

Distributed sensemaking and organizing in Crowdsourcing: a case study

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Abstract

Crowdsourcing has been used by an increasing number of organizations for searching for innovative ideas, especially in the form of contests. The success of a contest depends on several factors, such as the number of participants, their level of engagement (which is strictly related to the meaning attributed, and participants' intrinsic motivation and sense of purpose) as well as the quality of their contributions. Notwithstanding the diffusion of crowdsourcing, particularly as ideas challenges or innovation contest, and the vast literature studying those phenomena in management and organization science, little attention has still been paid to their organizing model and distributed sensemaking. The paper wants to investigate the issues related to the interventions for increasing the positive performance of crowdsourcing initiatives. This is accomplished seeking for a complementary understanding of the meaning, correlated to the complex intertwining of social interactions and influence as actions enacting organizing and distributed sensemaking outside a formal organization, where a network - in order to accomplish anything - has to be coordinated, connected, and temporarily stabilized.

Keywords: crowdsourcing, idea contest, organizing without organization, meaning, engagement, sensemaking, case study.

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1. Introduction and motivation

Contests are a form of crowdsourcing, where “each agent from the crowd self-selects to work on its own solution to the problem, and the best solution is chosen as the winning solution” (Afuah & Tucci, 2012, p. 355). Crowdsourcing contests have been used by an increasing number of organizations for co-creating or acquiring innovative ideas (Zheng et al., 2011). Since the success of a contest depends on several factors, such as the number of participants, their level of engagement (which is strictly related to the meaning attributed, and participants' intrinsic motivation and sense of purpose) as well as the quality of their contributions, this paper investigates the issues related to the strategy and the interventions for increasing the impact of these factors, seeking for a complementary understanding of the subjective meaning, correlated to the complex intertwining of situated social interactions and influence (Breiger & Puetz, 2015; Fuhse & Mützel, 2011). To this end, the article also presents an analysis of the ongoing sensemaking process and the circumstances which serve as a springboard into action and are correlated to motivation and the decision to participate. Thus, the following research questions guide the research presented in this paper:

- *How does distributed sensemaking enact organizing in crowdsourcing?*
- *How do action, meaning and engagement interweave in distributed sensemaking?*

The close fit between processes of organizing and processes of sensemaking illustrates the recurring argument (e.g., Weick 1969, pp. 40–42) that people organize (within formal organizations as well as outside) to make sense of equivocal inputs and enact this sense back into the world to make that world more orderly. Accordingly, we argue that crowdsourcing is a relevant domain for developing an understanding of distributed sensemaking as a promising line of investigation for the process of sensemaking as organizing (see also, Weick et al. 2005, p. 417).

For our analysis we consider the model proposed by Weick (1979), conceptualizing organizing in crowdsourcing as a sequence as reciprocal exchanges between actors (*Enactment*) and their environments (*Ecological Change*) that are made meaningful (*Selection*) and preserved (*Retention*) where the specific activities of sensemaking impact the progression of organizing practice (see Weick et al. 2005).

The organizing process of enactment incorporates the sensemaking activities of “noticing and bracketing” (Weick et al. 2005) triggered by equivocality, which may regard the purpose and the mechanism of the ongoing crowdsourcing project. These activities begin to change the flux of circumstances into the orderliness of situations - also being shaped by interventions that may facilitate participants' experiences and support a sensemaking process (i.e., sharing introductory knowledge to help the participants to better comprehend the aim and nature of the contest and the different challenges, as well as using members of staff as contributors to “seed” the contest in the initial stages; gamifying the contest assigning scores and prizes, and so on).

The number of possible meanings gets reduced in the organizing process of selection, during which crowdsourcing participants select materials and generate a

locally plausible story - although tentative and provisional - about purpose, mechanism, crowd dynamics, etc. The sensemaking process of organizing gains further solidity with the element of retention, when a plausible story on the ongoing crowdsourcing project is retained and made “more substantial because it is related to past experience, connected to significant identities, and used as a source of guidance for further action and interpretation” (Weick et al. 2005, p. 3).

