The Qualitative Report

Volume 28 | Number 9 Article 15

9-23-2023

# Facilitating Communities of Practice: A Case Study

Jukka Ojasalo
*Laurea University of Applied Sciences*, jukka.ojasalo@laurea.fi

Marius Wait
*University of Johannesburg*, mwait@uj.ac.za

Ronan MacLaverty
*Laurea University of Applied Sciences*, ronan.maclaverty@gmail.com



## Recommended APA Citation

Ojasalo, J., Wait, M., & MacLaverty, R. (2023). Facilitating Communities of Practice: A Case Study. *The Qualitative Report*, *28*(9), 2792-2813. https://doi.org/10.46743/2160-3715/2023.5976

# Facilitating Communities of Practice: A Case Study

## Abstract

Communities of practice (CoP) have become a popular source of knowledge-sharing and learning in organizations. However, several problems occur in managing them and more knowledge about this area is needed. This article addresses this knowledge gap and aims to understand and describe how to facilitate communities of practice in a large corporation. The research draws on a qualitative case study based on interviews with people involved in CoPs in a large multinational technology company and the analysis followed the method introduced by Gioia et al. (2013). The findings relate to participants' conceptions of the nature of CoPs, how CoPs align with the organizational structure of the company in which they operate, and a CoP's working model. This research extends the knowledge of how to facilitate CoPs, with several findings about the characteristics and challenges of CoPs and potential solutions to their problems. It also helps practitioners who are responsible for establishing and leading CoPs in organizations by proposing a pragmatic approach to doing that.

## Keywords

agile product development, case study, communities of practice (CoP), interview, knowledge management, service design



## Acknowledgements

The authors are grateful to the reviewers of this article for their valuable comments in improving the manuscript.

*The Qualitative Report* 2023 Volume 28, Number 9, 2792-2813
https://doi.org/10.46743/2160-3715/2023.5976

# Facilitating Communities of Practice: A Case Study

Jukka Ojasalo[1,2,3], Marius Wait[3], and Ronan MacLaverty[1]
[1]Laurea University of Applied Sciences, Finland
[2]University of Helsinki, Finland
[3]University of Johannesburg, South Africa

Communities of practice (CoP) have become a popular source of knowledge-sharing and learning in organizations. However, several problems occur in managing them and more knowledge about this area is needed. This article addresses this knowledge gap and aims to understand and describe how to facilitate communities of practice in a large corporation. The research draws on a qualitative case study based on interviews with people involved in CoPs in a large multinational technology company and the analysis followed the method introduced by Gioia et al. (2013). The findings relate to participants' conceptions of the nature of CoPs, how CoPs align with the organizational structure of the company in which they operate, and a CoP's working model. This research extends the knowledge of how to facilitate CoPs, with several findings about the characteristics and challenges of CoPs and potential solutions to their problems. It also helps practitioners who are responsible for establishing and leading CoPs in organizations by proposing a pragmatic approach to doing that.

*Keywords:* agile product development, case study, communities of practice (CoP), interview, knowledge management, service design

## Introduction

The current knowledge-driven economy is in flux and requires companies to have effective approaches to exploiting the opportunities of knowledge-sharing and preservation to stay up-to-date, competitive, and present. Communities of practice (CoP) aim at being such a concept: they can be a powerful approach to the knowledge management of an organization. While in the research literature the term "concept" is used to refer to theoretical definition or construct of a phenomenon, in this article it is used to refer to a managerial approach as well. The central managerial approach here is building and sustaining CoPs successfully; however, this involves several challenges. The need for approaches for facilitating collective knowledge creation and sharing is also emphasized by the growing popularity of agile or lean product development in large hierarchical organizations. To adopt agile processes fully requires a change of mindset in an organization from centralized to decentralized control. The term "agile" refers to the ability to change quickly and easily. One problem of large and centralized organizations is the dilution of knowledge and expertise inside them, across many individuals and teams and from sales to production and product development. Communities of practice have a great potential to facilitate the effective development, dissemination, and adoption of the methods, knowledge, and skills that are usually scattered within an organization. They can foster the effective use of resources and innovation. This case study addresses the need for new knowledge by empirically exploring the challenges and the potential solutions related to building up and facilitating communities of practice.

Communities of practice enable the creation of new knowledge by sharing information in organizations (Nowak, 2017). Glaze-Crampes (2020) argues that communities of practice are as old as the human race itself and arose when the first people gathered together to share tools and hunting techniques for their survival, usually through storytelling (Wenger et al., 2002). Academics have taken this concept of working together within a formalized research context as an instrument for situated learning and legitimate participation (Wenger & Snyder, 2000). The basic interpretation of how CoPs and learning connect is based on three theories: knowledge is a social process; knowledge is situated in a real-world context; and learning can take place in informal settings through interactions with others, thereby creating meaning (Wenger, 1998; Glaze-Crampes, 2020). Nowak (2017) agreed and went on to define CoPs by three concepts: mutual engagement, which deals with the complementary and corresponding contribution of a diverse group to a shared task; a joint enterprise, which deals with member participation in the change process; and a shared repertoire, which deals with concepts such as routines, words, tools, ways of doing things, gestures, symbols, genres, and actions (Wenger, 1998). Voskoglou (2019) offers a similar but more concise definition: that a CoP is a group of people (experts or practitioners in a particular field) who share a concern for something they do and learn how to do it better, regularly interacting and creating the opportunity to develop themselves personally and professionally. CoPs are formed across many spheres of life – for example, in the music composing industry (Hennekam et al., 2020); using WhatsApp groups for student engagement (Della Líbera & Jurberg, 2020); creating student CoPs to enhance learning in specific subjects such as mathematics (Voskoglou, 2019); and developing media professionals (Komorowski et al., 2018).

Large international companies from various industries have implemented the idea of CoPs to improve their knowledge-sharing and learning (e.g., Wenger et al., 2002). CoPs have been a recognized method, for example, of improving knowledge-sharing, business processes, and coordination in large companies that conduct their product development with several teams in several geographical locations (Larman, 2010; Paasivaara & Lassenius, 2014).

Despite their increasing popularity, several problems with and critiques of CoPs have been raised (Handley et al., 2006; Fox, 2000; Mutch, 2003). While the potential gains of CoPs are known, building up and leading them is found to be a challenge. CoPs face challenges such as issues related to having and using power, mistrust between members, restricted codes of conduct, their size and spatial reach, and the community's pace of change (Roberts, 2006). A CoP might lack common activities and goals in addition to having to solve day-to-day problems; and it might also lack a CoP culture (Paasivaara & Lassenius, 2014). Moreover, stakeholders might not want to participate in a CoP out of indifference to its focus area, or they might not collaborate because of internal differences in their positions. Even if the beginning phase of a CoP is successful, long-term activity could cease (Matsumoto et al., 2021). Indeed, more empirical knowledge is needed about overcoming the challenges and implementing CoPs in large international organizations.

This article reports on a case study of organizing CoPs in a multinational centralized company operating in several locations. It investigates the challenge of supporting the creation and facilitation of communities of practice inside the R&D organization of a large centralized multinational company. First, it briefly explains the nature of CoPs. Then it explains the empirical methodology and findings. Next, it proposes an approach to facilitating CoPs. After that, it discusses the implications to the research literature and practice. Then, it draws the final conclusions.

