

Towards a Research Framework of Computer-Supported Organizational Participation

Thomas Wagenknecht¹(✉), René Filpe¹, and Christof Weinhardt²

¹ FZI Research Centre for Information Technology, Berlin, Germany

{wagenknecht, filpe}@fzi.de

² Karlsruhe Institute of Technology, Karlsruhe, Germany

weinhardt@kit.edu

Abstract. Employees demand high responsibility and empowerment, while keeping their work communal and flexible. Initiatives that foster organizational participation can contribute to the fulfilment of such work conditions. Research in sociology and psychology demonstrated positive effects on job satisfaction as well as productivity. However, although adoption of social software is widely spread in firms, research on the determinants of computer-supported organizational participation is scarce. We conduct 20 guided expert interviews to propose a research framework for computer-supported organizational participation. We describe the elements to consider when designing processes that aim to be beneficial for both the employer as well as the employees. Building on the expert interviews, our process model includes a topic horizon and a collaboration phase, which creates proposals that have to be decided on in order to produce results. We show how employee competence and leadership commitment are as important as the workload and supporting features as well as an option for anonymous communication. We propose a set of features and discuss implications for researchers and practitioners.

Keywords: Organizational participation · eParticipation · Group decision support systems · Expert interviews

1 Introduction

Many companies offer their staff social software such as employee portals and Enterprise Social Networks (ESNs) to support information exchange and collaboration [2]. Yet, in a network society, more and more areas of our lives become democratized [3]. This democratization has reached the workplace as today's employees demand high responsibility and empowerment as well as communal and flexible work environments [4]. Initiatives that foster employee participation can nurture these demands. Organizational participation (OP) and its positive effects on job satisfaction and productivity have been well studied [5, 6]. However, little attention has been paid to the exploration of how these processes can be incorporated by and designed with social software. Yet, considering the eParticipation practices in eGovernment on one hand [8, 27], and the progressively strong grip that social software holds over current work

practices on the other, computer-supported organizational participation (CSOP) becomes increasingly relevant [7].

Nonetheless, research on CSOP is scarce. This is especially problematic as it is not clear which parts of existing social software for participation – e.g. from the political sphere [8] – can be applied in the corporate contexts. Hence, the main purpose of this paper is to further our understanding of the design of eParticipation in firms. We conduct 20 guided interviews with experts from a variety of industries, including services as well as manufacturing, in order to derive a model that describes the relevant determinants of CSOP. The results provide a basis for a framework that informs future research on the main areas where studies are needed. We derive a set of CSOP use cases and draw implications for practitioners.

The remainder of this article is organized as follows. In Sect. 2, we illustrate the theoretical background on organizational participation, eParticipation and group decision support systems. Section 3 presents our study design, including our data set and the structure of the expert interviews. We report the results in Sect. 4 and propose a framework of CSOP in Sect. 5. Section 6 draws a conclusion.

2 Theoretical Background and Related Work

We begin by introducing the fundamental theories behind OP from sociology and psychology, and highlight some of its positive as well as negative effects. Thereafter, we introduce information systems literature to establish the connection to eParticipation and group decision support systems (GDSS).

2.1 Fundamentals of Participation

Typically, there are four basic theoretical lines of thinking that shape OP: democratic, socialist, human growth and development as well as those focusing on productivity and efficiency [9, 10]. The democratic view emphasizes participation in a form that includes as many employees and stakeholders as possible. The socialist assumption departs from the notion of participation as increasing workers' control of the production process, while simultaneously educating them to the point that they can replace their managers [11]. Furthermore, human growth and development theories extend the latter aspect by highlighting self-development and self-fulfillment. Finally, theories on productivity regard participation as having the goal of increasing employee satisfaction and commitment as well as a generally increasing productivity and efficiency by means of better decision quality [10]. Empowerment is a management style that incorporates many of these aspects. Kanter [12] suggests that empowerment is a form of ability to mobilize resources. She argues that individuals gain power by having access to information, support and resources as well as space to foster their soft and hard skills. Empowerment is understood as a process that allows employees to gain and retain power to act autonomously [13].