The paper is structured as follows. First, we discuss the theoretical background of the research. Then, we outline the method adopted for the study before presenting the main results and their discussion. Finally, we offer conclusive remarks and end the paper outlining future work.

2. Theoretical Background

The study of collective action has a long tradition in social sciences (Olson, 2002), whose focus has been moved in the last two decades to digital platforms like Twitter or Wikipedia, which enact a technological environment whose impact on collective forms of organizing and communication raise questions about their determinism and benefits (Shirky, 2008). This change has also been related to opening up the research and development practices by public and private organizations (Bogers et al., 2018), extending the search for innovation outside their institutional boundaries through the involvement of specific online communities (West & Lakhani, 2008; Siobhan & Lakhani, 2011; Fisher, 2019) of users or more extensive crowdsourcing (Afuah & Tucci, 2012). Those two forms of organizing collective action, although different may overlap when crowdsourcing leverages only communities for contests that need value orientation, specific interests, etc. (see., e.g., West & Sims, 2018).

Considering now crowdsourcing forms of organizing search, although there are a growing number of studies illustrating their potential (Afuah & Tucci, 2012; Dahlander & Piezunka, 2014; Felin et al., 2017; Jeppesen & Lakhani, 2010; Majchrzak & Malhotra, 2020; Stieger et al., 2012), some scholars have shown that a preponderance of organizations trying to engage in crowdsourcing fail (Dahlander & Piezunka, 2014, 2020). This may also be because crowds have different motivations and purposes compared to those of traditional sourcing (Afuah & Tucci, 2012; Dahlander & Piezunka, 2014, 2020; Felin et al., 2017; Jeppesen & Lakhani, 2010; Puranam et al., 2014). Organizations proposing a contest through crowdsourcing platforms will have to work with external contributors who self-select into the process; therefore - to fully take advantage of the potential of crowdsourcing - crowds should not be managed in the same way as employees or suppliers. As to those issues, contests organized through crowdsourcing platforms, thus, presents new opportunities for investigating scale sensemaking (Glynn & Watkiss, 2020) on large-scale systems showing loose coupling among their elements.

However, the modeling and organizing of the overall process (so that many distributed agents can contribute to suitable components asynchronously and meaningfully) remain an arduous task. Therefore, recent research has started to analyze challenges and trade-offs and how managers can tackle these when

implementing crowdsourcing (Dahlander & Piezunka, 2014, 2020; Lifshitz-Assaf, 2018; Piezunka & Dahlander, 2015, 2018; Su et al., 2016; Winsor et al., 2019). Moreover, considering the other above-mentioned forms of organizing collectives in a digital environment, a stream of research has investigated the different dynamics that can lead from groups to online communities or to open rather than closed crowds in idea competitions, i.e., contests. (Arena et al., 2017; Seidel et al., 2017; Sims & Woodard, 2020; Viscusi & Tucci, 2018; West & Sims, 2018). Taking these issues into account, the analysis of crowd dynamics in contests or idea competitions has been considered relevant to identifying how the different configurations (crowds, communities, groups) that may emerge from the activities and interactions of the “solvers” may lower (or increase) “crowd capital” (Prpić et al., 2015), defined here as “the total number of crowd units having a demonstrated effectiveness in idea generation or task achievement” (Tucci et al. 2016), not only in terms of the winning ideas but also in relation to the other propositions and the related competencies that can be lost in the various phases of crowdsourcing.