## Communities of Practice

CoPs are based on learning in a social context in a community in which members contribute and share experiences of participating in daily life and working towards a common concern. A CoP is a group of people with a shared concern, set of problems, or passion for a specific topic who practice and learn about how to make improvements on a given topic through regular interaction (Wenger et al., 2002). Instead of individual activity, CoPs make learning collective and interactive. Professionals who work "isolated" from each other – for example, as a result of organizational structure or geographical location – can learn and create knowledge together in CoPs; CoPs facilitate knowledge transfer in a wide range of organizational environments (Roberts, 2006). They enhance learning and knowledge-sharing for three reasons (Nxumalo & Mnkandla, 2019): CoPs can involve individuals from different environments, backgrounds, and disciplines; participation in a CoP makes a person more motivated to use the learnings in practice; and knowledge is not just shared but collectively created.

Lesser and Storck (2001) identified four areas of organizational performance that can be affected by CoPs. They included decreasing the learning curve of new employees, responding more rapidly to customer needs and inquiries, reducing rework, preventing "reinvention of the wheel" and spawning new ideas for products and services. There are different forms of communities of practice, depending on how they are constituted: a CoP can be self-driven (informal and created by members), artificial (created by managers), or virtual (which can be both self-driven and artificial) (Komorowski et al., 2018; Cohendet et al., 2010).

There are a few prerequisites contributing to the success of CoPs. Participation should always be voluntary, and members should establish horizontal relationships (Della Líbera & Jurberg, 2020). CoPs should not be gender-biased to provide a safe space where genders can mix (Hennekam et al., 2020). In international organizations, CoPs should be borderless, and so should work across continents and use online tools (Voskoglou, 2019) – even on Twitter (Komorowski et al., 2018). The success of a CoP should be driven by interesting topics with actual participants, a passionate leader, a proper agenda, the authority to make decisions, an open community, supporting tools to create transparency, a suitable rhythm, and cross-site participation when needed (Paasivaara & Lassenius, 2014).

To conclude, communities of practice are groups of colleagues or persons with similar professions from the same or different organizations who come together on to share practice-based knowledge, experiences, and best practices related to their jobs and professions. The formality, organization, initiation, establishment, and means of interaction can vary significantly in CoPs. A case-specific consideration is required when identifying and analyzing CoPs. In our empirical study, the case organization formally established CoPs; thus, identifying the object of research was clear.

# Methodology

## Single-Case Study

This article is based on a single case study that drew on qualitative inquiry. Case studies have several characteristics; they enable a holistic and detailed understanding of real-life phenomena. As noted by Yin (1994), a case study allows an investigation to retain the holistic and meaningful characteristics of real-life events, such as organizational and managerial processes. Similarly, Gummesson (2000, 86) says: "An important advantage of case study research is the opportunity for a holistic view. … case research seeks to obtain a holistic view of a specific phenomenon or series of events." It enables the detailed examination of a single

example of a class of phenomena (Abercrombie et al., 1984). Indeed, our aim was to do a holistic and detailed analysis of a single case in which we were involved. Thus, the case study method was most suitable for this purpose.

Case studies have certain limitations: they lack statistical reliability and validity; they can be used to generate hypotheses but not to test them; and generalizations cannot be made (Gummesson, 2000; Yin, 1994). This study has the inherent limitations of any qualitative or case study. Its findings cannot be directly generalized without further quantitative studies or wider experiments on their implementation. It is assumed, however, that the findings and propositions of this empirical case will help researchers and practitioners in further exploration and development of this area.

## The Case and its Context

A case study refers to the study of a social phenomenon. It is carried out within the boundaries of one social system or recognizable social unit (the case), such as people, organizations, groups, individuals, and local communities, in the natural context of the case (Swanborn, 2010). The case of this study is a phenomenon called "CoP" and its context is a software development unit of a multinational company. CoPs in other units of the multinational company or in other organizations are outside of the boundaries of the current empirical case. The context of the case is in this article called "case organization."

The case organization (software development unit) of this study is part of a multinational company that is primarily involved in manufacturing high-technology products; software development is part of their product development. The industry is highly regulated and is undergoing an agile transformation. While the case organization is part of a multinational company, the scope of this investigation was focused on local communities of practice. This narrowed the focus to the roughly 200 local employees of the case organization working in Helsinki, Finland. Not all these employees participated in communities of practice; however, a reasonable number of informants on CoPs was captured in this research.

## Informants

According to Fontana and Frey (1994), researchers should find insiders who are willing to be informants and to act as guides to and translators of the cultural environment and of its jargon (language and terminology). One of the authors of this article was working in the case organization and had access to the offices of informants and to places where communities of practice met (MacLaverty, 2021). He collected the data and was also aware of ongoing projects that might be confidential and not accessible to people from outside the organization; thus, the informants could speak freely. He also had access to members of the organization through a range of professional and social ties, had worked in this organization for several years, and was aware of the jargon, social setting, etc., which allowed a rich interpretation of the findings. Indeed, the choice of the case organization as the research environment was appropriate because it provided specific information relevant to the objective of the research. There was an existing set of CoPs that were accessible to the researcher.

The empirical data were collected from ten informants who represented different roles in the CoPs. The interviewees included current and former CoP leaders, participants, or managers of participants. A more detailed description of informants is avoided in order to guarantee confidentiality. Of the interviewees, two were CoP leaders and one was a former CoP leader; the remainder were participants or managers of participants. The principal criteria for choosing and evaluating informants were effective exposure to the knowledge and the ability and willingness to communicate it clearly (Pearsall, 1971). Selected informants were

those who were most likely to provide substantive answers and responses to inquiries (Saldaña, 2011) based on their personal experience in CoPs. The specific informants within the case organization were selected using the snowballing approach (Noy, 2008), starting with an initial contact who participated in and led an agile community of practice in which the researcher also participated. From this first contact, other participants in other communities could be identified and interviewed, using the previous informants as brokers. This approach helped in finding additional informants who were previously unknown to the researcher who collected the data. In addition, part of the research interest was in how the organization viewed communities of practice, so managers were identified and interviewed to gain their perspective. This was seen as important from the initial theoretical review which identified organizational support as a key to community success.

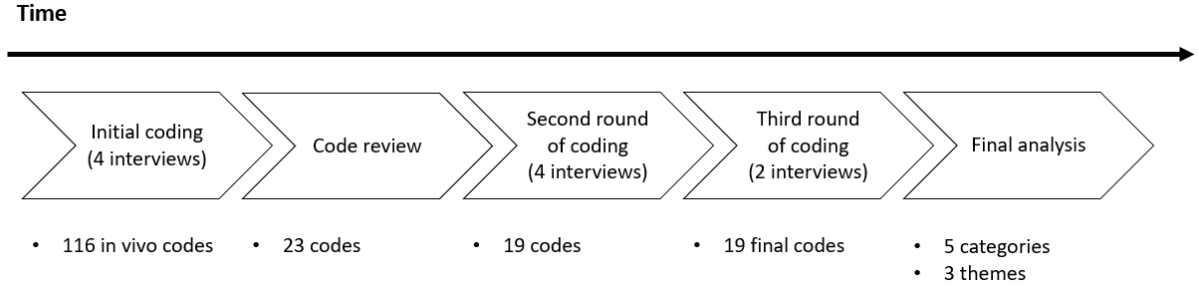
## Data Collection

The qualitative inquiry of this study was based on interviews (Brinkmann & Kvale, 2018). The data were collected by one of the authors of this article. Most of the interviewees were known to the researcher who collected the data prior to the interview, and all the terminology, jargon, and internal organizational information was known to him. All the informants, along with the researcher who collected the data, were employed by the case organization at the time of the interviews. Because the company used English, that was the language of the interviews. Of the informants, one was English, three were Spanish, and six were native Finnish speakers. The interviews took place between February 7th and October 28th of 2020 and consisted of two face-to-face interviews and eight video-based interviews. The data were collected in two rounds, as explained below. All the interviews were recorded and transcribed for analysis. This study is based on the data collected in the interviews and other materials or records were not used. The research followed the ethical principles of research with human participants and ethical review in the human sciences in Finland defined by the Finnish National Board of Research Integrity (TENK, 2019).