Typically, research in organizational and work psychology categorizes OP along eight steps, which moves from a low to a high degree of employee decision-making

authority. The steps include employee information, consultation (employees can have their say), co-determination (employees have to be involved in the discussion) and control [5, 6, 10]. The latter can range from voting on selected issues, to having a veto right, shared leadership or even final decision-making authority. Dachler and Wilpert [10] also stress the complexity, topic and the point in time that participative elements are used in the decision-making process as important factors for OP.

2.2 Effects of Participation

Participation is often implemented with regards to its positive effects in terms of employee motivation, satisfaction and performance [5, 13, 14]. For instance, in a meta-analysis, Miller and Monge [14] find that participative leadership contributes to more sustainable and effective learning and personal development. Moreover, employees increase intrinsic motivation, job satisfaction, organizational commitment and feelings of self-efficacy [15, 16]. This in turn can help companies to increase effectiveness [12, 13, 17].

However, OP is not without risks. For instance, decision quality could actually be decreased if lower-level employees are not knowledgeable enough to take appropriate decisions [17]. Moreover, participative processes could prolong decision-making as they take more time than usual top-down decisions. Besides time, employers could also fear that they lose power and authority. Among the common explanations for the reluctance of senior managers to implement employee empowerment practices are two psychological factors established by Pfeffer et al. [18]. First, the researchers demonstrated that people have a tendency to believe in the supervision effect. Controlling for the quality, they suggest that observers assume a work product to be better the greater the degree of supervision. Moreover, Pfeffer et al. [18] were able to show in an experiment that the more participants were involved in the supervision of the creation of a product, the more favorably participants evaluated it. This self-enhancement effect is well documented as people regularly evaluate their work to be above that of their peers [19].

Interestingly, there is no need for managers to fear losing control completely when introducing OP. Markey et al. [20] found that workers who felt appreciated by their senior management did not desire more influence. However, those who were under the impression that they did not learn new things and did not receive sufficient information on important decisions, changes and future plans indicated that they want to have more influence.

2.3 eParticipation and Group Decision Support Systems

If there is limited ground for reluctance against OP, why has OP not spread further despite the benefits? One reason might be that many firms face difficulties with its realization [21]. For instance, Arnold et al. [22] point out that it is crucial for employers to constantly support and inform employees during participative processes to demonstrate that their input is taken seriously. GDSS offer support in the computer-mediated

generation, presentation and synthesis of proposals [23]. They are also popular tools to lower dysfunctional effects in the decision-making of groups, like boards, units or teams [24, 25]. Such dysfunctions include social effects that usually occur in group decision-making such as conformity pressure, groupthink or limited information apprehension [13, 26].

Political parties, government agencies and non-governmental groups alike are already using GDSS to enable eParticipation processes for citizens [8, 27]. These software tools often facilitate information sharing, collaboration and collective action (such as voting) [1]. We understand CSOP as social software that technologically enables participative elements specifically in firms. Extant research already proposed success factors for eParticipation in eGovernment initiatives [8]. However, factors from the political sphere might not yield the same results in the corporate field [28]. For instance, as enterprises are slowly beginning to implement OP through means of GDSS, one approach is to use ESNs [29]. However, ESNs can be understood as “social media used for communication and interaction within the workplace” [2]. Thus, these information systems are by no means automatically fully equipped to serve as facilitators for CSOP, suggesting that further research is needed.

All in all, current research proposes that OP offers many benefits to both employees as well as employers. However, they need to be considered against their risks, which can be partially mitigated through the use of GDSS. Although ESNs are fairly widespread, research on eParticipation tools for the specific context of OP is very scarce. Thus, we seek to close this gap by proposing a research framework that incorporates the components and requirements for GDSS to enable participation in firms. We choose to interview experts in diverse organizations in order to elicit possible challenges and opportunities in implementing CSOP. This will yield a framework with testable propositions that is able to guide future research as well as practical implementations.

