

Integration of Consumers into New Product Development by Social Media-Based Crowdsourcing – Findings from the Consumer Goods Industry in Germany

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1 Introduction

Successful new products are crucial for growth and the strengthening of a company's competitiveness. However, not every new product launch succeeds on the market, i.e. the potential economic success is set against the risk of a new product failure. The flop rates are up to 90 percent depending on the industry (Gourville, 2006; Cooper, 2001; Crawford, 1987). The main reason for new products failing to establish themselves is often that new offers do not fit the needs of the customers (Reichwald and Piller, 2009, 128f.). This has been proven in many empirical studies (Gruner and Homburg, 2000; Hanna et al., 1995; von Hippel, 1986). These studies also show another relevant issue, that it is necessary to integrate customers' needs as early as possible into the process of new product development (NPD), i.e. into the stages "search for new product ideas" and "evaluation of ideas" (Kotler and Keller, 2012, 597; Bogers et al., 2010). The question here is how customers can be deeply integrated into the early stages of the development process of new products.

An effective strategy for integrating customers is the so-called *open innovation* approach. The key assumption for open innovation is the fact that innovation-related knowledge is omnipresent in the company's environment, i.e. this knowledge is held by various actors – in particular by suppliers and buyers in the case of industrial goods and consumers in the case of consumer goods (Spithoven et al., 2012; Gassmann et al., 2010; Chesbrough, 2006; Prahalad and Ramaswamy, 2004). Therefore, companies who work with an open innovation strategy view customers as a valuable resource for new product ideas. Hence, the challenging task is to integrate this knowledge systematically into the company's innovation management process.

The expansion of the internet to Web 2.0 offers companies the ideal opportunity to realize open innovation strategies with customers on a new level of collaboration (Chakravorti, 2010). This applies in particular for companies in the consumer goods industry. A promising procedure is to use social media like Facebook, blogs, brand communities, etc. On these virtual platforms you can typically access many people outside the company cost-efficiently and quickly. In doing so, innovation processes are outsourced to a crowd, thus to a plurality

of users. *Crowdsourcing* as a special open innovation strategy enables the development of new products by direct integration of users into the early stages of the innovation process. The special advantage of this strategy can be seen in developed products which reflect the needs of the users and have for this reason a greater likelihood of acceptance by the consumers. That is why more and more companies are utilizing consumers as a collective source of knowledge (“wisdom of the crowd”) for generating new product ideas (Fuchs and Schreier, 2011; Howe, 2008; Kleemann et al., 2008).

The results of an international cross-industry study by McKinsey underline that by using social media platforms, the development of new products can be a successful innovation strategy in various industries (McKinsey Global Institute, 2012). As figure 1 shows, about a quarter of surveyed companies reporting Web 2.0 technologies for internal purposes quote, among other things, a benefit for new product development (see also Urban and Hauser, 2004).

