sales of an item.<sup>8</sup> Companies have reacted on this insight by delaying some activities, rather than starting them with incomplete information input, to cope better with environmental uncertainty inherent to dynamic markets. In such a *postponement* strategy, manufacturing is split into two phases: in an initial phase, (generic) components are build-to-stock, and in a second stage, these components are transferred into the final product specification once more

information about the market demand is available.<sup>9</sup> Connected with postponement, but different in nature, is *mass customization*. While in a postponement system the products are typically pre-defined by the supplier, with mass customization this process is reversed. It starts with customers co-designing their products, using a configuration system to specify their preferences. The individualized product is then manufactured on-demand.

Postponement and mass customization offer additional flexibility to minimize the new product development risk, but this flexibility does not come without costs. Both strategies require a redesign of the products and processes. This includes the creation of modular product family structures and often heavy investments in new flexible machinery equipment. For mass customization, also an elicitation system has to be in place to access the preferences of each individual customer and to transfer them into a precise product definition. On the operational level, postponement and mass customization imply costs of less efficient processing. As a result, mass customization and postponement are discussed broadly in the management literature, but rather few companies have implemented these strategies successfully today.<sup>10</sup>

Now compare Threadless' method to postponement and mass customization (*see Figure below*). Threadless has substituted conventional market research by deep continuous interactions with its customers. It does not ask its customers what they want to wear, but gives them a platform where they can express themselves and design these products. But most important and contrarily to earlier observations of customer or user driven innovation (see below), Threadless also transfers the decision process about what will be produced or not into the customer domain. Threadless provides its customer community the capability to organize themselves and collect consensus over the most favorable upcoming products. Remember: Only if enough customers pledge to purchase a new product design, the design will be finalized and go into production. In this way, market research expenditures are turned into early sales.

Threadless also needs less flexibility in its manufacturing system. Instead of investing in highly flexible manufacturing systems and dealing with individual custom designs, the company focuses its energy to motivate creative designers to submit new designs and facilitates the evaluation and voting process in its customer community. Contrarily to postponement, it only starts the *full* manufacturing cycle after customers have shown their real commitment to purchase a particular item, eliminating the risk of product flops while allowing still for economies of scale. It also has not to make risky decisions about pre-

fabrication or the optimal point of postponement. Compared to mass customization, Threadless has not to interact with individual customers and to run manufacturing lots of one. The costly elicitation process is substituted by an early involvement of some (expert) customers in development and the refinement of their ideas and pre-order taking by a larger group of customers. Likewise from the customers' perspective, the effort and risk to decide about a custom design – mandatory in a mass customization configurator – is replaced by the security of peer-evaluated products.

*Figure: The collective customer commitment method combines ideas of postponement and mass customization, but adds own characteristics as well*

<b>Postponement Strategy</b>	<b>Mass Customization</b>	<b>Collective Customer Commitment Method</b>
new product development by manufacturer (based on market research input)	development of product architecture and customization options by manufacturer	development of new product design by some (expert) customers
▼	▼	▼
prefabrication of (some) components	customer co-design process (elicitation)	evaluation and refinement of design by manufacturer <i>and</i> customer community
▼	▼	▼
access to better market information (based on market research input)	placing of order by each individual customer	presentation of selected design concepts and obtaining commitment of potential customers
▼	▼	▼
final assembly of product variant	custom (on-demand) manufacturing	only if minimum lot size is pre-sold, (mass) production of product starts
▼	▼	▼
mass distribution	custom distribution	mass distribution

## **When collective customer commitment makes sense**

Integrating customers in the innovation process and collecting customer purchase orders in advance of expenditures on detailed design and production: What may sound like an obscure idea of a small company in a niche market is becoming an increasingly popular approach with large companies as well. Indeed, in some markets this is the dominating way to make

business: Consider the real estate market: here, condominiums are often sold like Treadless t-shirts: The developer will only start the construction when a given number of buyers have shown their willingness to purchase an apartment by placing a down payment. But what has been an approach for very costly products like condos in the past is passing downwards to fast-moving consumer commodities. We see two situations when the collective customer commitment method provides most value: (1) to test really innovative products where little customer experience exists and thus market research is very fuzzy, and (2) to create fitting products for rather small and very heterogeneous market segments.