As to these issues, we are specifically interested in some specific instances of the concept of “engagement” deriving from science, technology, and society (STS) studies which investigate the notion of citizen engagement for participation in public consultations where “information is conveyed from members of the public to the sponsors of the initiative, following a process initiated by the sponsor” (Rowe & Frewer, 2005, p. 255). The state-of-the-art literature has identified different issues worth considering when designing challenges and contests to support active participation and engagement; and these span from a focus on characteristics—such as task specificity, degree of idea elaboration, organizational appearance, timeline, incentives, and target group—to motivations related to learning, direct compensation, self-marketing, and social motives (Leimeister et al., 2009, pag. 202–206). Online communities have been investigated as to their relationship with emergent mechanisms of engagement, especially emphasizing the role of trust, motivation, purpose, and the specific relevance of boundary spanners and brokers to reinforce and unify the community itself (Fleming & Waguespack, 2007).

Finally, considering the study of sensemaking in crowdsourcing, most of the state-of-the-art contributions are from computer science and especially from the field of human-computer interactions (see, e.g., Fisher et al., 2012), with a specific focus on the design of solutions for enabling idea generation patterns and mechanisms through the interpretation of previously available ideas, thus making sense of a large amount of data (Chan et al., 2016; Li et al., 2018, 2019). Those perspectives rely on a commonsense idea of sensemaking rather than on the theoretical stance advanced in organization science (Glynn & Watkiss, 2020; Weick, 1995; Weick et al., 2005). As to this issue, the above-mentioned needs for solutions for making sense of data and support ideation can be further connected to the ambiguity and uncertainty that occasion sensemaking at an organizational level (Weick, 1995, p. 91, 1995b). Thus, to understand the meaning emergent from large ideation challenges and to consequently explore whether a social order is eventually produced in crowdsourcing, in this paper we look at the organization science perspective on sensemaking as a complement to the management and computer science literature.

In particular, we consider the research on the practices that characterize collective sensemaking, building on former state-of-the-art contributions that highlighted the transition from the individual level and the role of sensemaking (Stigliani & Ravasi, 2012).

3. Methods of analysis

This research project represents an interpretive qualitative case study (Ebneyamini & Sadeghi Moghadam, 2018; Walsham, 2006), where we adopt abductive reasoning (Bamberger, 2018) to the empirical exploration of patterns emerging from the corpus of data. Accordingly, the first goal of our qualitative study is to reach an understanding of how distributed sensemaking enact organizing in crowdsourcing. Then, the other goals are the ones of exploring and describing how action, meaning and engagement interweave in distributed sensemaking. The study provides a different although complementary perspective to the arguments developed on the same case by Solidoro et al. (2021). There, the focus was on understanding the crowd dynamics emergent along the different stages of the considered initiative, focusing on the factors that influence the decision of the participants to become involved in a given contest, the quality of the contributions, investigating the governance mechanisms that can be adopted by design from the organizers.

For this reason, and to provide for an integrated and reflexive research process, we have built the analysis on a unique dataset that includes both quantitative and qualitative data (the text of the comments and interactions among the participants; the observations of 5 workshops, the data gathered through an ex-post survey amongst the participants). However, in this paper, the focus has been on the data about comments and interactions among the participants that have been analyzed through an interpretive approach during the participatory observation on the platform. Hence, two of the researchers have taken notes of the elements relevant for eliciting how different actors produce an account of their situated actions and make sense of their participation in the contest as members of a crowd, of a community, or a specific group. Two of the authors were directly involved in the development of the challenges, collecting the qualitative data making up the final corpus coming from the observations and five workshops organized for stimulating the discussion on the topics of the call **Errorre. L'origine riferimento non è stata trovata.**

Table 1. Types and size of the data sources

Type	Size
Survey	Sample 132 (Population = 272)
Workshops (observation)	5
Participatory observation (Crowdicity platform)	3 person/month (for 2 persons during the period)

Moreover, an ex-post survey amongst the participants has been carried out with the aim of collecting data useful for analyzing the experience. The target of this survey was the group of participants, excluding staff members and facilitators. The method chosen for the data collection was the telephone interview, a tool that allows reaching a widespread geographical population in a relatively short time, ensuring, as a rule, high participation rates. In addition, the absence of visual interaction between interviewer and interviewee reduces the inhibition in expressing negative feedback. The interviews were semi-structured, the interviewers asked only a few predetermined questions while the rest of the questions were not planned in advance. The predetermined questions were about:

- the "motivation to participate in the experience";
- "self-perceived communicative competence in the presence and through the use of digital tools";
- the level of "learning and use of the tools provided to acquire specific knowledge on the covered topics";
- the evaluation of "the satisfaction level with the experience and self-assessment of one own's performance";
- to gather some social personal information.

