Crowdsourcing ideas: Involving ordinary users in the ideation phase of new product development

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ABSTRACT

The different roles of users in new product development (NPD) have been extensively described. Currently online idea crowdsourcing, via long-term open idea calls, is increasingly being used by companies to collect new product ideas from ordinary users. Such open idea calls can result in thousands of suggested ideas and detecting the ones that a company wants to implement can be problematic. Empirical research in this area is lacking. We therefore investigate which ideator and idea-related characteristics determine whether an idea for NPD is implemented by a crowdsourcing company. To answer this question, we use a cross-sectional research design to analyse publicly available data from an open idea call, run by an internationally active beverage producer. Our results reveal that ideators paying major attention to crowdsourced ideas of others, the idea popularity, as well as its potential innovativeness positively influence whether an idea is implemented by the crowdsourcing company. Counterintuitively, the motivation of an ideator, reflected in the number of ideas suggested, does not influence the likelihood of an idea being implemented.

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1. Introduction

Despite the existing research to improve the understanding of new product development and advances made in this area, the failure rate of newly introduced products is still as high as about 40 per cent (Castellion and Markham, 2013). One major problem is to anticipate what the (potential) consumers actually need, i.e. which products they are actually willing to buy. Therefore, knowledge about consumer preferences can importantly contribute to distinguishing product success from product failure. Research on the so-called Front End of Innovation (FEI) has shown that companies can benefit substantially if they effectively manage and improve the early stages of the new product development (NPD)[1] process (e.g. Khurana and Rosenthal, 1998; Reinertsen, 1999; Verworn, 2009). Within the FEI, the most important stages for successful innovation are typically referred to as the ideation phase, where the generation, screening and selection of creative and commercially valuable ideas take place. One way to reduce the risks and uncertainties related to consumer behaviour has been found in a strong user perspective and a deep understanding of user needs during the FEI in general and the ideation phase in particular (Flint, 2002; Kim and Wilemon, 2002; Lüthje and Herstatt, 2004).

Different ways in which users can play an active role in NPD have been emphasized by innovation research over the last 30 years. Ranging from von Hippel's Customer Active Paradigm (von Hippel, 1978a) and customers as a potential source of innovation in Chesbrough's Open Innovation Paradigm (Chesbrough, 2006) to numerous studies which show that some users actively innovate for their own needs in open source software and other user communities, this literature illustrates how users can be a valuable and active resource within the innovation process in general and for NPD in particular.

More recently online idea crowdsourcing for NPD has become very popular among companies in different industries. According to Howe (2006) "crowdsourcing is the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call". Therefore, crowdsourcing can be used not only for idea generation but for a whole range of tasks. Earlier examples and studies have already highlighted how organizations can potentially benefit from the use of crowdsourcing for different purposes (Kleemann et al., 2008; Brabham, 2009; Poetz

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[1] In this paper, the term 'product' refers to both manufactured products and service products.

and Schreier, 2012). Hoping to gain direct access to the crowd's knowledge concerning user needs to generate concrete ideas for new products and using the crowd's expertise to solve problems, companies have increasingly made use of crowdsourcing (for an overview see for example Bonabeau, 2009; Haller et al., 2011).

Many online idea crowdsourcing platforms are open to everybody who has access to the Internet and no specific training or expertise is needed to become an ideator and suggest an idea or solution. Unlike open source software or other special interest communities they therefore often attract a large crowd of people consisting of ordinary users and not necessarily experts or lead users. In line with Magnusson (2009), we here define an 'ordinary' user to be a user or potential user who is not a lead user and who is not expected to possess any special expertise in a certain area. While some evidence exists that ordinary users can produce more original and radical ideas than professional developers or users possessing superior knowledge of the underlying technology or product (Kristensson et al., 2004; Magnusson, 2009), research focusing on the involvement of ordinary users is still limited. Our study therefore focuses on the involvement of ordinary users in online idea crowdsourcing.