## Data Analysis

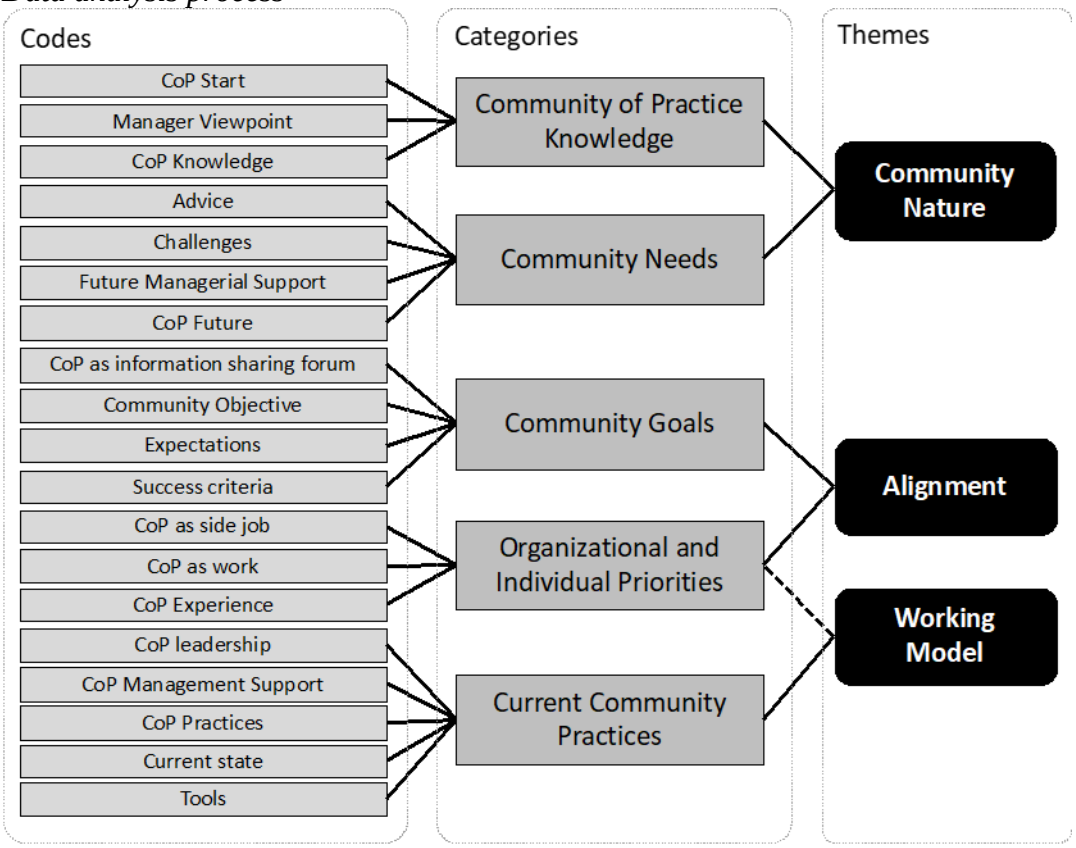
The collection and analysis of the data took place in phases (Figure 1; Figure 2). The goal of this process was to capture a wide range of topics before narrowing the focus down to the novel aspects of the data. The analysis followed the principles of grounded theory (Glaser & Strauss, 1967) and coding process introduced by Gioia et al. (2013). The data were collected and coded, and the codes were reviewed in three rounds. 161 *in vivo* codes were generated, and their number was reduced into 19 final codes. After this, in the final analysis, five higher level categories were identified, and three final themes identified.

**Figure 1**
*Data collection and coding*



**161 in vivo codes → 19 final codes.** The first four interviews were accompanied by a form of open coding akin to the tagging of relevant text suggested by Auerbach and Silverstein (2003). This approach generated many codes from a small number of interviews. These very initial codes are called "open codes" (Glaser & Strauss, 1967), "pre-codes" (Layder, 1989), and "in vivo codes" (Saldaña, 2011) in the method literature. In this case, the first four interviews consisted of three community organizers and one manager, generating 161 codes. Many of these initial codes only existed in one file or one informant's interview. The 161 codes were reviewed to combine many of them into more comprehensive and coherent codes that were shared across interviews; this reduced the number of codes to 23. These 23 codes are called as "1st order codes" by Gioia et al. (2013, p. 21). After the first refinement, another four interviews were conducted and coded. During the process, attention was paid to whether the existing codes matched the interview data, or whether new codes would be required. This mainly resulted in the coded data being changed to more appropriate codes. Again, the codes were refined to improve their clarity, which reduced their number to 19. The final two interviews confirmed the relevance of the previously generated codes and enriched the codes with more data from the informants' experiences. In this way, the coding of the qualitative data evolved from a loose, vague set of codes to increasingly clearer and richer ones.

**Figure 2**
*Data analysis process*




**19 codes → 5 categories.** Once the number of codes had been reduced to 19, the final analysis process could be shown in more detail in respect of the three-phase process introduced by Gioia et al. (2013). The final evolution of the analysis and coding is shown below (Figure 2). The findings of this research were based on the recurrent themes that emerged from analyzing the interview transcripts. In terms of Gioia et al.'s (2013) framework, the first level

of analysis created 19 codes; the second level resulted in five categories. In Gioia et al.'s (2013, p. 21) coding process, these categories are called "2nd order themes."

**5 categories → 3 themes.** The third and final level of analysis produced three broader themes (Figure 2). These final themes are called "aggregate dimensions" in Gioia et al.'s (2013) coding process. The final three broader themes represent the main results of this case study. They deal with the nature of communities of practice, their alignment with the organization in which they function, and their working model. The results of the empirical case study are described in the "Findings" section of this study.

## Trustworthiness

Trustworthiness of qualitative research can be characterized by credibility, transferability, dependability and confirmability, and reflexivity (Korstjens & Moser, 2018; Lincoln & Guba, 1985). Credibility is affected, for example, by feeding back interpretations from earlier interviews to later ones. The empirical data collection of this study took place in two rounds, where the design of open-ended questions of the second round were affected by the interpretations on the data from the first round. Credibility is also affected by investigator triangulation (Korstjens & Moser, 2018, p. 121), which means that two or more researchers are making interpretations from the research. This report is a joint effort of three researchers, which enabled research triangulation. Transferability means that the results of the research become meaningful to outsiders of the research group. Transferability of this study was evaluated with "weak market test;" in other words, finding out if any manager would be willing to use the proposed approach in his own situation. "Dependability" and "confirmability" refer to transparency of describing the research steps taken from the start of a research project to the development and reporting of the findings. The above description of the case and its context, informants, and data-analysis reveal the research process. "Reflexivity" refers to considering how one's own conceptual lenses, assumptions, and preconceptions may affect research decisions. In this study, one of the researchers collected the data from his own organization while the two other researchers were not involved in the organization and had different research backgrounds; this enabled joint reflection among researchers.