The structured part of the interview was tested by a researcher, through the carrying out of three pilot interviews, the received feedbacks were used for the last version of the semi-structured interview.

A probabilistic population sample was then defined by applying a random sampling procedure to the universe of participants. The sample size required to achieve a sampling error below the desired level is defined by Dillman et al. (2014, p. 56) as:

$$s = \frac{z^2 PQ}{e^2} (1 - f)$$

Where:

- z = coefficient depending on the confidence level of the estimate: 1.96, corresponds to the level of 95%;
- P = proportion of the population that should choose one of the two response categories;
- $Q = 1 - P$; • e = acceptable amount of sampling error: 0.05 = 5% of the real value of the population;
- $f = n / N$; • N = population size: 272.

In this case, the result gives $s = 160$. A sample of 160 units was then randomly extracted from the population, then divided into three groups of equal size, each assigned to a researcher in charge of carrying out the telephone interviews. The interviews were conducted between April and May 2020. Each of the three researchers contacted each case assigned to them first by e-mail and then by

telephone. This phase ended when the researchers finalized the interview or received a definitive answer regarding the unwillingness to grant the telephone interview from all assigned cases. The surveys carried out were $n = 132$, with a rejection rate of less than 15%, in line with the dropout rate of face-to-face interviews and significantly lower than that of telephone interviews. The sampling error was therefore slightly higher, equal to $e = 0.59$, but not significantly more significant as to affect the expected accuracy of the results. As mentioned before, the interview sample is a sub-group of users of the platform, consisting of 132 respondents, of which more detailed socio-personal information is available. The socio-demographic characteristics detected are shown in Table 2.

Table 2. Demographics of the survey's interviewees.

Gender (n=132)	Age (n=132)	Education (n=132)
M = 41,8%	Average = 47	high school: 15,9%
W = 58,2%	Min = 29	univ. degree: 65,9%
	Max = 68	post-grad.: 18,2%

The insights from the interviews then informed the case study without a formal coding or content analysis but a full interpretive stance. Accordingly, the corpus of data, including personal memos and reflections as well as access to the 1755 posts produced by the participants to the challenges proposed (including ideas and comments), has been then analyzed by all the authors (or subset of them) from March to June 2020 through a series of Zoom sessions of 30 minutes average (approximately one session/month), where for any session at least one of the two authors not directly involved in the challenges acted as critical external discussant. The sessions were guided by abductive reasoning to “generate plausible, conjecturable explanations” and “used to identify patterns indicative of alternative dynamics, processes, mechanisms, or means-ends linkages” (Bamberger, 2018, p.2). Thus, the sessions contributed to organizing the observation under three themes considered as relevant by the three authors, that are meaning, action, two key constructs in the sensemaking studies tradition (see, e.g., Glynn & Watkiss, 2020, p. 1337), and engagement, which is here considered following everyday connotations that see engagement “involvement, commitment, passion, enthusiasm, absorption, focused effort, zeal, dedication, and energy” (Schaufeli, 2013, p. 15). The three themes are then considered along with the elements (enactment, selection, and retention) of sensemaking in organizing (Glynn & Watkiss, 2020), where their environment (ecological change) is the digital platform for crowdsourcing.