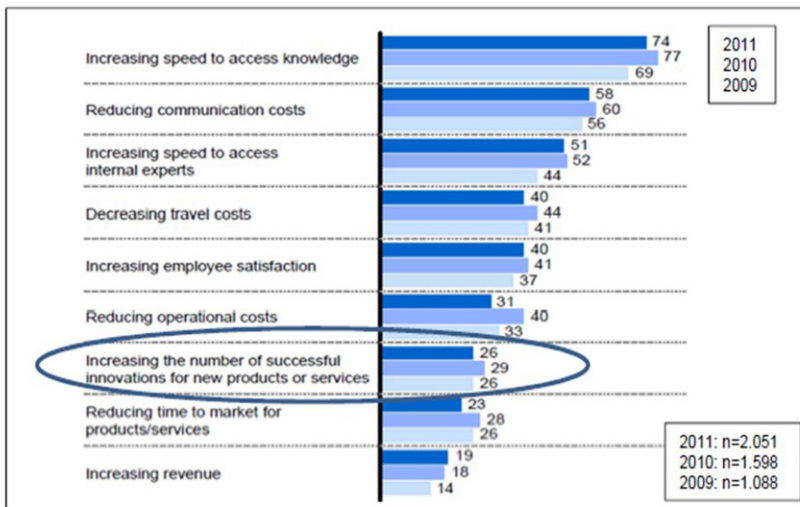


Figure 1: Reported benefits from social media technologies

Source: McKinsey Global Institute, 2012, p. 28

Empirical studies regarding the integration of customers in the NPD are mostly focused on industrial goods. Only relatively few studies show the integration of users with respect to consumer goods (Bartl et al. 2012; Füller, 2006; Ogawa and Piller, 2006; Lüthje, 2004). The following remarks refer only to the consumer goods industry in Germany.

Crowdsourcing strategies can be carried out, for example on intermediary innovation platforms (Innocentive, Atizo, Jovoto etc.) or on company-owned platforms (tchibo-ideas, dellstorm, mystarbucksidea etc.). While intermediary and company-owned platforms are focused on an ongoing generation of new ideas or problem solving through the users, another development has appeared over the last few years, especially in the consumer goods industry: so-called *idea contests*. This kind of Web-based collaboration with consumers offers a further option for co-creation to generate ideas for new product development (Ind and Coates, 2013; Füller, 2010). Idea contests in the consumer goods industry are temporary projects/campaigns which are carried out on a company-owned platform including *social media* (especially social networks, in particular Facebook) (Piller et al., 2012). It is typical for idea competitions that participation itself is done selectively, i.e. only those users that feel attracted by the innovation task contribute to the performance of tasks. For this reason, it is important that the task and the incentives have to be communicated in a manner that many users feel (intrinsically and/or extrinsically) motivated to participate.

2 Research Question

So far, there is still no empirical study for Germany, where virtual consumer integration on social media platforms – particularly Facebook – has been examined. The questions here are how widespread are social media-based idea contests in the consumer goods industry in Germany, what are their common characteristics and which success factors can be determined from idea contests that have already taken place?

3 Method

A content analysis of idea contest websites, Facebook sites and press information, etc., was conducted in order to discover such social media-based idea contests realized by German companies. The companies that were examined, with further information in parentheses including the year of the contest, the new product to be developed and additionally further developing tasks, are: Ritter Sport (2010, variety of chocolate and product packaging for it), McDonald's (2011, 2012, 2013 and 2014, hamburger), Griesson de Beukelaer (2011, variety for biscuit brand Prinzenrolle), Vapiano (2011, pasta dishes), Rügenwalder Mühle (2011, sausage), Bonprix (2011, designs for bedlinen), Homann (2011 and 2012, varieties of potato salad), Edeka (2012 and 2013, variety of ice cream, smoothie, biscuit and yoghurt), Beck's (2013, variety of mixed beer), Mondelez (2013, recipes for cakes with using the brand Philadelphia) and Lidl (2013 and 2014, variety of yoghurt, smoothie and doughnut). All idea contests took place in the period 2010 to 2015. As Facebook

has only been available in Germany since 2008 and required a certain time to reach a large number of users to increase companies' interest in this interaction medium, it is understandable that the first Facebook-based contest was conducted in 2010 (chocolate manufacturer Ritter Sport). With regard to revealing success factors, open innovation literature (e.g. Howe, 2008; Franke et al., 2013) and crowdsourcing blogs (e.g. socialnetworkstrategien.de, crowdourcingblog.de) were additionally analyzed.