3 Study Design

We aim to capture tacit knowledge from experts in organizations based on guided expert interviews [30]. We consider this as the most promising and insightful method to develop a framework with verifiable propositions and hypotheses for future research. For instance, a general survey might be too broad and a field study in a single firm too case-specific. Therefore, we focus on expert interviews with executives with more than five years of work experience in the HR and/or IT department. These experts can be considered decision makers when it comes to implementing CSOP.

We interviewed a total of 20 participants that all had extensive experience with organizational participation in practice. Two thirds of the experts were working in the services and information and communication technologies industry. Production industry was home to five experts. Only one of the companies had less than 100 employees. In two thirds of the companies, there was a more or less active workers council.

Based on the theoretical background presented in Sect. 2, we developed an interview guide. Our interviews began by introducing the concepts of OP. We then asked for the level of workers’ representation (i.e. trade unions, workers council) and

examined the corporate culture by asking about the corporate hierarchy and formal decision-making processes. Thereafter, we explored the usage of collaborative software tools such as ESNs. Following this part, we interviewed the experts on their experience with OP processes and asked for challenges and opportunities of a possible computer-supported implementation.

Interviews lasted, on average, 45 min. We recorded them both in writing and audio. Three research assistants transcribed the interviews following the approach of Weston et al. [30]. Inter-coder reliability was ensured by repeated crosschecks. Three research assistants resolved discrepancies with the help of an independent third party. Transcriptions were then processed using MAXQDA 12.1.3 [31]. We created a codebook with 98 codes. Codebooks were crosschecked to increase validity. We took an iterative and dynamic approach, developing the codebook further as we went on to derive codes in vivo during the analysis of the interviews. We coded snippets, phrases and paragraphs and cross-checked the final coding.

Based on the theoretical background and the expert interviews, we develop a nascent framework, which will be described in detail as follows.

4 Results

Table 1 shows the use cases for which experts carried out OP. Most commonly, employees were simply informed about firm developments. Furthermore, we observed a form of what we call “coffee kitchen participation”, which includes employee voting on decisions that are not business-relevant such as the color of the canteen walls, where to go for a Christmas party or the type of coffee to be bought. Moreover, the interviewees stated that participative processes in their companies asked for the staff’s well-being and for idea generation (i.e. suggestions for improvements of products, procedures and work conditions). In addition, experts said that employees were invited to set the agenda of board meetings and corporate events, propose mission statements and work on strategy plans or corporate policies. All of the use cases happened both with and without the support of IT tools. Also, most use cases were located at a corporate-wide level, but one that was exclusive to the unit level. In most cases our interviewees told us about, employees were only able to decide on “light-weight” issues. The creation of mission statements or strategies was rare. More often, OP was

Table 1. Use cases for organizational participation

Use case	Using IT-tools	Unit level	Corporate level
Information	X	X	X
Coffee kitchen participation	X	X	–
Employee well-being	X	X	X
Idea generation	X	X	X
Agenda setting	X	–	X
Mission statements	X	–	X
Strategy & corporate policy	X	–	X

happening in form of suggestion schemes, surveys on well-being and by means of coffee kitchen participation.

The vast majority of the experts made positive experiences with OP. They reported affirmative reactions from their employees, who appreciated the effort as promoting equal opportunities. As expected, the interviewees said that participation led to increased job satisfaction. Some experts also told us that they experienced a change in the corporate culture with more feedback and trust as a sign for a willingness for organizational transformation. Moreover, OP reportedly led to an increase in decision quality and more (product and process-optimizing) ideas. Many interviewees also said that OP was positively received by the companies' leadership. Some were frankly surprised by the high quality of the results and the overall effects.