## Development of a Practical Managerial Approach to Facilitating CoPs

After undertaking the empirical case study described above, the different identified challenges and needs of CoPs were addressed. The study developed and proposed a practical approach to facilitating the building up and sustaining of CoPs. The proposed approach was based on using selected tools for service design and design thinking. The case study identified three critical areas in organizing CoPs: 1) community engagement, 2) community value, and 3) a working model. Next, a substantial number of potentially useful service design methods were reviewed, based on the literature (Stickdorn et al., 2018; Reason et al., 2015; Design Council, 2015; Tschimmel et al., 2015; Løvlie et al., 2013; Liedtka & Ogilvie, 2011; Kumar, 2012; Osterwalder et al., 2014). Then certain tools were selected that researchers believed would help organizers of CoPs to address community engagement, community value, and a working model. The proposed approach to facilitating CoPs was evaluated by one of the informants to whom we referred earlier.

This followed the principles of the "weak market test" (Kasanen et al., 1993, p. 253) used in the context of a constructive research methodology. The idea of a weak market test was to find out whether any manager was willing to apply the proposed approach in his own situation. Instead of generalization, the purpose was to evaluate whether the proposed

managerial approach was relevant, simple, and easy to use by any practitioner (Niiniluoto, 1985; Kasanen et al., 1993, pp. 258-259; Oyegoke, 2011, p. 585).

The proposed approach was evaluated by an informant who was the leader of a CoP that flourished for a short time and then became inactive. He had a strong interest in improving and re-launching the community within the case organization. The proposed approach was presented to the community organizer, and he was interviewed to discover his opinion about the approach – in particular, its usefulness and the challenges with using it, and his willingness to adopt the approach. The presentation of the proposed approach and the associated interview took place over two sessions. The first explained the background of the proposed approach, and the second evaluated the approach's tools from the perspective of whether they could be used by the community organizer. The evaluation was positive overall, and the informant was willing to adopt the proposed approach. The primary finding of the evaluation was that the proposed approach could be used by a community organizer to facilitate a community of practice. The interviews with the evaluating informant enabled the researchers to add some notes to the application of the approach.

Thus, in this article we also briefly explain and propose the practical managerial approach to facilitating the building and sustaining of CoPs. The reader is reminded that the validity and generalizability of the proposed managerial approach was not statistically tested. Organizers of CoPs are recommended to consider the proposed approach as simply a framework that might serve as a starting point for developing a more comprehensive case-specific application, should that be necessary. The proposition is introduced in the section below headed "Proposed managerial approach for facilitating CoPs."

## Results

The results of the empirical research fell into three categories: the conception of the nature, alignment, and working model of CoPs. We describe the findings related to these categories in more detail and offer selected quotations from the interviews for the purpose of illustration. In the following we presents the results in terms of their quality, data, and analysis. *The quality* refers to definition of the finding (in other words, conclusion) of the interpretative process. *The data* includes some examples of data in terms of selected direct quotations. *The analysis* means explanation on how the quality represents the data.

### Conception of the Nature of Communities of Practice

● *Vague understanding of the nature of CoPs*

The findings of this study showed how people involved with CoPs subjectively define and understand their nature. This is relevant because without a clear understanding of what a CoP is and what it needs, it is difficult for people to promote or appreciate it. While academic research has offered rather clear and coherent definitions of CoPs, people participating in CoPs in real life have a very vague and incoherent understanding of what they are.

> *Are you now talking about the Teams group?*
> *We just establish a guild, call a group of people to join it, and then expect or assume that everyone starts to share.*

CoPs are referred to with terms such as "a Teams group," "guild," and "coffee event," and are then equated with the communication tools (such as Microsoft Teams) that are used to support them. People who understand CoPs superficially also think that there are many

different CoPs in their organization. In other words, non-communities of practice are regarded as CoPs. Often it is thought that people simply meeting one another every now and then constitutes a CoP, without clearer objectives or guidance. A CoP is also sometimes understood as a form of information repository, like a codification mechanism that structures information and keeps it in storage. Surprisingly few people regard knowledge creation goals as part of a CoP. Also, surprisingly few are aware that CoPs have – or should have – a focus or topic. These elements are central to the nature of CoPs in the academic literature (Wenger et al., 2002). The lack of knowledge about CoPs that was observed in this study was striking since all the informants were involved in some way with CoPs. However, one of the informants referred to knowledge creation and the focus orientation.

● *CoPs are overlooked and "managed"*

The lack of a clear understanding of what constitutes a CoP leads to their being overlooked and overly managed. Micromanagement and command kind of leadership does not support establishing CoPs, but rather collective decision making and co-leadership.

> *My perception is that, since now I am a manager, a lot of people expect me to lead it strongly. I'm, like, wait! Hold on, this is, this is a community.*

> *I would get together three or four people as an official core team so that we could actually be co-leaders from the start.*

The unclear definition and the lack of clarity about the nature of a CoP causes a lack of agency and support on the part of the organization. The lack of clarity about a CoP causes problems when trying to address the challenges of forming such a community. Leaders of CoPs have difficulty finding people to participate actively in a community. They might assume that a CoP is supposed to be "managed" by a single person and follow the standard team management approach. We found that the single-leader approach makes a community susceptible to the availability of a leader. Instead, our data suggested that co-leadership would improve the engagement and commitment to the community.

## Alignment of CoP's

Our study found that, because of the lack of knowledge about CoPs, there are great difficulties in merging its ideas with the organizational structure. This is viewed as the alignment of a CoP, the organization, and the members of the community. In comparison with the above findings on the nature of a CoP, where the challenges stem from the mutual engagement of individuals, the challenges here are to form a joint enterprise that can unite the CoP and contribute to organizational goals.

The success of CoPs depends on the commitment and support of both the organization and individuals. On the other hand, this depends on how well they both understand how CoPs can contribute to their goals. We found two relevant aspects related to aligning CoPs with the organizational structure in building up and sustaining CoPs: the organizational goals (or team-level goals) and the goals of individuals.

● *Organizational goals and benefits*

Managers see that CoPs should drive team-level and organizational goals. Since knowledge of the nature of CoPs is vague, their potential benefits are also unclear. From the

organizational point of view, CoPs are viewed like any investment. The return on investment is assessed based on how many employee working hours are required when participating in a CoP, and what the team or organization will gain from it. The increased competence of employees through learning from colleagues, and the resultant improvements in productivity, are clearly benefits that are expected to drive organizational goals. Managers understand the organizational benefits of CoPs by personally participating in them.

> *I think that the communities of practice[’s] goals should be to share information or ideas, new ideas that could be valuable for doing something better or trying to apply ideas.*

> *I'm thinking that, if one person is spending one day in every week to [do] something else [t]hat is not directly related his work role, for example. I'm not sure why we do that thing.*

The data show that the potential benefits of a CoP are compared with the cost – in other words, the cost of employee working hours spent in the CoP. While the cost of working hours is easy to calculate, the potential gains are harder to see, and their materialization is seen to be less certain. This poses a challenge to building and sustaining a CoP.

Our study included a successful example of using a CoP to achieve organizational goals. In this example, the community saw that the employees’ daily work was so tied to the goals and activity of the CoP that it was difficult to differentiate between the two. In such a case, the CoP could be directly used to enhance the goals of the team. Such alignment requires sufficient knowledge of the nature and potential gains of CoPs, as well as the authority and willingness to align the operation of the CoP with the organizational goals. In such a case, a team leader would likely be willing to encourage his employees’ participation in a CoP.