4. The case

Held in 2019, the project “Stati Generali della Formazione e del Lavoro” (General Assembly on Training and Work) aimed to support the production of a wiki-based

report and guidelines for policymaking coming from the involvement of professional trainers. To this end, the project has organized a contest hosted on the digital platform Crowdcity (unimib.crowdcity.com, 2020) from June 2019 to December 2019. The resulting report and guidelines had to be submitted to the Italian Minister of Labor for presenting a collective re-elaboration of the changes in the workplace led by the digital transformation in different industries to eventually outline strategies and guidelines. The initiative was structured as a collaborative-based idea contest, in which each user was asked to post innovative ideas and solutions regarding five macro-themes related to changes in the professional environment and, meanwhile, to discuss other proposals, suggest improvements, and vote for the best idea. Staff members actively contributed as facilitators supporting and stimulating the discussion on the platform and, finally, provided to collect the best idea in the wiki document.

The contest proposes 5 competitive categories ("challenges") around 5 macro-themes whose eventual changes may directly influence the world of training and the work of trainers: *culture, social capital and territory; digital transformation; social innovation and new economies; young people, intergenerational relationship and multiculturalism; institutional value chain and life-long training*. The participants are provided with introductory content in order to be able to frame the themes of the challenges and have a basic common knowledge.

The crowd is called to post new ideas and solutions to resolve some aspect of the challenges, and therefore discuss and comment on the other users' opinions and eventually vote the best solutions. Staff members actively contributed as *facilitators*: by supporting and stimulating the discussion on the platform, as well as the activities of the crowd are managed by an editorial committee that analyzes the different contributions (their pertinence and relevance) which eventually will be edited in the final White Book.

In Italy, trainers are demanded to attend every year professional courses provided by certified agencies in order to obtain the qualification needed to be a professional trainer. AIF Academy is one of the agencies providing the qualification, and therefore trainers who participated in "Stati Generali" project were able to apply for their qualification/certificate. To quantify the level of engagement on the platform, it was decided to assign a score to the different activities that each user could perform on the platform: post an idea, comment on other ideas and vote for preferences. Upon reaching a predetermined score, the qualification was assigned to the participants.

The *motivation* of the crowd is linked both to the desire of taking part in an uncommon professional experience in the forms of knowledge sharing and social learning and to the need to acquire a qualification (in Italy, trainers are demanded every year to attend professional courses provided by certified agencies in order to obtain the qualification needed to be a professional trainer. AIF Academy is one of the agencies providing the qualification, and therefore trainers who participated in "Stati Generali" project were able to apply for their qualification/certificate)

Each challenge was structured in different phases according to the "knowledge funnel" approach: 1. Pre-start (some introductory content is uploaded onto the crowdsourcing platform by the editorial board); 2. Agora (ideas are proposed by the

participants and put on display); 3. Atelier (most voted ideas are selected, discussed, and eventually those judged more interesting by the crowd are selected and refined through a co-creation session); 4. Challenge is closed (no more ideas or comments can be upload); 5. Follow-up (ideas and discussions content is edited in order to be included in the community-based report/White Book).

5. Discussion of the findings

The crowdsourcing contest *Stati Generali della Formazione e del Lavoro* (General States of Training and Work) proposes a change of experience to professional trainers. Taking part to the initiative give the possibility to obtain a certification for the achievement of the yearly minimum hours of participation in training activities, these are necessary for obtaining the credits for inclusion in the Specialized Register of professionals' qualification of the Italian Association of Trainers (valid pursuant to Italian law 4/2013). This is a change because is the first initiative of the sort for AIF Academy; so far, the training activities offered came in shape of seminars and/or workshops.