Yamaha, a large manufacturer of musical instruments, employed the collective customer commitment method in the first situation. Yamaha's design team had envisioned an innovative electronic guitar, based on the feedback of frustrated, but lazy hobby musicians who wanted to play an instrument just without practice. The team came up with an instrument where, once fed with a song, small lights would tell the user where to press the fingers. This idea was breaking with the traditional design of a guitar and was considered too risky to be produced and developed in the conventional system. Thus, Yamaha used an existing user community to find out if there would be enough customer commitment for this design.<sup>11</sup> Users quickly draw on the idea and provided suggestions for improvements (like adding an amplifier and making the device battery-powered). Once the final design was posted by Yamaha, the minimum order quantity was reached almost immediately, motivating Yamaha to produce this product. Until today, it sold more than 20,000 units, five times more than the average product in this category.

The second situation relates to a market where customer demand is very heterogeneous, a common situation today in many markets due to fast changing trends and more diverse needs.<sup>12</sup> Also the borders of formerly local markets are diminishing, and customer needs become geographically broadly distributed. In heterogeneous and distributed markets, however, information about the demand for (new) products is distributed in an extremely diverse way, leading to large information asymmetries between individual customers and manufacturers. For manufacturers who want to provide an offering fitting exactly into such a market segment in order to exploit this differentiation opportunity promising high margins, it will become very costly to access all required information.<sup>13</sup> If the knowledge of manufacturers about the needs of an emerging market is scarce and costly to achieve via conventional market research, user contributions are becoming a valuable source of

innovation. The possibility of open contributions encourages a self-screening by potential contributors.

Research on customer or user innovators has identified that in many markets users with so called lead user characteristics exist.<sup>14</sup> These users realize a need for a new product (or functionality) ahead of the average users, or might be trendsetters or opinion leaders with regard to esthetic attributes. In our work with companies we often found that these customers are willing to disclose new ideas openly to the manufacturer and other users. They expect that their contribution will be of interest for others who will adopt the idea, develop it further, and make the resulting product cheaper when a manufacturer can produce the good for a larger group instead customized for just one client.

In such a situation – a specific new need is distributed highly heterogeneously among a large population of geographically spread customers – customers benefit from (i) becoming active by their own and develop and explore own ideas to fulfill a specific desire or need, and (ii) from organizing themselves as a group of users with similar needs in terms of the said product idea. While for high-involvement products customers may organize and foster this process by their own (consider patient groups who initiate, organize, and fund new research for new pharmaceuticals<sup>15</sup>), many users lack the motivation to transfer their need into a new product by themselves, but rely on manufacturers to do so. But a manufacturer has to be confident that a feasible demand for the proposed new product exists. He could try to investigate this demand by conducting costly and risky market research, but could also facilitate this group and organize the generation of collective commitment. This allows the manufacturer to profit from first-hand secure information about the scale of this need. He gets a first-mover advantage to step ahead with producing this product and harvest the new market segment. Instead of generating market research expenditures, collecting early customer commitment generates instant sales. The capabilities of online interaction via the internet enable this process today for almost all product categories, independently of their overall market value. Thus, the strategy of powerful real estate developers to hedge their risk by pre-selling apartments can now be repeated for almost every product and by every manufacturer.

The collective customer commitment method further recognizes that not everyone wants to actively participate in product development activities. Not all customers are lead users. Customers can decide about the degree of their involvement: At Threadless, most new designs are submitted by young professional designers, i.e. users with typical lead user or trendsetting characteristics. They contribute not only because the monetary incentive of \$1000 is higher

than the average honorarium paid for a commissioned design by a conventional clothing company (about \$300 to \$500). Their main motivator is to get larger exposure in the professional design scene, a rather closed market which is difficult to enter for newcomers. The openness of Threadless' community makes it easy for designers to present their work and to get immediate feedback. But Threadless allows also pure hobbyists to submit a design as the screening activities by its community enable this openness at no risk and with no costs. Others users just comment on the submissions and propose amendments or additions. The majority of Threadless' users, however, just screens the proposals and contributes to the elicitation of demand by polling for the designs they like most. For these customers, browsing through the ideas is often a novel experience and a welcomed change from traditional shopping activities.<sup>16</sup> They discover new potential products, exchange comments, and feel empowered by their authority to make a favorite idea happen.

