The growing phenomenon of crowdsourcing in non-profit, scientific environments – Understanding objectives and design configurations

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1. INTRODUCTION

Since the 2000s, technological developments have fueled the emergence of new knowledge sourcing models such as CS. Today, numerous companies from diverse industries use CS methods for various tasks, which are frequently designed as contests (e.g. Postbank Idea Lab). The participants (solvers) receive a prize from the seeker (e.g. sponsoring company) for the successful solution of a challenge (Adamczyk et al. 2012). In for-profit contexts, this approach is commonly used (e.g. Netflix Prize). However, CS methods such as challenges are also of increasing relevance in the non-profit sector. First examples, such as the growing engagement of the Fraunhofer-Gesellschaft (Europe's largest applied research organization) in CS challenges underline this impression. However, existing research has analyzed CS in terms of strategic and operational objectives, challenge design requirements and motivation of the involved seekers and solvers to our best knowledge exclusively in for-profit organizations, neglecting the different context factors that influence the application of CS challenges for non-profit organizations, such as public research organizations (Randhawa et al. 2019).
Therefore, the following research questions is aimed to be answered with our study: What are the strategic and operational objectives of CS challenges for non-profit research organizations and how do the design configurations of CS challenges look like?

2. METHODS

In order to explore CS contests in the non-profit scientific context, we apply an inductive research approach building on multiple case studies following Eisenhardt (1989) and Yin (2014). We build on a unique sample of 25 CS challenges conducted from 2016-2019. The cases analyzed include campaigns from three European countries, each with the participation of the Fraunhofer-Gesellschaft as seeker, solver or organizer. For data collection, we conduct semi-structured interviews on two-levels: (1) with project managers who were responsible for conducting the CS challenges within the research organization and (2) with corresponding other stakeholders of the campaigns. Additionally, we analyze internal corporate documents as well as documentations of the campaigns such as videos and reports. Based on this data collection, an in-depth case study is compiled for each of the 25 CS challenges. In a first step, cases are analyzed individually (within- case analysis) and in a second step cases are compared (cross-case analysis) to identify commonalities and differences.

3. FINDINGS

The research project is ongoing and data collection is still in progress. Nevertheless, first results can already be derived. Building on the analysis of the 25 case studies in our sample, so far we derive two complementary sets of results:

1)   Objectives to engage in CS challenges for non-profit research organizations: We find that the objectives (both operational and strategic) are partially different from what the literature suggests. In the scientific field, visibility and profile building is increasingly relevant to compete with other stakeholders. Strategic goals for participation in CS formats such as challenges are e.g. the possibility to present knowledge to a potentially very large audience with low threshold formats (as solver of a challenge). Furthermore, such contests offer opportunities to enter into new partnerships.

2)   Identifying design configurations for CS challenges in a scientific context: An essential component of every CS challenge is the incentive structure for the participants. Extrinsic incentives focus primarily on reputation, while cash and non-cash prizes play a subordinate role, while they are the central element of for-profit-oriented CS challenges. Therefore, a different individual cost-benefit analysis has to be carried out in the scientific context with regard to the additional costs of active participation in CS contests.

4. CONCLUSIONS

Our study contributes to academics and practitioners alike. The results provide a better understanding of the CS phenomenon in non-profit contexts. More precisely, we shed light on the involvement of research organizations and their participation in such contests. The unique data set offers opportunities to enhance theory building in the research community. Taking a close look at a specific context and group of participants, we add new insights to the overall CS knowledge base and thus further specify the mechanisms of CS. Additionally, practitioners can use the findings to get an orientation on the expectations of non-profit research organization's to participate in such contests. In addition, they can get guidance on what they should consider when choosing a CS contest concerning the type of challenge based on our findings about design elements.

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