ARTICLE IN PRESS

Long Range Planning ■■ (2015) ■■–■■

Contents lists available at ScienceDirect

Long Range Planning

journal homepage: http://www.elsevier.com/locate/lrp

The Role of Professionalism in Innovation Contest Communities

Johann Füller, Katja Hutter, Julia Hautz, Kurt Matzler

In innovation contests, companies post innovation-related problems to a large crowd and award the best submitted idea. It has been shown that the size and heterogeneity of the crowd are central to the success. One facet of heterogeneity of communities is professionalism; i.e., the degrees to which participants use general principles and standardized knowledge to solve problems. We argue that varying degrees of professionalism play an important role and explore how participants' professionalism influences the quality of contributions, the complexity of chosen tasks and their position and prestige within the social network. Our analysis of a jewelry design contest community shows that professionalism has a positive effect on the average quality of submitted designs. Findings further show a negative impact of professionalism on the variance in quality; i.e., the likelihood of submitting designs of extremely high quality. Professionalism also influences participants' engagement in preferred innovation tasks. Professionals tend to engage in more complex designs tasks. Our results further show that participants' prestige within the contest community depends on the quality, quantity and elaboration of the contributions. Our study contributes to innovation contest community research showing that not only do sheer number and diversity of contributors to innovation contest communities matter, but also their level of professionalism.

Introduction

Firms are increasingly opening their boundaries to engage external contributors to get fresh ideas for their innovation processes (Bayus, 2013; Dahlander and Piezunka, 2014). Enabled by social software technologies, crowdsourcing has become a popular method to collaborate with external parties and to tap their knowledge, skills and solutions (Majchrzak and Malhotra, 2013). Crowdsourcing generally takes the form of crowd contests, collaborative communities, crowd complementors or crowd labor markets (Boudreau and Lakhani, 2013). Among those initiatives, crowd contests are one of the most popular forms (Boudreau and Lakhani, 2013; Howe, 2008). In such contests, a company identifies a specific problem or task, offers incentives, and broadcasts an invitation to submit contributions. While participants compete with their contributions to win the offered prizes, often they are also empowered to collaborate, form groups, and work together on the problem solution (Afuah and Tucci, 2012; Boudreau and Lakhani, 2013; Füller et al., 2009). Often, one cannot clearly distinguish between contest and community. This phenomenon of combining collaboration in the community with competition in the contest has sometimes been labeled "communitition" (Hutter et al., 2011). While still competing for prizes, participants interact, collaborate, build relationships and social structures, establish norms and a sense of community, and aggregate a large number of diverse contributions into value-creating innovations, forming hybrid structures which we refer to as innovation contest communities (Füller et al., 2014). In fact, these mixed forms of contest communities where communitition takes place are the norm rather than occasional exceptions. Various studies exploring different forms of crowdsourcing from different perspectives have been published; e.g., investigating participants' motivations to engage in crowdsourcing activities (Füller, 2010), how to design the user experience in virtual co-creation (e.g., Kohler et al., 2011), discussing the ideal governance forms (Felin and Zenger, 2014), investigating social structures of innovation contest communities (Füller et al., 2014), and identifying who the most successful idea and solution providers are (Jeppesen and Lakhani, 2010). Ultimately, all this research should generate a better understanding of crowdsourcing in order to find out what may be needed to make it more effective and to generate high quality solutions.

A central tenet of crowdsourcing is the assumption that the quality of winning contributions increases with the number of participants. While some early studies found that the number of participants in a research contest negatively influences the investment of each participant (Taylor, 1995) and, consequently, the quality of the winning solution (Che and Gale, 2003), more recent research demonstrates that the size and diversity in larger groups balance this negative effect (Terwiesch and Xu, 2008). Communities need a critical mass to flourish (Wasko et al., 2009). Innovation contests benefit from a wide range

http://dx.doi.org/10.1016/j.lrp.2015.12.017
0024-6301/

Please cite this article in press as: Johann Füller, Katja Hutter, Julia Hautz, Kurt Matzler, The Role of Professionalism in Innovation Contest Communities, Long Range Planning (2015), doi: 10.1016/j.lrp.2015.12.017