## **Collective customer commitment at Muji**

A large consumer goods company applying the idea of collective customer commitment is Muji, a specialty retail chain with 2004 sales topping 117,100 million Yen. Not widely recognized in the US yet (but the company will enter the US retail market with a New York flagship store in 2006), Muji is a household name in Japan for all kind of consumer commodities, and highly acclaimed in Europe for its industrial design and product esthetics.<sup>17</sup> Its major product categories are apparel (38 % of total sales), household goods & stationary (52%), and food (10%). While the company is famous for its powerful internal design practice, some of its recently most successful products have not been the result of the conventional development process, but were the outcome of an open innovation process based on the collective customer commitment method.

Muji's Japanese home market is characterized by a customer base of trend-loving, variety seeking and difficult-to-satisfy consumers. Originally, Muji's product development process placed its emphasis on excluding any unnecessary feature from *existing* products to generate simple designs which customers could understand easily and which could be manufactured very efficiently (resulting in prices 20 to 30% lower than other brands). But compared to other private labels the company managed to position its simple and reduced approach (its products bear no brand name or label) at a high value proposition, establishing Muji as a highly emotional "no frills" brand (in the US, Target, a retailer, is recently following a similar strategy). The traditional development process at Muji follows a very structured process of

opportunity screening and selection of new product ideas by a small team of designers based on Muji's core design principles (functional quality, emphasis on material, simplicity, monotone coloring, high emotionality, and efficient manufacturability) and tacit market knowledge incorporated in this group.

Even with this focus on simplicity, Muji's assortment had grown from an original product line of 40 items to more than 5000 different product variants within just three categories. To guarantee future growth and a sustainable appeal of its brand proposition, the management realized that future growth had to be based on more than just the continuous improvement of existing products. New product innovations expanding the given assortment were becoming a top priority. Muji was looking for ways to improve forecasting and to reduce the risk of product flops while still satisfying the demand of its customers for variety and novel products.

Muji decided to team up with its customers to master these challenges. As in many companies, traditional market research tools like surveys or focus groups never played a large role in the product development process. Instead of surveying customers, Muji engages them in a more active interaction.<sup>18</sup> It asks its customers to submit input and feedback for the product planning process. In its Japanese home market, the company receives more than 8000 suggestions for product improvements or new product ideas each month. Suggestions are sent as postcards attached to catalogues, as e-mails or via feedback forms on the company's website. On the sales floor, sales associates are encouraged to collect notes on customer behavior and short quotes from sales dialogues. More than 1000 of these memos are processed each month. The company even organizes a vacation club, Muji Camp, where customers can experience a summer vacation with Muji products. The camp provides Muji with the opportunity to observe customers during the camp and to develop relationships with the vacationers that go beyond the summer. This dazzling array of customer input is motivated by the customers' high involvement with the brand. In return, Muji acknowledges the customer input by marking products triggered by suggestions of customers clearly in its catalog. Notwithstanding this openness to external input, product planning and product development remains a closed, internal managed process. Customer input is collected, categorized and evaluated in a structured process, resulting in an internal short-list of top ideas which are discussed in a "business improvement meeting" by a management board, including the company president. This board has also the sole decision how to proceed with a submitted idea.

But to cope with the new challenges in product development, i.e. the need for more radical new product designs and to minimize the flop risk of new product variants, Muji's management decided to open its development process to a much higher degree for customer participation and to supplement its in-house product design with the collective customer commitment method.<sup>19</sup> The method is based on Muji's existing online customer community, Muji.net, with approximately 410,000 members. Beyond asking customers for product improvements and suggestions, customers are asked to submit radical new concepts. And contrarily to its established practice, also the pre-evaluation of all submitted designs (creating a shortlist of most appealing ideas) is conducted by the customer community. For the highest ranked designs, Muji then investigates the possibility of commercialization by creating a professional design spec in order to estimate the expected costs of the first production batch (and thus the possible sales price), given a minimum amount of purchasers. If commercialization is considered possible, the refined design is published. Instead of conducting at this stage a concept evaluation via conventional market research methodology, users are asked for their final commitment by pre-ordering. Once the minimum order quantity is reached by a collective of customers, manufacturing and distribution start. If a concept, however, does not reach the number of appropriate pre-orders, it is finally discarded.