4 Results

4.1 Typical Attributes of Social Media-based Idea Contests

The typical attributes of the analyzed idea contests can be described as following:

- *Types of new products*
In all crowdsourcing campaigns, users were asked to generate relatively simple, unproblematic goods like chocolate, hamburgers, cakes with cream cheese, biscuits or pasta dishes, i.e. typical fast moving consumer goods.
- *Scope of the task*
In most contests, consumers were asked to generate new products and evaluate them by Web-based voting procedures, i.e. crowdcreating and crowdvoting were the main tasks for the users. The combination of crowdcreating and crowdvoting uses the knowledge of consumers in two ways and shows, in doing so, that the company takes consumers seriously and considers them to be competent in not only generating new products but also deciding which one is best. In five cases – Ritter Sport, McDonald's, Griesson de Beukelaer, Edeka and Lidl – the task included idea creation, finding a name for the created product and Web-based voting.
- *Types of incentives for participation*
Mostly, non-monetary incentives were promised as rewards for participation (e.g. personal computer, product sample, shopping voucher, participation in a commercial, invitation to the company's headquarters, etc.). In one case – Bonprix – a monetary incentive of 1.000 Euro plus participation in sales of the winning product was offered as reward.
- *"Mechanics" of the idea-generating process*
The idea contests carried out so far indicate a generalized way of functioning that includes four typical stages:
(1) *Call for participation* (on Facebook and the company's website, sometimes assisted by communication activities on TV, radio and/or print media)

- (2) *Registration* (Users have to register on Facebook site or company's site. Here the users have to provide various kinds of personal information. The analysis of this information can offer relevant insights on the participants and the evaluation of the objectives of the idea contest, e.g. the number of participants in total or specific groups of participants.)
- (3) *Idea generation* (In some contests idea generation took place with the assistance of a software tool, a so-called idea or product configurator (see below).)
- (4) *Idea-evaluating procedure* (Crowdvoting can be used for the preliminary or the final selection of product ideas. Voting processes in the network can also be executed in conjunction with an internal jury.)
- *Results of idea contests* (Direct and measurable results of a campaign show up particularly in the number of participants, generated product ideas, number of participants voting and the increase of followers on Facebook.)

4.2 Use of Product Configurator as a Toolkit for User Innovation

In the classical approach within the context of NPD, it is difficult to track down need-related information via market research techniques. The problem is, however, that consumers are often unable to accurately describe their ideas or wishes for new products in written or oral form (Piller and Walcher, 2006; von Hippel and Katz, 2002). So, need-related information remains often vague, incomplete and ambiguous, i.e. it cannot be represented explicitly, or in other words, the company has to do with so-called "sticky information" (von Hippel and Katz, 2002; von Hippel, 1994). This makes it difficult to use consumers' knowledge for the NPD process.

Acquisition, decoding and utilization of sticky information is often a time consuming and cost-intensive iterative process between external knowledge holders (crowd) and the organization. However, adaptation and utilization of need-related information can fail due to a lack of "absorptive capacity" on part of the company (Cohen and Levinthal, 1990; Zahra and George, 2002). This primarily means the organisational and procedural interface between the company and the crowd. Technical means to improve the knowledge transfer, and therefore to improve the absorptive capacity, are *toolkits for user innovation* (also called toolkits for user innovation and design or toolkits for idea competition) (Piller and Walcher, 2006; Jeppesen, 2005). Such toolkits are Web-based applications which are used at the user/company interface to gather proposals for new products in a systematic manner (Prandelli et al., 2008; Prögl and Schreier, 2006). *Product configurators*, as used in the social media-based idea competitions, represent relatively simple structured toolkits. They make it possible to collect a lot of product ideas from outside the company. Product configurators are also known as a sales tool. They are used by many companies

in the context of mass customization to give the customer the opportunity to have a product produced according to their individual preferences (e.g. when configuring a car) (Franke and Piller, 2004 and 2003). For this, the customer selects predetermined product characteristics/components from those that characterize their specific product. However, production configurators can also be used to generate new products within the scope of the innovation process (Piller et al., 2011; Franke and Schreier, 2002).

In five of the analyzed contests (McDonald's, Griesson de Beukelaer, Homann, Edeka and Lidl) such configurators were used. It is typical for configurators that the product development task is divided into several sub-tasks. An easy and self-explanatory usability is another characteristic feature. Particular product knowledge is not necessary for the configurator-guided creation of new products.