This change instigates *enactment*, "the process whereby individuals carve out aspects of the environment for further attention" (Weick 2005). Enactment begins the process of equivocality reduction by supplying the raw materials for selection: Professional trainers respond to communication (via the institutional channels of AIF Academy, or through advertisement on the media, or via word-of-mouth) about the crowdsourcing event *Stati Generali della Formazione e del Lavoro* and register to the online platform Crowdicity and take the initial assessment test (272 professional trainers register to the online platform); when registered participants familiarize with the online platform through exploration and the online guide.. Moreover, participants read through the recommended "position papers" and/or attend the proposed 5 workshops (in presence or online), each one of these about the content of the challenges of the contest. All these actions represent the start of the organizing process focused on making less equivocal the elements of change; organizing is directed towards an enacted environment. As about motivation, participants have interest in participating to *Stati Generali della Formazione e del Lavoro* for different reasons:

- contribute to the White Paper (a crowd-edited report about the future of training and work);
- deepen the contents of the contest;
- personal networking;
- obtain certification for inclusion in the Specialized Register of professionals' qualification of the Italian Association of Trainers;
- the person has been registered and invited to participate by his/her own company.

In the very first phase of the contest, 20 of the 292 participants were so-called "facilitators", i.e., people trained by the proponents and tasked with posting ideas and comments to stimulate interaction and steer the conversation toward the set topics.

The inclusion in the crowd of proponent's representatives (the facilitators) is interesting, facilitating the production of the eventual "White paper" as a co-production (Cordella et al., 2018) rather than a steady evaluation of the winning ideas. Initially, the 20 facilitators are more active than the participants proposing ideas and starting conversations and the first idea by a participant is posted only after a week the online contest started (in the meantime, many ideas were already posted by the facilitators), as – in the words of a participant:

"It's a very innovative approach to learning and sharing knowledge, at the very beginning I felt as I could not figure out what were the mechanism, the expectations and my role in this, it has been a step-by-step process of assessment and learning."

As to this issue, an online guide helps the participants to familiarize with the use of the platform:

"It [the platform] is very user friendly, very easy to use once you familiarize with it, it looks and feel just like Facebook, or a blog, but of course the functionalities and the scope are different".

This suggests that material practices and physical artifacts (in this case, the online platform) can provide the triggers or cues that facilitate the construction of meanings (Berthod & Müller-Seitz, 2018; Stigliani & Ravasi, 2012) and in addition to discursive ones, function as sensemaking devices that achieve the task of organizing (Weick & Sutcliffe 2001, 2006, 2007, 2015). This while the proposed "position papers" and workshops help the participants to reach awareness about the content and the scope of the contest, as – in the words of a participant of another participant:

"Reading the position papers has been very helpful to contextualize the purpose, it gave me stimulus for reflection and creativity, and also to attend the workshop has been a great occasion for meeting people and for socialize with experts and peers"

Participants who read the position papers and/or attend the workshops (in presence or online) are those more active (posting ideas or comments); this suggests that working for shared meaning amongst actors may reduce equivocality and enhance "sensible interlocked behaviors" (Weick, 1979, p. 3), a critical aspect in enactment because it isolates 'possible environments that the organization could clarify and take seriously' (Weick, 1979, pp. 131–132).

By linking equivocality to action, Weick (1969) inextricably links meaning to action, with action featured as both the precursor to, and culmination of, any act of organizing. Here, some of the key actions the proponents and the participants undertake are to construct the environment they encounter, the residuum of which is the enacted environment: they do not react to an environment, they enact it, this enacted environment is "worked upon by the processes of organizing" (Weick, 1969, p. 64), as "the resolving of equivocality in an enacted environment by means of interlocked behaviors embedded in conditionally related processes" (Weick, 1969, p.

91). In our case, the purpose of organizing is to make sense of the informational inputs given by the proponents and the participants in such a way that reduce the number of possible outcomes to “a point where action, in the form of interlocked behavior cycles, is possible” (Weick, 1969, p. 40).