The results are impressive. Until today, Muji's customers co-designed a number of new products which all generated sales far beyond the sales volume of comparable conventionally developed products. The most successful of these products is a kind of beanbag sofa chair which generated annual sales of 1,344 million Yen in 2004 (compared to 24 million Yen of average annual sales in this category). Other successful user-developed items include a portable lamp and a book shelf with an innovative hanging mechanism (see pictures in Appendix).<sup>20</sup>

## **Implementing the collective customer commitment method**

Collecting customers' commitment and taking pre-orders before production starts is not new. This has been a common pattern in specialized industrial markets where a customized solution is produced for a specific buyer. Also real estate developers work according to this scheme, starting a new building development only after a specific numbers of units have been sold in a pre-signing phase. But what is new is that gathering collective customer commitment is becoming a much larger phenomenon, being applied on fast-moving consumer goods. What is also new is the strong integration of consumers not only in the evaluation of a product idea,

but their intense participation in the design process itself. There are several benefits for manufacturers to implement the collective customer commitment method in such a way. By creating an open line for their customers, manufacturers get access to ideas for new products or even complete designs. Especially in markets targeting rather specialized segments or in very volatile markets influenced by fast moving fashion trends, supporting recent and potential customers to organize themselves as a group and to express commitment for a specific design turns market research expenditures into sales. Once this commitment is explicit, manufacturers can exploit this collective demand and serve the market very efficiently without the conventional costs of identifying this segment and the risk of developing and producing a not appealing offering.

An important condition to make collective customer commitment a success is the full disclosure of the entire process from initial consumer comments to final product commercialization. Often designers develop their products in secrecy, fearful of the prying eyes of competitors, for an ideal customer who may not actually exist. The collective customer commitment method builds on the integration of customers in an open innovation process. If development process is kept confidential, it is impossible to synchronize the activities of the developer and the consumers. For example, potential customers have to obtain a virtual picture of the prototype as early in the design process as possible so that both the developers and the users have the same mental picture of the concept. This demands an open, transparent development process contrarily to the conventional practice of keeping innovation closed and secret. From our interviews with designers and management of the companies practicing the method we learned that switching from a closed to an open mode is often difficult and requires sincere change management activities. To master this mental change is one of the largest success factors when a firm wants to profit from collective customer commitment.

But it is important to note that in the end management keeps the final word. Muji and Threadless learned that the collective input of their customers has to be combined with the companies' internal market knowledge to succeed successfully with the commercialization of the selected products. Muji's product developers use their tacit knowledge about technical constraints and market reception to interpret the customers' evaluation in the light of the firm's overall design values before the order taking process can begin. Muji discarded some well-performing ideas because the ideas were regarded just as a novelty-effect without guaranteeing sustainable sales, or the cost of manufacturing a particular product idea was seen

as too expensive. Also at Threadless, the winning designs are chosen from the top scoring designs, but they are not necessarily the top scoring designs. Important factors are the originality of the design (is it somehow timeless, not too similar to other recent winners), legal issues (are there any copyright related issues), and assortment policy (will the design contribute to a wide assortment of products).<sup>21</sup> For this decision process however the community provides again important input: The often long list of user comments about each design provides helpful information if a design is plagiarism, but also if it could be modified to look better.

Conventional product development and the collective customer commitment method thus have to be seen as supplementary – not as substitutes. Successful innovation management is like any other management task, first of all, a decision about trade-offs, choosing what to do and what not to do. There will be contingency factors in favor of a manufacturer-dominated innovation process without any participation of the customer. But there is no doubt that customer integration matters in the new product development process. We believe that collective customer commitment holds plenty of opportunities for companies to reduce the risks of new product development and overcome the obstacles of conventional market research (*see Box: Why we expect more companies to be using the collective customer commitment method*).

Manufacturers who want to utilize these benefits have to decide about several building blocks of the collective customer commitment method. They express alternatives to what extent a company wants to substitute conventional market research and product evaluation measures by customer participation (*see Box: The building blocks of the collective customer commitment method*). We expect that promising fields to apply the collective customer commitment method include fashion items, household utensils, sports goods, home appliances and consumer electronics, but also the development of future prefabricated houses, automotives or machinery of specialized applications. The beauty of the method is that exploring it does not come at much cost: If no customers opt-in to give their commitment for one particular design, the company has not lost much. This experience, even if it may be disappointing, comes much cheaper than producing and distributing high volumes of products which in the end no one wants – quite a familiar situation for many product managers today.