However, in the past experience with OP many experts reported critical problems too. A major issue was the low rate of response among employees, which the interviewees traced back to four reasons. First, some employees were unable to identify themselves and their job with the chosen topics. Thus, they had no interest in participating and did not feel involved. Second, many companies simply were not ready for OP as their corporate culture lacked the formal and informal framework (e.g. employees did not dare to express their opinion or were unable to do so because of hierarchical structures). Third, the experts acknowledged that an OP process needs some marketing to attract users. An interviewee explained it the following way: *"When you put up something for discussion, you can be happy if there is some degree of participation at all. We call it the empty dancefloor: There always needs to be someone who starts dancing first, so that other people follow"*. Fourth, companies used software tools to organize the participative process, which were often perceived as insufficient because of their high complexity in terms of both the time it took to learn the functions as well as the resources employees had to put into the process besides their normal job tasks. An expert stated: *"There are usually employees who say, they feel simply overloaded with the tasks they already have. They perceive the introduction of new software tools as an additional burden"*. Moreover, interviewees reported that some employees did not trust the (technical) systems due to a lack of anonymity. Some experts also reported that reticent employees were discriminated by the process as they did not get equal opportunities to have their say. Furthermore, employees that were less tech-savvy were disadvantaged too. Due to these four main reasons described above, low employee participation diminished a processes' representative status in the eyes of the experts.

In general, our experts recognized that OP in their companies was often structured inefficiently. For instance, discussions were sometimes perceived as off-topic and not constructive. This happened when there was a lack of priority and when responsibilities were unclear. Experts regularly reported of a lack of commitment by the leadership because it was not clear how the senior management would deal with results or simply did not show much interest. Many experts also think that the leadership could effectively block decisions or derail the participative process, so that employees lose interest and trust in the whole process. Another problem occurred especially in the field of idea generation. In a few cases, results were so disappointing that the experts assumed that employees did not have sufficient expertise to propose and discuss certain ideas. Instead the experts stressed that they faced a high workload in evaluating and eventually dismissing ideas.

A small number of experts reported that their firms used dedicated software tools for OP. Yet, most experts said that they were relying on offline measures, their Intranet or ESNs. Thus, when introduced to an online GDSS specifically designed for CSOP, most experts had to depend on hypothetical knowledge. In general, most suggested that such a system is especially appropriate for firms with more than one location and a larger number of (spatially dispersed) employees. They expect employees to have positive reactions for CSOP. In particular, experts expect more constructive discussions as a result of mutual rating of proposals and filtering of bad ideas. This in turn would lead to higher acceptance and approval from the leadership. Many interviewees also think that such software tools can support employees regardless of their position and social status. Some experts also predict increased transparency of the decision-making process. They envision dedicated software to make the whole process clearer, which could increase the efficiency of CSOP. Moreover, some experts recognized that GDSS might be more motivating through means of rankings and gamified elements. Experts were divided over the questions of anonymity and moderation. For instance, some assume that employees would only use it to write complaints or might even use the forum as a way to compromise and attack their superiors. As one expert stated: *“With anonymity we made the experience that a very small part of the participants who dislike everyone and everything can have a big negative impact on the discussion overall”*. Contrarily, other experts emphasized the need for anonymity as it would be the only way to comply with legal requirements and, more importantly, enable open discussions on sensitive issues. In their view, anonymous comments would protect employees from repressions of their superiors. Notably, we found the same controversy among experts in terms of the need for moderators.

In conclusion, we captured tacit knowledge on CSOP from a variety of experts. We found that firms rarely use dedicated software for OP, although the experts envision that CSOP could diminish negative effects of offline processes while emphasizing the positive sides. GDSS seemed promising especially because of their ability to make the structure of the overall process more transparent and accessible, as well as more engaging. However, the interviewees also stressed that GDSS might be misused by some employees. Thus, based on these results we can derive the determinants for a CSOP framework.