While on the surface the practical focus of a CoP would seem to align with the practical focus of managers, the novelty of the practices being discussed within a community arises as an issue. In many cases, the practices are co-created by the community members outside of the control of the organization’s traditional structure. This means that managers will not appreciate the issues without participating in the community itself. In the successful CoP included in our study, the manager actively participated in the community whenever possible. It is indeed easier for the team leader to use a CoP to serve the organizational goals if he or she participates in its activity at least to some extent.

● *Individual goals and benefits*

Aligning a CoP successfully with the organizational structure is supported when the goals of individuals are also met, and they recognize that are receiving benefits for themselves. This is the case when the individual sees that that the activity of CoP makes it easier to do their day-to-day work. If the individual’s professional goals and those of the CoP are well-aligned, then building up and maintaining a CoP is more likely to succeed.

> *Most people are happy to come to the meetings when they're not conflicting with something else they're doing, but they're not really very active contributors.*

The data show that it is important to avoid a situation in which the goals of a CoP conflict with those of the individuals. This means that the individuals’ goals should be more deeply understood. Personal goals might not always be in line with the official organizational

goals. Also, they might not be explicitly expressed by the individuals, even when they are asked directly about them. Cultural aspects are also likely to affect individual goals.

### Working Model of CoP

● *Pre-existing roles and practices of members help to build a CoP*

The way of working integrally affects the success of a CoP. A key finding here was that pre-existing roles, practices, and communities essentially build the working model of a CoP. The advantage of this is that it does not take too much time to organize and run such a community as there is little activity outside of the regular community meetings.

The data indicates that the extra activity and working hours required by organizing and participating in a CoP are some of the reasons that people are reluctant to participate in CoPs. If the extra load were marginal, "a few hours in a month or something like that, less than a day definitely," CoPs would be more likely to be adopted both by managers and employees.

● *Facilitation and participation in a CoP require dedicated time*

Extra time is required to facilitate and participate in a CoP. When the CoP cannot adopt pre-existing roles, the extra work for organizers is likely to be greater. In such a case, it would also be expected that the extra load would be formally recognized by the organization.

> *It would be nice if it was really recognized somewhere like black and white, that that you do this work, that you may[be] had, like, a half a day in a month, maybe to develop this, this thing.*

The data shows that the lack of official recognition and support makes it harder to keep the community running when time and project pressures arise. If the motivation and capacity of the organizer is not sufficient to build up or sustain the CoP, it will go into decline or die off. Thus, an organizer of CoP needs enough time and resources for this purpose.

● *Technology has a minor role in the success of CoPs*

Communication technologies have a minor role in the success of CoPs. We found that the standard office and communication tools, as well as many other readily available tools, offer adequate technical support. Building up and sustaining a CoP is not a technical challenge but a social and organizational one.

## Proposed Approach to Facilitating CoPs

Next, we describe the proposed practical managerial approach to facilitating, building, and sustaining CoPs. The approach addresses the three critical areas for organizing CoPs that were identified in our empirical study:

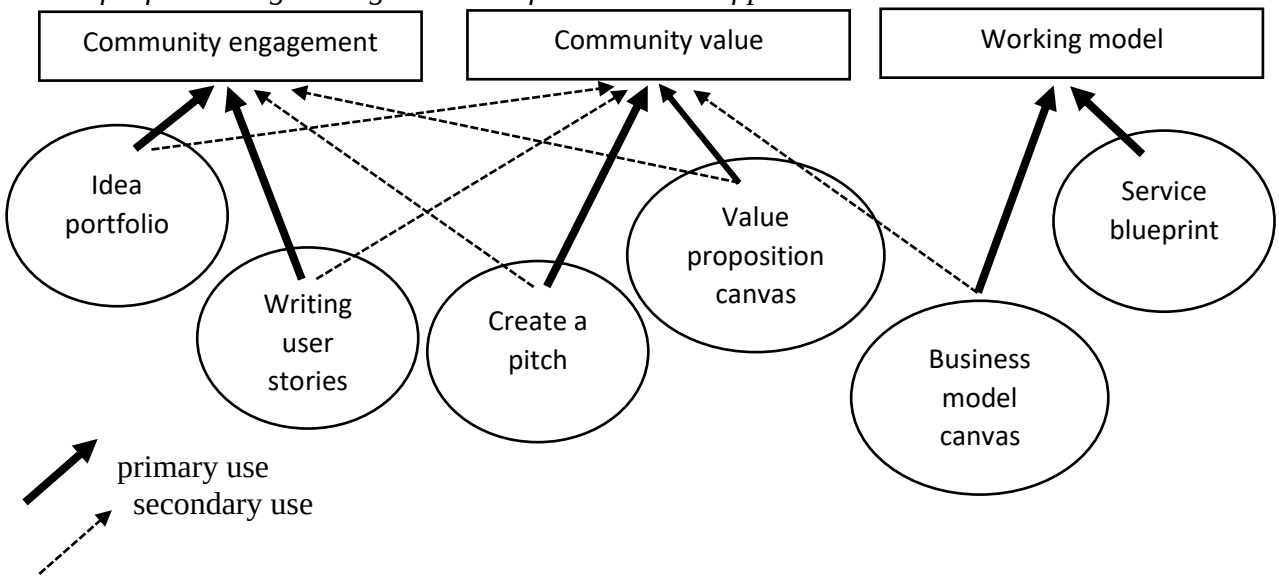
- *Community engagement:* Facilitating member engagement so that they both contribute to and benefit from a community.
- *Community value:* Aligning the value of community to the goals of the organization and the community's members. In other words, ensuring that the CoP is considered valuable enough both by its members and by the organization.

- *Working model:* Defining a working model of a successful community of practice as it evolves.

The facilitators of CoPs do that work in addition to their normal duties. They have little time to spend on community organizing, they normally lack a supporting core team, and they find it difficult to "sell" the community to others. Thus, we recommended methods and tools for facilitating the organizing of CoPs that are easy to learn, teach and adopt. The tools we recommended were six typical design-thinking and service-design tools: *building an idea portfolio, writing user stories, creating a pitch, creating a value proposition canvas, creating a business model canvas,* and having a *service blueprint* (Figure 3). A more detailed description of these tools can be found in the service design literature (see, e.g., Design Council, 2015; Meroni & Sangiorgi, 2016; Osterwalder & Pigneur 2010; Osterwalder et al., 2014; Reason et al., 2015; Stickdorn et al., 2018; Tschimmel et al., 2015). Some of the tools can be used facilitate in several critical areas. For example, *writing user stories* can facilitate both community engagement and community value. In Figure 3, the primary use of the facilitation tool is indicated with a continuous line and its secondary use with a dotted line. For example, *writing user stories* primarily facilitates community engagement; however, secondarily it can also be used to develop community value.