**Box: The building blocks of the collective customer commitment method**

A company that wants to implement the collective customer commitment method has to decide about the following parameters of the method. The alternatives for the design parameters mentioned in the **left** column demand less customer interaction. They supplement an existing market research process during new product development when a company wants to minimize the risk of a new design. The models of Muji or Yamaha incorporate these alternatives. The options in the **right** column demand deeper interaction with customers and users, but provide additional benefits. Companies substituting the traditional market research and idea evaluation process by the collective customer commitment method are more likely to select these alternatives. However, regarding the context of the implementation, often a mixture between the alternatives for one parameter will be most appropriate.

<b>Parameter</b>	<b>Alternatives</b>	
<i>Source of new product idea</i>	Company ideas	Customer ideas
<i>Community</i>	Cooperation with external existing community (like customer opinion platforms)	Building an own community for co-creation
<i>Pre-selection</i>	Company Panel	Customer Competition
<i>Minimum order size</i>	Pre-defined, representing the development and manufacturing costs of first production batch	Volatile (instead of setting a specific minimum order number, those concepts are produced with the largest number of purchase commitments)
<i>Commitment</i>	Monetary (i.e. customer has to pay at moment of pre-ordering)	Good practice (customer promises to buy product)
<i>Incentives</i>	No incentives for participating users	Incentive for pre-ordering users in form of special pre-order price; awards for user designers
<i>Reorders</i>	Conventional planning and forecasting	Depending from continuous commitment in community
<i>Organization</i>	Project or competition based process	Ongoing process
<i>Relation to conventional product development and market research process</i>	Supplementing the conventional process for developing radical new product concepts	Substituting the conventional process and serving as underlying business model of entire company

**Box: Why we expect more companies to be using the collective customer commitment method**

We expect to see much more usage of the collective customer commitment method in the near future as a result of the following developments:

*Customer empowerment:* Organized by manufacturers, collective customer commitment incorporates a trend that is happening anyway in many user communities: collaboration and co-creation between users in order to reach a common goal. As people are empowered by the internet to discriminate better when making choices, and as they realize the power of being networked, they feel encouraged to act, speak out and show commitment. User communities and self-help groups are spreading in many domains due to efficient interaction possibilities offered by modern IT.

*Open innovation:* The recent trend towards open innovation is changing common practices of innovation management in many companies. Manufacturers like Adidas, BMW, Procter& Gamble or 3M are recently creating platforms to incorporate user innovation into their new product development processes. Collective customer commitment provides a natural complement of these programs.

*Increasing heterogeneity of demand:* Customer preferences are getting increasingly heterogeneous for reasons like changing demographics, globalization of trends and a larger spread of life styles. Manufacturers are responding to these trends with an ongoing proliferation of product variety for ever smaller market segments. Traditional market research techniques become very laborious in such a situation. Thus, companies will adopt new methods like collective customer commitment to utilize the input and contributions of their customers for improving forecasting and reducing the development risk.

*Decreasing communication costs:* Collective customer commitment is an interaction rich method. Its main cost driver is communication cost. But this cost of firm-customer and customer-customer interaction has been going down significantly over the last years due to the internet and modern IT. As a result, the method becomes applicable also for low-margin goods and can be applied frequently. Companies like Treadless.com have automated almost the whole procedure making it a continuously process.

# Appendix

## About our research

The collective customer commitment method is a rather young phenomenon in practice, characterized by a heterogeneous population of companies utilizing it in different form of application. Understanding the inner structures and complexity of rather new phenomena calls for case study research that can ultimately be used for theory development.<sup>22</sup> Accordingly, our research is exploratory and qualitative and is based on a multi-level research approach based on in-depth case study work. Each of the cases presented has been developed from primary sources, with the manager in charge of the collective customer commitment method the primary source of information. Semi-structured interviews were also carried out with other members of management and data was collected on company visits if possible. This information was complemented by information from secondary sources, including expert interviews with outsiders. The content of the interviews was supplemented with newspaper and magazine articles about the companies.

The companies were observed by the research team over a longer period of time (in the case of Muji, Elephant Design and Engine Inc. from 2001 until September 2005, in the case of Threadless from 2004 until September 2005). For both companies, we followed several product development processes in real time, and retraced numerous others to get information about the origins of the ideas, the evaluation phase, the voting mechanism, and the generation of collective customer commitment. We analyzed customer comments and surveyed members of the communities for feedback and information about their participation at the product development process.