5 Framework

The expert interviews offer a critical analysis of existing practices in OP. Based on these results, we describe a framework that describes the determinants of CSOP in a way so that it will improve both the efficiency and equality of employers and employees; leading to a win-win situation for both. We aim to describe valid constructs for firms with spatially and timely dispersed teams and more than 50 employees. Figure 1 shows our framework of CSOP. We describe it in more detail as follows.

Topic Horizon. In order to fulfil its purpose, CSOP needs a process that allows employees and employers to discuss a range of ideas and topics. We call this the topic horizon, which defines the issues that can be discussed in detail throughout the

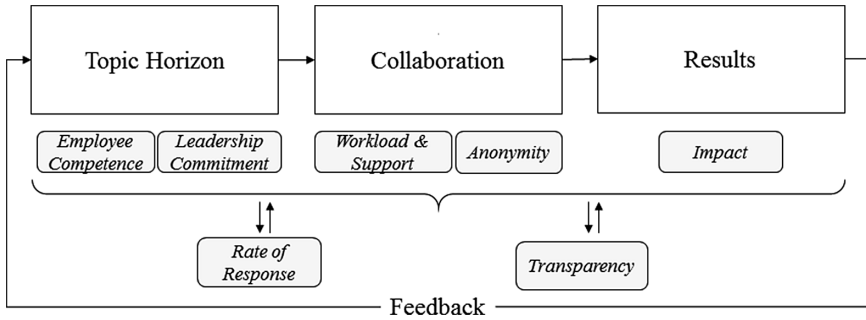


Fig. 1. Framework of computer-supported organizational participation

participation process. These issues can range along all use cases discovered in Table 1 – from seemingly trivial topics, such as the color of the cafeteria, to mission statements and strategic decisions. The topic horizon also sets the boundaries of who can propose what type of issue. The topic horizon is defined by both the employees’ competence as well as the leadership’s commitment. The first means both competence as a function of the expertise of the employees (Do they have enough knowledge and skills to work on a certain topic?) as well as what rights and obligations are granted to them (What can employees decide on?). Topics should be chosen in such a way, so that they are relevant to employees in order to ensure identification. On the other hand, commitment asks for how much the leadership is actually involved in the whole participation process (How much do they engage?) and what they plan to do with the results (Are results binding or just a form of consultation?). Both characteristics set the boundaries of the topic horizon. These characteristics significantly impact the topics that can then be proposed in the collaboration phase.

Collaboration. After agreeing on a topic horizon, members of the participation process can propose issues they want to discuss in more detail. At the moment of the inception of the first proposals, the participation process enters into a phase of collaboration that develops these proposals further. Depending on the goals of a certain process, this can include commenting, editing and rating – either by regular users or (internal as well as external) moderators. The means of collaboration dictate the workload that is imposed on both employees (How much effort is asked for to propose and work on an idea?) and employers (What degree of oversight is needed?). In addition, collaboration also includes support for the members of a participation process. For instance, in cases where the topic horizon exceeds the employees’ expertise (but not the relevance), firms could implement supporting collaboration tools or structures that ensure the required level of information apprehension. Anonymity is another important characteristic of the collaboration phase. In some countries, anonymous discussion might be legally advised. Moreover, anonymous communication seems generally useful when employees discuss sensitive issues, because users can express their opinion more honestly and do not have to fear repression from their superiors [24]. We propose a few features and remarks on implementation below. Finally, the collaboration phase ends by presenting the final proposals.

Results. These proposals are subject to decision-making (i.e. voting) and, hence, become results. The results have a (more or less disruptive) impact on the employees, the employers and the firm's market. While the results and their form are heavily dependent on the form of the topic horizon and the collaboration phase, they also define future participation processes. For instance, if the results produce disruptive product ideas, both employees and employers will be more inclined to start another participation process. They might even widen the topic horizon by committing more strongly and granting more competencies. However, if the feedback is negative, another round of participation might have a narrower topic horizon. In the end, the members of the CSOP process decide on the proposals in the form that they have been developed into during the collaboration phase. Thereafter, the outcomes enter a feedback loop, which determines the conditions of whether another round of the participation process will be initiated.