Since the company defines the scope of possible product ideas ("solution space") through the deliberate setting of product components, it ensures that the best ideas developed by the consumers can also be produced cost-efficiently (von Hippel and Katz, 2002). Another advantage of such configurators can be seen in that nonsensical, silly ideas are excluded from the outset. Figure 2 shows the structure of configurators which have been used in the conducted contests.

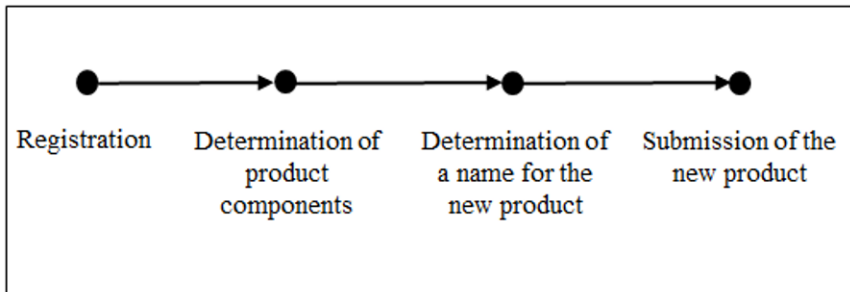


Figure 2: Typical structure of product configurators used in social media-based idea contests

After registration on the contest site, the user determines the product components for the new product. Depending on the contest, there are a different number of components to choose from. For example, in the first idea contest by McDonald's, 70 different components from the categories rolls, fish/meat etc., standard ingredients and extra ingredients could be selected. In this way, users developed a total of 116,000 burger creations. In the campaign by Griesson de Beukelaer, three varieties of biscuit (chocolate, multigrain and classic biscuit) and a total of 140 components for the biscuit filling (from the categories chocolate cream, spices, nuts/seeds, fruit and miscellaneous) were available. In

this campaign, over 5,000 new sorts of biscuit were developed. In the five configurators the naming of the new product was a further task before the product proposal was submitted. After submitting the proposals they are usually listed in a virtual product gallery, and users have the opportunity to vote for the best products in their opinion. The product proposals receiving the most votes are finally evaluated by an internal jury to determine the winning product(s).

4.3 Success Factors of Social Media-based Idea Contests

As success factors, three main factors (each with two or four underlying single success factors) were discovered: *interaction competence*, *user orientation* and *task content* (see figure 3). The main success factors represent the three components as well as the analytical levels of idea contests: company, user (consumer) and task.