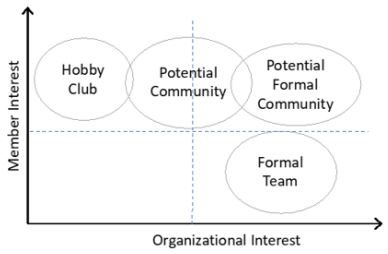
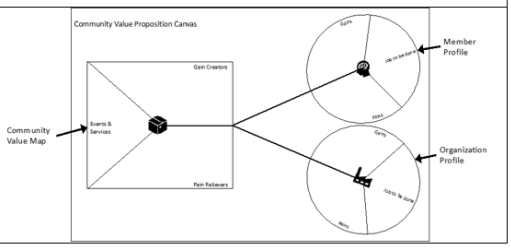
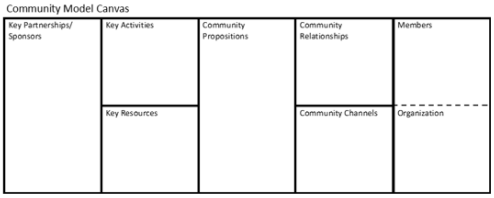
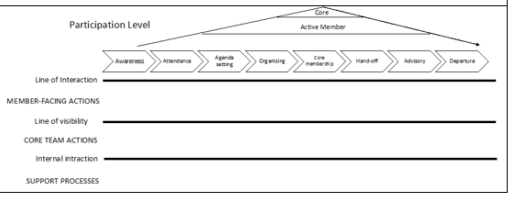
**Figure 3**

*Tools for facilitating the organization of communities of practice*




The idea of each of the service design tools is illustrated in Table 1. The *idea portfolio* and *writing user stories* help to attract members and to form the core group. They facilitate an understanding of the interests of members and organizations and articulate it clearly. The *value proposition canvas* and *creating a community pitch* facilitate aligning value with members and with the organization, as well as communicating it. The *business model canvas* and *service blueprint*, when applied to a CoP, facilitate developing and planning its activity and resources. These tools are widely used in design thinking and service design, and a more detailed description of their use can be found in the applicable literature.

**Table 1**
*Illustration of the tools for facilitating the organization of communities of practice*

| Objective | Challenge | Tool | Description | Visualization |
|---|---|---|---|---|
| Drive community engagement | ● Attracting members<br>● Forming core group | Idea portfolio | Captures both member interest and organization interest in the focus area of CoP. Aims for ideal situation in which CoP is interesting to both members and the organization. |  |
| | | Writing user stories | Can be used to understand and articulate desired activity and benefits of a CoP from the members' perspective. Community members say what they want to do and achieve in the CoP. | Articulation of valuable outcomes as follows:<br><br>**As a** community member, **I want** *<action related to the community's practice>* **so that** *<outcome>*. |
| Align community value | ● Capturing value to organization<br>● Capturing value to members | Value proposition canvas | Captures information in a compact graphical form that can be used to understand in -depth and present a community's value to others. Provides guidance to community organizers on what information is included in a value proposition. A CoP has two key customers: the members of the community, and the organization. |  |
| | | Create a pitch | Simplifies and distills the value of CoP into a concise form that is easy to present and for others to understand.<br>Guiding questions:<br>▪ Briefly, what is your community?<br>▪ What form will your pitch take for members and for the organization?<br>▪ What is your short pitch? As you write it, think about how you'll expand it into a larger one. |  |
| Defining working model | ● Defining community activities | Business model canvas (community model canvas) | Captures key building blocks of a CoP. Is based on information collected from the members and the organization. Defines community relationships, community channels, community value proposition (identified with value proposition canvas earlier), key activities, key resources, and key partnerships/sponsors. |  |
| | | Service blueprint | Helps to define member-facing actions, core-team actions, and support process in different phases of members' involvement in CoP. The phases are awareness, attendance, agenda-setting, organizing, core membership, hand-off, advisory, and departure. |  |

## Discussion

Next, we discuss the implications of this study for the research literature. We also highlight the practical managerial contribution of the study. We explain the limitations of this study, give suggestions for further research, and summarize the article.

## Implications for the research literature

Although the literature abounds with evidence of the success of CoPs, this study's academic contribution lies in that, within its parameters, self-evident support for CoPs contribution to successful knowledge creation were lacking. This study highlights also the challenges and approaches for dealing with them to improve the chances for establishing CoPs that create value to both its members and the organization. This research contributes to the research literature as follows.

*First*, it confirms certain earlier findings about CoPs in a new context: a highly regulated high-tech industry that is currently facing agile transformation. The results of this case study could help to strengthen the understanding of communities of practice by confirming the findings reported by others. The case organization is similar in some characteristics to others reported in the literature such as Ericsson (Paasivaara & Lassenius, 2014) and a start-up company (Mestad et al., 2007). However, as this software development company works within a highly regulated industry, challenges in running a CoP in a bureaucracy also arise, as reported by Harvey et al. (2013). This research supports many of the findings of these and other researchers who have investigated communities of practice in other fields and organizations.

Probst and Borzillo (2008) point out that organizational alignment is a key success factor in any CoP. From our empirical study this seems to be the case, even if a community does not have an explicitly defined goal. This was reflected in the "testing guild," which had explicit managerial support and was aligned with the testing needs of the organization. Harvey et al. (2013), Wenger et al. (2002), and Iaquinto et al. (2011) suggest building communities on existing networks. This was evident in the testing CoP that built in pre-existing roles, as reported here. This form of organizational alignment was sufficient to overcome many other challenges in creating a community. Another form of organizational alignment, sponsorship, is recommended by Probst and Borzillo (2008), Nickols (2003), Iaquinto et al. (2011), and Wenger et al. (2002); this too was present in the successful testing guild.

Other advice from the literature, such as having a core group (Probst & Borzillo, 2008; Pyrko et al., 2017), was also repeated in findings from community organizers. Forming a core group was considered an important step in the "building" phase of a CoP by Gongla and Rizzuto (2001) and others (see Probst & Borzillo, 2008 and Pyrko et al., 2017). For the testing community this was not an obstacle, but it was a factor in the struggles of other communities, especially when the community organizer was unavailable. The form of community leadership most often observed in the case organization's communities was the "single leader" (see Webber, 2016), which resulted in fragile communities. This confirmed the reported need for a core group (in active "Spotify guilds," Smite et al., 2020, reported one to four core coordinators per community), and strengthened the suggestion by Webber (2016) that a shared leadership, or a co-owned community, be formed.

*Second*, this research extends knowledge by identifying a major new challenge of CoPs. It finds that community organizers attempt to create communities of practice without knowledge of what communities are and how they operate. This is a surprising finding. This has not been highlighted by researchers who understand the concept and who use it to describe their research, such as Schenkel and Teigland (2008), Probst and Borzillo (2008), and Harvey et al. (2013). While this issue has been alluded to in different places in our literature review, the topic of CoP knowledge among community leaders has not been explicitly studied. Harvey et al. (2013) mentioned some issues related to introducing communities of practice into a bureaucratic organization – especially the challenges of introducing the self-organizing, self-regulating, and unstructured nature of community to a conservative culture. Pyrko et al. (2017) comment on an informant confusing a community communication channel with the actual community, as found in this study. In the research literature there seem to be similar difficulties

in defining a clear view of a CoP: the Spotify model has communities of practice known by other names, such as "chapters" and "guilds" (Smite et al., 2020); and the work by Mestad et al. (2007) uses "skill circles" to describe communities of practice. Taking models from other organizations is problematic because each organization's relationship with communities is different, as encountered by Harvey et al. (2013). When there is no working model that they can apply, companies need to discover their own version of a CoP, as in Mestad et al. (2007).