of ideas coming from different and heterogeneous knowledge domains (Pisano and Verganti, 2008). It even seems that the likelihood of winning a contest is positively related to increasing distance between the solver's field of technical expertise and the focal field of the problem (Jeppesen and Lakhani, 2010). Specialized and distant researchers, having deep knowledge in a field different from the solution seeker, are most likely to provide novel and original solutions (Lakhani and Jeppesen, 2007; Morgan and Wang, 2010). Also, the individuals' knowledge diversity is positively related to the number of substantial contributions in innovation contests (Frey et al., 2011). To summarize, size of an innovation contest community and heterogeneity matter. Previous research that looked at problem-solving effectiveness in broadcast search argues that "marginality in terms of being distant from the field of the problem and problem-solving success suggests that successful solvers were able to bring relevant novel perspective and heuristics to the problem in question that bridged knowledge fields" (Jeppesen and Lakhani, 2010). This is an important finding as it suggests, "the best way to solve problems is to have experts from vastly different fields attempt solutions" (p. 1030). With our paper, we contribute to this stream of research by arguing that not only professional diversity in the sense of different fields of expertise increases the likelihood of finding a novel solution, but also varying degrees of professionalism play an important role. In this paper, we focus on this special facet of heterogeneity that, as we will show, is highly relevant for the quality of submissions, variance in quality, and the likelihood of extreme values. In crowdsourcing communities, many of the submitted contributions show a low degree of elaboration and thus are vague and undeveloped (Di Gangi and Wasko, 2009; Magnusson, 2009). Furthermore, some of them are already known to the organization (Bayus, 2013). Despite the large number of ideas submitted, quality is not guaranteed. Suggestions differing in terms of elaboration and specification often reflect the different levels of skills and commitment of the contributor (Dahlander and Piezunka, 2014). Participants in these innovation communities vary greatly in their degree of professionalism; i.e., their skills and competences acquired by some formal training and put to use (this definition of professionalism is derived from the criteria of a profession described by the International encyclopedia of the social sciences, see Sills, 1968).

By arguing and showing that skills and competence (professionalism) are strongly positively related to: 1) the quality of submissions; 2) the complexity of tasks solved; 3) the network position within the community; and 4) negatively related to the variance in quality of solutions, we contribute to the growing literature that tries to explain successes and failures of innovation contests. We do so by highlighting and investigating a characteristic of community members (professionalism), which so far has received little attention in previous research. By studying the community and its social structure, we also contribute to the scarce literature on antecedents of the community actors' network positions (Borgatti and Foster, 2003; Borgatti and Halgin, 2011; Klein et al., 2004). The database for this study forms the Swarovski jewelry design project, a major design contest, where professional designers, students and jewelry enthusiasts were invited to submit new designs for fashion jewelry. This study uses different data sources including log-file data tracking participants' actual behavior in the innovation contest community, registration data, and online survey data. Variance and regression analyses are used to test our hypotheses.

The article is structured as follows: The next section provides a literature review and develops the hypotheses. Prior to the presentation of the results, the research setting as well as the applied method, data and analysis are explained. Finally, the study concludes with a discussion and consideration of the theoretical and managerial implications.

Literature review

Researchers as well as consultants highlight the relevance of virtually engaging consumers in co-creation activities such as the generation, design, refinement, and testing of new concepts and products (Chesbrough, 2003; Dahan and Hauser, 2002; Nambisan, 2002; Prahalad and Ramaswamy, 2003). In this context, innovation contests and innovation communities have been introduced and have become quite popular to engage the crowd, enabling consumers to take an active role in the previously firm-dominated world of product development (Boudreau and Lakhani, 2013; Hutter et al., 2011; Morgan and Wang, 2010). However, success of such initiatives varies (Bayus, 2013; Majchrzak and Malhotra, 2013). Numerous studies try to understand the determinants of crowdsourcing success by investigating, for example, governance choices (e.g., Felin and Zenger, 2014), incentives and competition (e.g., Boudreau et al., 2011), participants' characteristics (e.g., Jeppesen and Lakhani, 2010), or motivations (e.g., Füller, 2010). In this study, we focus on participants' professionalism as a determinant of the quality of submitted designs, the complexity of the chosen design task and position and prestige within the social network of the community.

In an innovation contest community, participants strongly differ regarding their skills and competences — some of which were acquired through formal education. We expect that these differences are relevant to the outcomes and social structure of an innovation contest community. We argue that professionalism influences quality and quantity of submissions, and is also related to the network position of participants within the innovation community. The framework shown in Figure 1 summarizes the hypothesized effects of professionalism on contribution quality, complexity of problems solved, and out-degree centrality in the network. It further shows how these factors determine participants' prestige in the network. In the following, the effects will be explained in more detail.

While in theory every participant may contribute and provide substantial improvements to innovation communities, in reality only a small number of skilled contributors provide high quality inputs (Kogut and Metiu, 2001). Contributing to a company's innovation activities, by collaborating or tinkering or submitting ideas and designs, actually requires a certain level of professionalism, including skills and expertise (O'Hern and Rindfleisch, 2008). Correspondingly, successful outcomes of innovation contest communities to a large extent depend on participants' ability to make valuable contributions

Please cite this article in press as: Johann Füller, Katja Hutter, Julia Hautz, Kurt Matzler, The Role of Professionalism in Innovation Contest Communities, Long Range Planning (2015), doi: 10.1016/j.lrp.2015.12.017