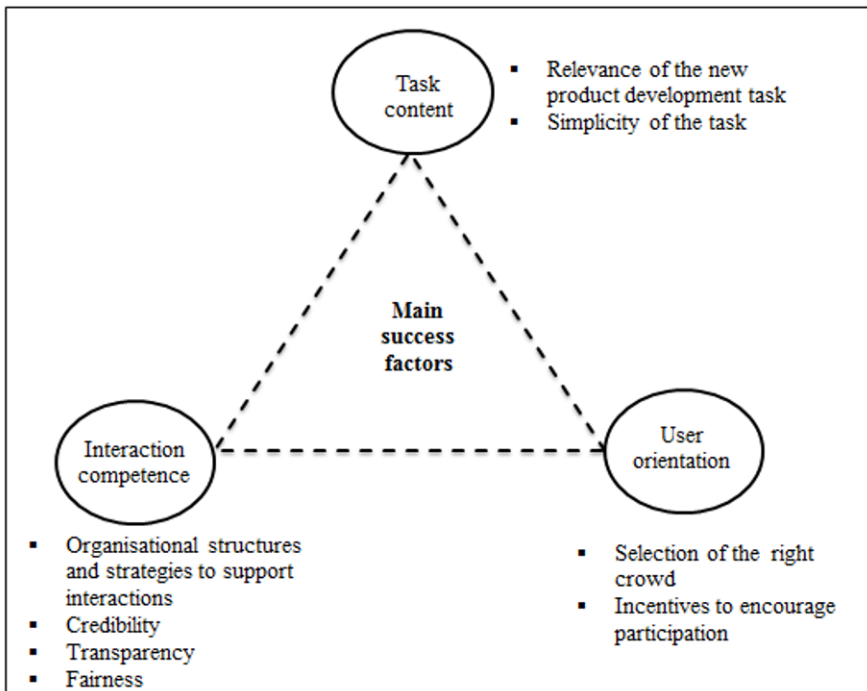


Figure 3: Main success factors of social media-based idea contests

- *Main success factor “Interaction competence”:*

What is meant by the success factor *organisational structures and strategies to support interaction* is that the company-internal NPD tasks, responsibilities and communication systems at the interface between company and crowd (Web site, Facebook fan page, blog, Twitter etc.) must be aligned with the expected interaction. In addition, sufficient personnel resources are necessary to ensure smooth procedures within the idea contest campaign (e.g. quick responses to participants’ e-mails, evaluation of product ideas, etc.). Finally, interaction competence includes a coherent social media strategy as an integral part of the overarching online marketing and innovation strategy.

A company shows *credibility* if it performs an idea contest as previously announced, e.g. if the results from crowdvoting are fully accepted and the winning product is actually produced.

The factor *transparency* refers to the openness by which the company communicates the rules and procedures of the crowdsourcing campaign. Transparency particularly plays a role in evaluating ideas through crowdvoting. If a jury is established, their members and the criteria for the selection of ideas should be announced in a timely manner.

Finally, *fairness* is closely related to the incentives a company offers as rewards for participating in an idea contest. Incentives should match the cognitive performance of the participants when generating new product ideas (it makes a difference if a consumer composes a new hamburger by using a software configurator or if he or she creates a new design for bed linen). In addition, fair incentives should also consider that consumers usually assign the usage rights for a product idea to the company.

- *Main success factor “User orientation”:*

User orientation is closely connected to two special success factors: *selection of the right crowd* and *incentives to encourage participation*. To select the right crowd means addressing such users in social media in a way that corresponds with the target group of the brand. These are primarily users of Facebook. In addition, users of Twitter, blogs, brand or company-related communities can be addressed. Because Facebook represents the leading medium for idea contests for consumer goods, the company should have a large fan base if it starts with a crowdsourcing campaign to generate product ideas.

To ensure that enough users participate in a crowdsourcing campaign, the right incentives must be offered to address the intrinsic and extrinsic motives of the users (Füller, 2006). As the analysis of idea contests shows, different incentives were offered as rewards for participation. They should

correspond to the task, i.e. the relatively simple one of generating new product ideas with the assistance of a product configurator (e.g. in the case of McDonald's or Griesson de Beukelaer) call for other incentives than the creation of new package or product designs (see the cases of Ritter Sport and Bonprix).

- *Main success factor "Task content":*

Two success factors with regard to task content can be identified: *relevance of the new product development task* and *simplicity of the task*. The first success factor points out that the crowd should see an idea contest as an interesting task. Here it is necessary to determine whether the campaign offers a task to users with a highly stimulative nature (see e.g. the McDonald's campaign "Build your own burger", where consumers were able to create new hamburgers in a "playful" way by using a hamburger configurator and giving the new burger its own name). Furthermore, the relevance of the task means that the call for participation should be communicated credibly, i.e. the company should stress that it is very interested in new product ideas or, more generally, the needs of the users are a vital source of information for the company's innovation strategy.

Simplicity of the task refers to the conception of the content, i.e. a task should be not too complex and difficult. This also infers that a toolkit that assists the generation of ideas should be easy to use. If a task consists of several subtasks (e.g. including idea creating, designing the package and voting for the best idea, as in the Ritter Sport campaign), this should be carried out in reasonable time intervals. Furthermore, this success factor includes simple and transparent voting procedures and communication of jury decisions as well as quick and transparent feedback to the participants (see success factor "transparency").