In an attempt to identify further cases, we conducted expert interviews with academics and consultants at conferences related to the topic (like the 2005 MIT User Innovation Workshop), and an analysis of the academic and practitioner literature (based on a literature search in ABI/INFORM Global by ProQuest; Business and Industry Database by Gale Group; Jupiter Research Report Database by Jupiter Communications; ProQuest General Reference by ProQuest. In addition to scholarly references, these databases include a wide range of trade and business journals, newsletters, and regional and international newspapers, which are important sources given the still limited amount of academic publications on the topic). However, no further cases than the ones presented here could be identified. Further expert

interviews were conducted with industry insiders to gain more information on recent market research practices in consumer goods companies and to evaluate the collective customer commitment method in these industries.

## Screenshot of Muji.net: some results of applying the collective customer commitment method at Muji

**無印良品** www.muji.net

ネットストア ネットコミュニティ 店舗情報 企業情報 はじめての方へ サイトマップ お問い合わせ

### モノづくり [家具・家電]

**「こんなモノがあったらうれしいな」**  
 ほしいモノをカタチにするのが、「モノづくり」です。  
 ご提案からいくつかのステップを経て、購入の予約を募り  
 商品化した取組みの記録です。

**[プロジェクト no.5 壁の利用]**  
**壁棚**  
 わずか1日で300個に達し、  
 商品化が決定しました。  
**¥1,260 → ¥1,050 (税込)**

**[プロジェクト no.1 ベッドまわりの照明]**  
**持ち運びできるあかり**  
 モノづくりから、商品化第一号。  
**¥7,245 → ¥5,900 (税込)**

**[プロジェクト no.3 すわる生活]**  
**体にフィットするソファ**  
 ソファほどスペースを占めないで、  
 ソファのようにリラックスできる点に人気集中。  
**本体¥12,600+カバー¥4,200=¥16,800 (税込)**

Source: <http://www.muji.net/community/mono/electfurni/index.html> ((as of July 15, 2005)

Translation:

Household Furniture and Appliances –created from your ideas. “I wish that I could buy this product at the shops.” Manufacturing is to give a concrete form to an idea of the product we want to have. This is a record of actually commercialized products generated through several stages from your postings.

Project No. 5 (Category: Utilization of the wall): “Freedom Shelf”. We received 300 (required minimum lot) orders just in a day and decided to commercialize this product.

Project No. 1 (Category: Lighting around bed): “Portable lamps”. The first commercialized product in our project.

Project No. 3 (Category: Sitting in our life): “Beanbag Sofa-chair”. Very popular because it needs less space compared to existing sofas, and feels very relaxed.

## Notes

- <sup>1</sup> Balachandra & Friar (1997); Urban & Hauser (1993); Poolton & Barclay (1998); Redmond (1995); Tollin (2002).
- <sup>2</sup> Henkel & von Hippel (2005). Refer also to Adams et al. (1998); Bacon et al. (1994); Teas (1994).
- <sup>3</sup> A good review of research on customers as sources of innovation provides von Hippel (2005). Sawhney, Prandelli and Verona (2003) show that these customers are often organized in communities by a manufacturer or intermediary. Piller et al. (2005) comment on the opportunities to perform co-design activities in a community.
- <sup>4</sup> The origins of the idea can be traced back to Kohei Nishiyama and Yosuke Masumoto, two industrial designers from Tokyo. In the 1990s, they pioneered the idea with their company Elephant Design. The core element of the company is its website cuusoo.com (cuusoo means "ideal" or "daydream" in Japanese). Here consumers can post ideas for desired products. One idea, for example, came from a copyeditor who used his home as an office and wanted a discreet microwave, a plain white box. This seems to be an odd request, but when the company showed a virtual prototype, many users expressed consent. In the academic literature, Elofson and Robinson (1998) describe a similar system called "custom mass production": Users first negotiate on a particular product design, find consensus about a solution that is fitting the desires of all, and auction the resulting common to interested manufacturers.
- <sup>5</sup> A company with a very similar business model is Buutvrij from The Netherlands ([www.buutvrij.com](http://www.buutvrij.com)).
- <sup>6</sup> Burke (1996) provides a good review of the inefficiencies of traditional market research.
- <sup>7</sup> Adams et al. (1998); Mahajan & Wind (1992).
- <sup>8</sup> Fisher & Raman (1996).
- <sup>9</sup> McCutcheon, Raturi & Meredith (1994).
- <sup>10</sup> See with regard to postponement Gupta & Benjaafar (2004); Skipworth & Harrison (2004); with regard to customization Agrawal et al. (2001); Zipkin (2001).
- <sup>11</sup> Yamaha teamed up with Engine, Inc., a competitor of Elephant Design (see note 4). Engine focuses on fashion items and the merchandizing of movie and comic characters (its 2004 sales topped 570 Million Yen). Registered users can submit "please, make this" posts, i.e. ideas for new products, on its web site tanomi.com (the name derives from the Japanese term tanomikomu, meaning requesting, referring both to the consumers' requests to produce a design and the manufacturers' request to purchase the product before production). Once copyright and production feasibility are cleared by a company board, the idea is published to the whole community for evaluation, together with a price and minimum order quantity for