The lack of knowledge of communities of practice has an impact on how community organizers try to create and maintain communities. This was clear in the case organization, where no community explicitly defined a "joint enterprise" or objective, as suggested by Probst and Borzillo (2008), Michalk (2013), and Gongla and Rizzuto (2001). This forms one of the three key elements of the CoP model of Wenger (1999). In addition, most communities in the case organization defaulted to a single-leader structure, similar to a standard team structure – there was little effort to create a core group. This lack of mutual engagement was evident in one community that was supported by a single leader and that did not have regular meetings. This lack of mutual interaction when creating communities of practice has been identified as a problem by Pyrko et al. (2017). Based on the comments from informants about the need for a core group, this element was missing from many of the communities studied in the case organization.

The research here suggests that it is important to understand the level of knowledge of communities of practice within organizations as a first step to helping organizers to create communities. According to Kruger and Dunning (1999), the best way to improve the situation in an organization that is adopting communities of practice would be to educate the organization's novice community organizers about communities of practice in general.

*Third*, one contribution of this research is the identification of a range of problems in creating communities of practice. These problems include relating to the nature of community, which was discussed in more detail earlier; its alignment; and a working model. Some of these problems arose in the earlier research; for example, alignment through clear objectives and sponsorship is identified by Probst and Borzillo (2008). The need for a working model that is endorsed by the organization also arises in Harvey et al. (2013). Combining the empirical research with the reviewed literature pointed to a requirement for constructs based on three key needs: (1) community engagement: encouraging members to take a more active role in an unstructured and self-regulating CoP; (2) aligning community value: aligning the value of CoP to community members and to the organization; and (3) a working model: defining a working model for a community within the organization.

These issues parallel some of those identified in a bureaucratic organization by Harvey et al. (2013), especially the search for a working model and improving community engagement. Probst and Borzillo (2008) note the need for community engagement to create a vibrant community. The topic of aligning a community is common advice from the proponents of CoP (Probst & Borzillo, 2008; Wenger et al., 2002; Harvey et al., 2013).

For novice CoP organizers, these elements are not always obvious, although it does not take much for them to realize their benefits. This study found the need for a core, active, and engaged group to maintain a community. The working model of the community needs to be such that an organizer can maintain it within organizational constraints – in this case, the time allowed by their manager for these activities (a few hours per month). Alignment with the organization can consist of goal alignment (as in the case of the testing guild, where the individual goals matched those of the community), and role alignment (again, in the testing guild, which consisted of people with the same role). The needs identified here parallel the needs identified by Pyrko et al. (2017) in suggesting a workshop on causal mapping to help community organizers.

## Practical Contribution

This study's practical contribution relates to the proposed application of the pragmatic methods that were used in addressing the three areas identified as critical in establishing and maintaining CoPs. The three categories were grouped to suggest better CoP member engagement, aligning the value of CoP to community members and to the organization, and defining a working model for successful CoPs.

The identified needs of the organization could be used to help create a set of constructs that a community organizer could adopt to initiate a community. Following Grenville (2014), this research took a service design approach to communities of practice. The facilitation resembles the approach of Pyrko et al. (2017), who used causal mapping as a tool to facilitate communities. A key difference between this work and that of Grenville (2014) is the goal of providing tools that community organizers can use without the presence of a service designer or causal-mapping expert.

The tools proposed here were tailored to the needs of the case organization, based on the empirical research, and especially the need to address some of the key CoP concepts of Wenger (1999) and Wenger et al. (2002). In addition, the tools were chosen to match those in use by software organizations (e.g., User Stories) and those commonly used by service designers (e.g., Business Model Canvas, Service Blueprint). The final tools are:

- Community engagement: User Stories, Idea Portfolio
- Community alignment: Value Proposition Canvas, Pitch
- Community working model: Business Model Canvas, Service Blueprint

The approaches used to select the tools seemed to make the tools easier for a software professional to adopt, as they can be easily adapted to embed some CoP theory and emphasize some key community elements to guide users.

## Limitations

The limitations of this research and our attempts to deal with them are as follows. The number of informants of this study is limited in ten persons. The data collection was delimited up to the point of data saturation, in other words when no more new ideas emerge (Francis et al., 2010). The "information power" of the data were sufficient in our sample for providing the reported results. Narrow aim, specificity, and knowledge of informants, applied nature of research, strong interview dialogue, and single case strategy increase the information power of the data and decrease the sample size required to achieve data saturation (Malterud et al., 2016). Another limitation of this study relates to snowball sampling, which is based on referrals of informants. Potential risk of such sampling is that the sample becomes distorted very early in the research process (Parker, 2019), for example, by gender or ethnic bias. One of the authors of this report was working in the case organization, and based on his earlier knowledge he was able to judge and prevent the potential bias of the sample. The empirical study was conducted in R & D organization of a large multinational corporation. The results of this study cannot be generalized because they are based on qualitative case study (Yin, 1994). Reliable knowledge of transferability of the results to other contexts would require quantitative studies. This research was also limited by the researchers' pre-understanding on theories of CoPs in the beginning of the process. This limitation was reduced by reviewing and familiarizing with the earlier knowledge about the subject.

## Opportunities for Further Research

Several opportunities for further research emerged from this study. Its basis was qualitative research into one site in order to understand the difficulties and suitable approaches of creating communities of practice. A natural area for further research would be to examine these research findings using quantitative methods with a wider sample of participants. Another interesting topic could be to take a different approach that focuses on the reasons that individuals and companies participate in communities, such as the theory of reasoned action, the theory of planned behavior, or social exchange theory (as suggested by Nxumalo and Mnkandla, 2019), but using a qualitative approach rather than a literature review.

## Summary

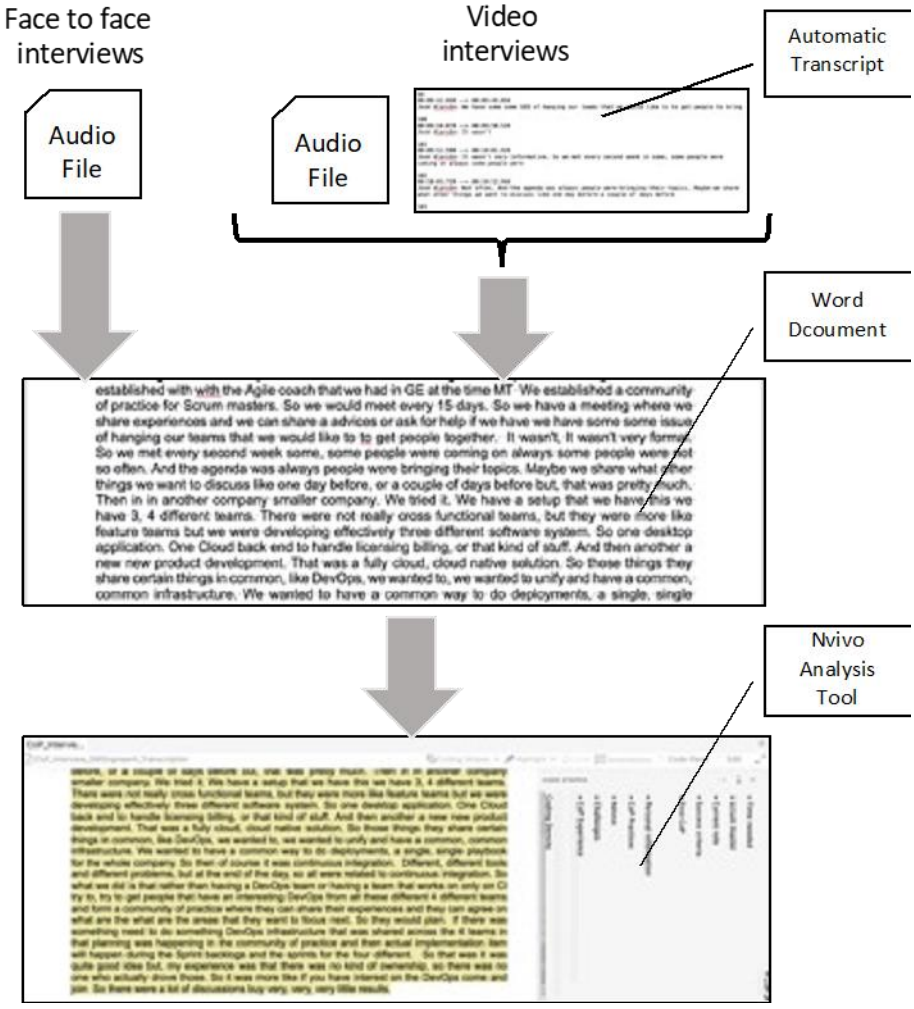
This study set out to understand and describe the nature of facilitating CoPs in a large corporation. It investigated the challenge of supporting the creation of CoPs in an R & D organization of a large multinational corporation and used a single case study drawing on qualitative inquiry. The data was submitted to several rounds of coding, and the analysis followed the principles of grounded theory. The findings of the empirical research fell into three categories: the conception of (1) the nature, (2) the alignment, and (3) a working model of CoPs. This study also proposed a pragmatic approach for facilitating CoPs.