5 Managerial Implications and Outlook

Although there are a variety of studies on open innovation and co-creation with customers, studies about social media-based (particularly Facebook-based) crowdsourcing in the form of consumer-oriented idea contests with focus on consumer goods are not available. About a dozen idea contests in the field of consumer goods in Germany have been analyzed. In addition to determining the characteristic features of such contests, specific success factors have also been worked out. The three main success factors as well as the underlying single success factors show how to implement a successful social media-based crowdsourcing campaign with the aim to generate ideas for new products in the field of consumer goods.

From the main success factor *interaction competence* some managerial recommendations can be derived: Before realizing a social media-based idea competition the company should ensure that this kind of new product development task is an integral part of the pursued social media strategy and an integral part of the overarching online marketing and innovation strategy. Hence, this (normally new) strategic orientation requires a commitment from all departments concerned (e.g. marketing/communication/social media/CRM, R&D/product development, etc.). It should also be ensured that enough experiences with social media are available (in particular in the marketing department) and that the decision makers in the departments affected by the new task of idea generating have a positive attitude towards the integration of users into the NPD process. Finally, the company should make sure that in the context of an idea contest, the rules of credibility, transparency and fairness are strictly respected.

With regard to the main success factor *user orientation*, it should be ensured that in particular the follower base on Facebook is big enough. However, what a big enough follower base means cannot be generalized. It depends on the type of product development task; to develop a new packaging design requires fewer followers for acquiring enough participants than to create a new product, for example a new sort of chocolate. As a rule of thumb it can be recommended that a company should have a minimum of several thousand followers when an idea contest is to be carried out. Howe (2008) for example suggests the minimum number as 5,000 followers. If the number of Facebook fans is not large enough, the company should recruit new followers by continuously practiced social media marketing before it carries out such a contest. Moreover, depending on the NPD task and presumed motivation of the participants, appropriate incentives should be awarded to encourage the greatest possible participation. Intellectually demanding NPD tasks should be rewarded more significantly than a “simple” product development task by using a product configurator.

In connection with the main success factor *task content*, some more recommendations for practice can be derived: The company should ensure that the NPD task – from the perspective of the users – appears to be interesting. The call for participation in an idea contest should clearly communicate that users play a very important role in the innovation policy of the company. In addition, it must be ensured that the task does not overwhelm the user. If a toolkit is used, it must be designed in a user-friendly manner and with many selectable product components. Voting procedures should also be made easy and transparent.

Social media-based idea contests in the consumer goods industry are a new kind of consumer integration into the NPD process. This specific crowdsourcing practice underlines in particular the following advantages for the company (Reichwald and Piller, 2009; Enkel et al., 2005): time advantage when

developing new products (reduction of time-to-market) and revised market acceptance of a launched new product (enhancement of fit-to-market). Furthermore, this kind of Web-based innovation strategy can also be seen as an efficient instrument for gathering deep customer insights (i.e. information about relevant consumer needs or product-related expectations) and for strengthening customer loyalty. Finally, the image of the brand or the company can hereby be improved.

However, with social media-based idea contests some disadvantages or problems may also be associated. A disadvantage can be seen in the costs of such an action (this applies particularly to idea contests in which one or more external service providers, e.g. social media or crowdsourcing companies, are involved in implementing such a campaign). Such contests are primarily suitable for the development of relatively “simple” consumer products of frequent demand. For the development of “complex” consumer goods (e.g. technically oriented goods) intermediate development platforms with an appropriate specialization should be used. Finally, massive negative feedback from the crowd in form of a controversy can result, particularly if the voting procedure during the campaign is changed by the company. Another loss of control may result if new product ideas are to be generated without or with too generalized regulations so that nonsensical or silly product ideas are provided by the users.

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