its commercialization. In addition, Engine offers other manufacturers to post innovative product concepts directly to its community.

<sup>12</sup> See Zuboff & Maxmin (2002) for an analysis of the reasons why markets are becoming more heterogeneous.

<sup>13</sup> Von Hippel (2005:72-75) calls these domains where large information asymmetries between individual users and manufacturers exists “low-cost innovation niches”, i.e. fields where information held locally by individual users strongly motivates them to contribute actively to a new development. With regard to this information transfer problem, see also von Hippel (1994) and Ogawa (1998).

<sup>14</sup> Von Hippel, Thomke & Sonnak (1999).

<sup>15</sup> An example for such a patient group is ALS Association (also.org). Here, patients with Amyotrophic Lateral Sclerosis commission own research to find treatments for their disease.

<sup>16</sup> On the internet, a growing number of websites serves this demand of innovation-seeking consumers (e.g., gizmodo.com, coolhunting.com or boingboing.net). They allow, however, only discovering existing new products, but do not provide any open line to the manufacturers or product developers.

<sup>17</sup> Muji is the retail brand name of Ryohin Keikaku, Inc. Once a part of the Seiyu department store chain, it is now independent listed at the Tokyo Stock Exchange. Muji has expanded globally, with 266 stores in Japan, 16 stores in the UK, 4 stores in France, 3 stores in Hong Kong and 1 store in Ireland. Sales in Fiscal 2004 totaled 120 Billion Yen, with operating profits at 8.8 Billion Yen.

<sup>18</sup> Reinmoeller (2002) provides a good review of conventional product development practices at Muji.

<sup>19</sup> The application of the collective customer commitment method was facilitated by Elephant Design (see note 4).

<sup>20</sup> The annual sales of the ‘Freedom’ Shelf are Yen 70 Million, and Yen 69 Million for the Portable Lamp (compared to average sales of comparable conventional products in this category of Yen 24 Million p.a. on the SKU level). The project was conducted in the period from September 2002 to December 2003. Ultimately, eight themes were considered, and of them, three were commercialized. Retail prices were set from 1000 to 19000 Yen, and minimum required lot sizes were between 50 units to 300 units.

<sup>21</sup> The Threadless team also goes through each short listed design to make sure there was not any cheating involved by analyzing IP addresses and IP chains for voters and the respective scores given.

<sup>22</sup> See E. Danneels, "Tight-Loose Coupling with Customers: the Enactment of Customer Orientation," *Strategic Management Journal* 24 (June 2003): 559-576; K.M. Eisenhardt, "Building Theories from Case Study Research," *Academy of Management Review* 14, no. 4 (1989): 532-550; and E. Gummesson, "Qualitative Methods in Management Research," 2nd edition (Thousand Oaks Sage, 2000).