Equivocality is mainly removed in the second stage of organizing, *selection*, which Weick (1976) equated with sensemaking: after the period defined as “incubation”, lasting about a month, in which users’ contributions were anchored to the animators’ ones, the dynamics of interaction within the crowd became detached from the animators, creating active subgroups with their own topics, dynamics, and leaders. The shared meaning among the contest participants is emerging, enabling ‘coordinated action in a world of multiple possibilities’ (Weick, 1995a, p. 75): participants subscribe to the different challenges, post ideas and comments and give “likes” to the other participants’ contribution. These are micro processes evoking that the emergence of similar cognitive representations and a shared language order is recreated, with the consequence of reducing the meanings that are possible and allowing action.

Amongst the challenges proposed, “Digital transformation” and “Institutional supply chain and continuous training” are the challenges considered most relevant:

“Digital transformation is both affecting and enhancing, at the same time, the opportunities for learning, we need to be able to handle this transformation for our advantage and also because of our role in society of trainers and facilitators for continuous learning”.

It’s therefore emerging a shared discursive experience, in which conversations alter equivocal and disparate inputs into more coherent and orderly interpretations. 283 ideas and 1501 comments are posted by the participants on the digital platform, the “likes” given to the ideas or comments are 17.491 and 41% of the participants have actively contributed sharing ideas or comments, results that suggest that the crowd organizing is ‘developed and maintained through continuous communication activity, during which participants evolve equivalent understandings around issues of common interest’ (Weick, 1995, p. 75).

Moreover, contest participants find more and more consistency amongst the information before them and familiar past experiences, therefore the crowdsourcing initiative is evaluated as very relevant for the world of professional training:

“This is a very good approach for innovation in our field; sharing amongst peers is very helpful for updating and get in touch with different approaches and perspectives. After all, this is nothing else than the old social learning”.

The proportion of user contributions compared to that by the facilitators tends to grow with the passage of time, till it stabilizes on a ratio 80%-20%. Moreover, some participants take the role of facilitator, commenting, developing nodes of discussion, making suggestions to peers; interaction unrelated to the stimulus activity of the animators:

"This is becoming a community of peers, where you can share knowledge and good practices, give and receive ideas and suggestions"

"It's fun, I tend to spend at least 15 minutes a day on the platform for reading and interact with others".

Over the experience, some users reached a very high participation level on the platform, posting comments almost every day, and three users totaled more ideas and comments than the animators at the end of the project. These "super active" users thus became crowd animators themselves, acting as boundary spanners and the degree of pertinence and relevance of their contributions is comparable to that of the entire sample. It is worth noting that the interaction style and discussion content proposed by the super active users were always in line with the proponents' goals and style, as assessed through the analysis of the researchers' memos and reflections. This suggest that coordinated actions in crowdsourcing can occur despite participants having different understandings of the situation or goals for that action (Weick, 1991).

In the process of *retention*, information from the selection process is stored and integrated with newer information (Weick, 1969, p. 92), which is then available via feedback to subsequent acts of organizing. After the end of the contest (December 2019), interactions on the digital platform amongst participants are still on, they keep sharing and discussing on several topics, working together on the proposals of ideas and sharing opinions and practices, and facilitators are no more in needed in the organizing process:

"I have met some interesting people with common interests, we are brainstorming about future projects in partnership"

Participants also evaluate the experience and self-evaluate their own performance:

"As professional trainers, we needed a space for confrontation and sharing like this, hope we'll keep in touch as a community and looking forward for other projects for this kind of open innovation"

Thus, it seems that the aspect of learning, both of formal content and social practices, was indeed an important component that contributed to sensemaking for the crowd and to determine individual final satisfaction.

Nevertheless, the results have shown that the number of active contributors is lower than the one of inactive users or free riders, especially when they have a different motivation than the one defined by the seeker. The survey suggested that the motivation revealed had a fair inclination toward the manifest goals of the initiative and a more significant drive to participate from shadow motivations ("get the certification").