Thus far, empirical research on online idea crowdsourcing has focused on the following areas: (1) the *motivation of the ideators* (e.g. Frey et al., 2011; Muhdi and Boutellier, 2011; Dahlander and Piezunka, 2014), (2) the *idea generation process*, i.e. the comparison of different idea generation methods (Schweitzer et al., 2012), the design of online idea contests (Boudreau et al., 2011; Walter and Back, 2011) and the effects of crowding on idea selection (Piezunka and Dahlander, 2015) and (3) the *outcome of idea crowdsourcing*, i.e. the market potential and success of crowdsourced ideas (Kornish and Ulrich, 2013; Nishikawa et al., 2013), the influence of ideator expertise on idea quality (Jeppesen and Lakhani, 2010; Poetz and Schreier, 2012; Franke et al., 2014), the influence of cooperative orientation on idea innovativeness in innovation contests (Bullinger et al., 2010) and the factors influencing the originality of crowdsourced ideas (Franke et al., 2013). In sum, scholars focused on ideators' motivation, the crowdsourcing process itself and on explaining the outcome. Although it is highly relevant for the organization to be aware of the factors determining the outcome of crowdsourcing initiatives and particularly the implementation of crowdsourced ideas, knowledge in this area is limited. Our study addresses this research gap. Some of the earlier studies in this area identified ideator or idea-related characteristics that can influence the outcome (e.g. Di Gangi and Wasko, 2009; Bayus, 2013). Importantly, though, with the exception of Piezunka and Dahlander (2015) who included different dimensions of distance, these two groups of characteristics have so far been studied separately. In order to better understand the outcome of idea crowdsourcing initiatives, in particular why some ideas are more likely to be implemented than others, it is necessary to include ideator and idea-related characteristics in the same analyses.

Moreover, the majority of research on idea crowdsourcing focuses on temporary online idea contests. These contests run for a few weeks or months and often search for a single idea or a small number of ideas or solutions to a fairly specific question or problem. Very little research has been conducted on long-term open idea calls, which sometimes over several years generate a large number of ideas of very different quality concerning an often rather broad topic, such as ideas for new products. Examples of such open idea calls can be found in different sectors and countries: in the IT sector the IdeaStorm platform operated by the company Dell has already collected more than 23,000 ideas since 2007, the Japanese household goods manufacturer and retail company Muji has crowdsourced about 8000 ideas so far via its Idea Park platform and the German-based drugstore chain DM has already

managed to generate more than 2000 new product ideas for its own natural cosmetics brand. As open idea calls can easily result in hundreds or even thousands of suggested ideas, it can be challenging for the crowdsourcing company to detect those which they find worth implementing. Levitt already stated in 1963 that "[i]deas are useless unless used" (Levitt, 1963, p.79). So, the best proof of an idea's value for NPD is its implementation by the company. In this study we therefore investigate the factors determining whether a crowdsourced idea is implemented. More specifically, our aim is to understand the influence of ideator and idea-related characteristics on the likelihood of an idea being implemented in a long-term open idea call. Accordingly, the question we here address is: *which ideator and idea-related characteristics determine whether an idea suggested in a long-term open idea call is implemented by the crowdsourcing company?*

The contributions of our study are twofold. First, we contribute to the literature on long-term online idea crowdsourcing. Thus far, most studies focus on the temporary idea contests. Also, not much is known about what determines whether an idea is going to be implemented by the crowdsourcing company. Second, the outcomes of our study can provide some useful first insight for companies that consider using long-term open idea calls. More precisely, the results of our study can help to understand which ideator and idea-related characteristics explain the implementation of ideas. Based on our findings, companies can for instance try to attract ideators with specific characteristics that appear to be important for the suggestion of ideas that the company finds valuable. Furthermore, our results offer suggestions for the selection of those ideas that are likely to be implemented.

To shed light on the research question we carried out binary logistic regression analyses on a dataset from one of the currently most widely used idea crowdsourcing platforms, which has been in operation for more than five years. The platform, run by an internationally active beverage producer and retailer, is open to any English-speaking user and contains user ideas and suggestions for product innovations.

The remainder of the paper is structured as follows. Section 2 provides an overview of the literature and the theoretical framework used from which we derive the hypotheses to be tested. Section 3 explains the methodology and Section 4 reports the results obtained. Finally, Section 5 discusses the findings and concludes by highlighting the implications and limitations of the research, as well as areas for future study.

2. Theoretical background

Idea crowdsourcing can be seen as a part of Chesbrough's Open Innovation Paradigm, which assumes that companies can and should also use external ideas for their innovation purposes (Chesbrough, 2003). This process is mostly referred to as inbound open innovation (Huizingh, 2011). In the case of crowdsourcing, however, the process builds upon the external ideas of individuals and not of other organizations, such as universities or suppliers (West and Bogers, 2014). To crowdsource ideas for new products, companies can either set up their own online platform to obtain ideas or use an intermediary platform for this purpose. In contrast to ideation which takes place in open source or user innovation communities, it is the crowdsourcing company which controls the ideation process, observes and analyses the user communication and discussion of the ideas suggested and finally decides which ideas will be developed further. The commercialization of the new products is also carried out by the company. The crowdsourcing company also needs to decide whether to use a temporary online idea contest or a long-term open idea call. In our study we focus on the latter.