## References

- M.E. Adams, G.S. Day and D. Dougherty, "Enhancing New Product Development Performance: An Organizational Learning Perspective," *Journal of Product Innovation Management* 15 (September 1998): 403-422.
- M. Agrawal, T.V. Kumaresh and G. Mercer, "The False Promise of Mass Customization," *McKinsey Quarterly* 38, no. 3 (2001): 62-71.
- G. Bacon, S. Beckman, D. Mowery, E. Wilson, "Managing Product Definition in High-Technology Industries," *California Management Review* 36 (Spring 1994): 32-56.
- R. Balachandra and J.H. Friar, "Factors for Success in R&D Projects and New Product Introduction," *IEEE Transactions on Engineering Management* 44, no. 3 (1997): 276-287.
- R. Burke, "Virtual Shopping: Breakthrough in Marketing Research," *Harvard Business Review* 74 (March-April 1996): 120-129.
- E. Danneels, "Tight-Loose Coupling with Customers: The Enactment of Customer Orientation," *Strategic Management Journal* 24 (June 2003): 559-576.
- K.M. Eisenhardt, "Building Theories from Case Study Research," *Academy of Management Review* 14, no. 4 (1989): 532-550.
- G. Elofson and W.N. Robinson, "Creating a Custom Mass-Production Channel on the Internet," *Communications of the ACM* 41 (March 1998): 56-62.
- M. Fisher and A. Raman, "Reducing the Cost of Demand Uncertainty Through Accurate Response to Early Sales," *Operations Research* 44 (January-February 2001): 87-99.
- D. Gupta and S. Benjaafar, "Make-to-Order, Make-to-Stock, or Delay Product Differentiation? A Common Framework for Modeling and Analysis," *IIE Transactions* 36 (June 2004): 529-546.
- E. Gummesson, "Qualitative Methods in Management Research," 2nd edition (Thousand Oaks Sage, 2000).

- J. Henkel and E. von Hippel, "Welfare Implications of User Innovation," *Journal of Technology Transfer* 30 (January 2005): 73-88.
- V. Mahajan and J. Wind, "New Product Models: Practices, Shortcomings and Desired Improvements," *Journal of Product Innovation Management* 9 (June 1992): 128-139.
- D.M. McCutcheon, A. Raturi and J.R. Meredith, "The Customization-Responsiveness Squeeze," *Sloan Management Review* 35 (Winter 1994): 89-99.
- S. Ogawa, "Does Sticky Information Affect the Locus of Innovation? Evidence from the Japanese Convenience Store Industry," *Research Policy* 26 (July-August 1998): 777-790.
- F. Piller, P. Schubert, M. Koch and K. Moeslein, "Overcoming Mass Confusion: Collaborative Customer Co-Design in Online Communities," *Journal of Computer-Mediated Communication*, 10, no. 4 (2005) [online journal: [jcmc.indiana.edu/vol10/issue4/piller.html](http://jcmc.indiana.edu/vol10/issue4/piller.html)].
- J. Poolton and I. Barclay, "New Product Development from Past Research to Future Applications," *Industrial Marketing Management* 27, no. 3 (1998): 197-212.
- W.H. Redmond, "An Ecological Perspective on New Product Failure: The effects of Competitive Overcrowding," *Journal of Product Innovation Management* 12 (June 1995): 200-213.
- P. Reinmoeller, "Dynamic Contexts for Innovation Strategy: Utilizing Customer Knowledge," *Design Management Journal Academic Review* 2, no. 1 (2002): 37-50.
- M Sawhney, E. Prandelli and G. Verona, "The Power of Innomediation", *Sloan Management Review* 44 (Winter 2003): 77-82.
- H. Skipworth and A. Harrison, "Implications of Form Postponement to Manufacturing: A Case Study," *International Journal of Production Research* 42, No. 10 (May 15, 2004): 2063-2081.
- R.K. Teas, "Expectations as a Comparison Standard in Measuring Service Quality: An Assessment of a Reassessment," *Journal of Marketing* 58 (January 1994): 132-139.

- K. Tollin, "Customization as a Business Strategy: A Barrier to Customer Integration in Product Development," *Total Quality Management* 13 (July 2002): 427-439.
- G. Urban and J. Hauser, "Design and marketing of new products," 2nd edition (Englewood Cliffs: Prentice Hall, 1993).
- E. von Hippel, "Democratizing Innovation" (Cambridge: The MIT Press, 2005).
- E. von Hippel, "Sticky Information and the Locus of Problem Solving," *Management Science* 40 (April 1994): 429-439.
- E. von Hippel, S. Thomke and M. Sonnak, "Creating Breakthroughs at 3M," *Harvard Business Review* 77 (September 1999): 47-57.
- P. Zipkin, "The Limits of Mass Customization," *Sloan Management Review* 42 (Spring 2001): 81-87.
- S. Zuboff and J. Maxmin, "The Support Economy: Why Corporations are Failing Individuals and the Next Episode of Capitalism," (London: Viking Penguin, 2002).