Feedback. Furthermore, the process as a whole is dependent on the rate of response and level of participation. Naturally, if more members take part in the discussion, the leadership will be inclined to commit more strongly to the results. However, if a certain threshold cannot be reached, there is less of an incentive because the process has a limited representative status. Likewise, if many members enter a discussion, it becomes more engaging. Yet, these effects are interdependent and a type of chicken-and-egg problem. Additionally, the way the process is designed en bloc determines its degree of transparency for every construct. Transparency is a basis for trust in the whole process. If the leadership communicates clearly how the CSOP process is set out, employees know what to do and what to expect. This makes decision-making more easy to understand and will spark participation. A transparent process will also ensure that employees feel appreciated [20].

The success of CSOP is highly dependent on the goals and the appropriate selection of the tools and features necessary to fulfil these goals. First, a successful CSOP procedure is dependent on the corporate culture. Some companies might be able to adapt CSOP more easily due to their flat hierarchies and open discussion culture, while others might take longer because of a more formalized way of communication. Second, the experts interviewed stressed several times that some employees will be easily engaged in a participative process. However, others might feel overwhelmed. Thus, participation should be voluntary and competition between employees should be kept at compatible levels. Nonetheless, if employees spent much time on participation, they could also ask for some rewards. Third, participation is by no means a sure-fire success. One expert said: "*Marketing is essential to ensure acceptance of the tool.*" Hence, we advise to implement (on- and offline) marketing measures before, during and after the participation process. These might include trainings and workshops. Furthermore, the implementation should consider how a participation process can be integrated in the existing enterprise IT infrastructure.

A myriad of features can be used to pronounce the positive and mitigate the negative effects of CSOP postulated by the experts. These include idea filtering techniques [32], delegated voting [33], gamified approaches [34] or could make use of text mining tools, such as term extraction and topic modeling [35].

6 Discussion, Limitations and Conclusion

We proposed a nascent framework of CSOP. Based on 20 guided expert interviews, we derived a set of use cases for CSOP. Thereafter, we propose a model that incorporates a topic horizon, a collaboration phase and results as its basic constructs. These are highly dependent on their respective characteristics. First, the topic horizon is determined by the employee's competence – both in terms of expertise as well as the relevance of the topics to them. Additionally, the commitment by the leadership is crucial as it defines which stakeholders are involved and in what way results will be dealt with. According to these boundaries set for the topic horizon, CSOP enters into a collaboration phase. Depending on how the workload is shared among employees and employers and what measures for support are chosen, as well as whether anonymous communication is enabled, collaboration entails certain forms of proposal editing, commenting and developing. In result, these proposals are decided on and will reveal a more or less disruptive impact for the employees, the leadership and the firm's market. CSOP is heavily reliant on the features that are chosen for the design of the process. We also suggest that the whole process is profoundly depending on the rate of response by the employees, which determines the representative status of the whole CSOP initiative. Moreover, the transparency of the process defines how well the decision-making process can be understood and accessed by employees and employers. However, these two latter constructs are interdependent with the aforementioned constructs. The design of CSOP is very context-specific. Hence, practitioners should also consider a thorough assessment of a firm's corporate culture and the diversity of their employees as well as marketing measures.

In line with extant research, our framework incorporates the three forms of online communities – information sharing, collaboration and collective action [1]. It mirrors some of the common success factors identified for public eParticipation [8], while we emphasize workload and support as well as anonymity more strongly. Future research could compare our model to other public eParticipation frameworks in more detail, which was beyond the scope of this study. Despite our best efforts to diversify our set of experts, future research could consider surveying a broader (and more international) set of employers and employees. All in all, our framework can only be the first step of research in progress, where the model needs to be tested in practice.

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