The possibility of the occurrence of free-rider behavior was therefore expected and indeed did occur, but it was triggered by other factors unrelated to input

motivation. In fact, the assessment made by the researchers with respect to the degree of activation of users (“active user”, “passive user”, “inactive user” based on the number of contributions posted) turned out to be decidedly different from the self-assessment given by users to the same three categories (but in this case not explicitly referred, in the survey, to the number of contributions posted). Moreover, even the final satisfaction is more correlated with the self-assessment of users than with the degree of activation detected by researchers. This is a significant sign of the different point of meaning given to the experience by seekers and participants, which is clear from the evaluation of some of the in-depth interviews: the overall goal of the seeker was to effectively carry out the policy suggestion activity and, therefore, a successful phenomenon of the initiative was the presence of very prolific users of innovative content. Although a few participants actually engaged with the seeker's goal, explicitly stating in some comments their motivation related to creating policy suggestions, many instead focused on other goals, from social networking to obtaining certification to learning content. The mismatch between measured and self-assessed performance is thus due to this different perception of the value of the experience.

In addition, the equivocality persistence shown by the lower degree of pertinence and relevance of the proposed solutions (46% of ideas are evaluated as useful and implementable) would require further analysis to see whether the non-pertinence/irrelevance of the ideas is contingent on a specific collective configuration of the observed crowd dynamics or else to the specific issues in the design of the contest. As well as crowd dynamics (Viscusi & Tucci, 2018) which appear to play an important role in determining participants' behavioral styles, and that may probably be mapped in light of differences between communities, crowds, and groups (on those difference sees, e.g., Adler, 2015; Viscusi & Tucci, 2018; West & Sims, 2018).

6. Conclusion

Crowdsourcing has been used by an increasing number of organizations for co-creating or developing innovative ideas, therefore it occurs to be significant to investigate how participants may achieve motivation and the decision to contribute, as well as the collaboration processes in order to identify the appropriate design and increase the level of engagement to the online initiatives. In this paper, we observe how actors' dispositions (i.e., initial motivations, purpose, sensemaking, etc.) relate to engagement, the configuration of engagement properties (e.g., relational, informational, and temporal properties), the type of platform provision, and its eventual engagement-related network effects (i.e., the mechanisms of supporting the engagement of participants).

As a contribution to practice, this paper may help organizations interested in the use of crowdsourcing for the search of innovative ideas by considering when and how long to intervene to enact engagement and consequently maximize results. This can be done by adopting an approach focused on the way participants create their own way to ideate in a crowdsourcing initiative through the meaning that the actors

attribute to it. Thus, instead of top-down management of the search of innovative ideas through crowdsourcing, bearing the risk of retrieving what already known before the event, organizations can further exploit the benefits of emergent forms of organizing that drift from a local to a distant search and increase their motivation to solve the problems stated in the challenge they are engaged in (see, e.g., Afuah and Tucci, 2012).

Regarding limitations, our investigation, as presented in this paper, provide an interpretive view on the themes emerging from the case study, while there is room for undertaking further coding activities and further theoretical sampling on other similar initiatives. This would eventually allow us to move from an interpretive study toward theorizing on the corpus of data collected on multiple cases (Eisenhardt, 2021; Eisenhardt & Graebner, 2007). However, further research is in progress on the data collected on another initiative using crowdsourcing for collecting ideas or key business and societal issues. The initiative is called *YourVision.2021* and is a project of the University of Milan-Bicocca, Italy that from 21 June 2021 until the end of December 2021 has involved practitioners from different private organizations, with the aim to update the vision regarding six challenges for the future of business: 1) mindset and digital transformation; 2) open innovation and collaboration between large companies, small and medium enterprises, and universities; 3) sustainable HR and social innovation; 4) the creation of shared value in the territory; 5) relationships between people in the age of smart working, integration between life and work; 6) partnership between the public and private sector. With nearly five hundred participants interacting on the *YourVision.2021* crowdsourcing platform and six months of data collection and participatory observation from the three authors, the future work will be oriented towards developing further the understanding of distributed sensemaking in crowdsourcing as well as identifying the core elements of an emergent substantive theory (Glaser, 1992).

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