The main implication of this study to researchers is a surprising finding. It shows that the persons responsible for organizing CoPs have poor knowledge of what CoPs are and how they operate; this causes several further challenges and confusion in the organization. For researchers, however, this is an interesting opportunity for further scientific research and theory development. The main implication to practitioners and administrators is the proposed set of service design tools for facilitating the organization of communities of practice. Because the different tools are widely used in various contexts for organizational development and innovation, we assume they are highly usable for facilitating establishment of CoPs in organizations other than the case organization of this research. At least, they can function as a useful starting point for developing a case specific application for a particular context.

The practical value of this case study lies in improving knowledge management in a software development organization by using the suggested service design tools to help create communities of practice. Taking this research further could involve applying the tools for the creation of communities and validating that the tools increase the likelihood of an organizer creating a successful CoP. As the goal is to improve knowledge management, finding and using metrics to measure the retention or development of knowledge in a CoP would be another avenue for future research. Finally, measuring the impact of communities of practice would be another potential area for future research.

## Appendix 1

**Figure 4**
*Initial Coding with NVivo Software Resulting in 161 In-Vivo Codes*




## References

Abercrombie, N., Hill, S., & Turner, B. S. (1984). *The Penguin dictionary of sociology.* Penguin.

Auerbach, C., & Silverstein, L. B. 2003. *Qualitative data: An introduction to coding and analysis.* New York University Press.

Brinkmann, S., & Kvale, S. (2018). *Doing interviews* (Vol. 2). SAGE. https://doi.org/10.1177/026624696151005

Cohendet, P., Roberts, J., & Simon, L. (2010). Créer, implanter et gérer des communautés de pratique. *Gestion*, *35*(4), 31-35. https://doi.org/10.3917/riges.354.0031

Della Líbera, B., & Jurberg, C. (2020). Communities of practice on WhatsApp: A tool for promoting citizenship among students with visual impairments. *British Journal of Visual Impairment*, *38*(1), 58-78. https://doi.org/10.1177/0264619619874836

Design Council. (2015). *Design methods for developing services.* Keeping Connected 23.

https://www.designcouncil.org.uk/sites/default/files/asset/document/DesignCouncil_Design%20methods%20for%20developing%20services.pdf (viewed 2022.04.17)

Dyer, W. G. Jr., & Wilkins, A. L. (1991). Better stories, not better constructs, to generate better theory: A rejoinder to Eisenhardt. *Academy of Management Review*, *16*(3), 613-619. https://doi.org/10.2307/258920

Fontana, A., & Frey, J. H. (1994). Interviewing: The art of science. In N. K. Denzin & Y. S. Lincoln (Eds), *Handbook of qualitative research* (pp. 361-376). SAGE.

Fox, S. (2000). Communities of practice, Foucault and actor-network theory. *Journal of Management Studies*, *37*(6), 853-868. https://doi.org/10.1111/1467-6486.00207

Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology and Health*, *25*(10), 1229-1245. https://doi.org/10.1080/08870440903194015

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15-31. https://doi.org/10.1177/1094428112452151

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Aldine de Gruyter.

Glaze-Crampes, A. L. (2020). Leveraging communities of practice as professional learning communities in science, technology, engineering, math (STEM) education. *Education Sciences*, *10*(8), 190, 1-8. https://doi.org/10.3390/educsci10080190

Gongla, P., & Rizzuto, C. R. (2001). Evolving communities of practice: IBM Global Services experience. *IBM Systems Journal, 40*(4), 842-862. https://doi.org/10.1147/sj.404.0842

Gummesson, E. (2000). *Qualitative methods in management research.* SAGE.

Grenville, D. (2014). Using a service design perspective to create an employee community of practice. In *Proceedings of the 13th Participatory Design Conference: Short papers, industry cases, workshop descriptions, doctoral consortium papers, and keynote abstracts* (Vol. 2, pp. 145-149). https://doi.org/10.1145/2662155.2662236

Handley, K., Sturdy, A., Fincham, R., & Clark, T. (2006). Within and beyond communities of practice: Making sense of learning through participation, identity and practice. *Journal of Management Studies*, *43*(3), 641-653. https://doi.org/10.1111/j.1467-6486.2006.00605.x

Harvey, J.-F., Cohendet, P., Simon, L., & Dubois, L. -E. (2013). Another cog in the machine: Designing communities of practice in professional bureaucracies. *European Management Journal*, *31*(1), 27-40. https://doi.org/10.1016/j.emj.2012.07.008

Hennekam, S., Macarthur, S., Bennett, D., Hope, C., & Goh, T. (2020). Women composers' use of online communities of practice to build and support their careers. *Personnel Review*, *49*(1), 215-230. https://doi.org/10.1108/PR-02-2018-0059

Iaquinto, B., Ison, R., & Faggian, R. (2011). Creating communities of practice: Scoping purposeful design. *Journal of Knowledge Management*, *15*(1), 4-21. https://doi.org/10.1108/13673271111108666

Kasanen, E., Lukka, K., & Siitonen, A. (1993). The constructive approach in management accounting research. *Journal of Management Accounting Research*, *5*(1), 243-264.

Komorowski, M., Do Huu, T., & Deligiannis, N. (2018). Twitter data analysis for studying communities of practice in the media industry. *Telematics and Informatics*, *35*(1), 195-212. https://doi.org/10.1016/j.tele.2017.11.001

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, *24*(1), 120-124. https://doi.org/10.1080/13814788.2017.1375092

Kumar, V. (2012). *101 design methods: A structured approach for driving innovation in your*

*organization*. John Wiley & Sons.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, *77*(6), 1121-1134. https://doi.org/10.1037//0022-3514.77.6.1121

Larman, C. (2010). *Practices for scaling lean & agile development: Large, multisite, and offshore product development with large-scale scrum*. Pearson Education.

Lesser, E. L., & Storck, J. (2001). Communities of practice and organizational performance. *IBM Systems Journal*, *40*(4), 831-841. https://doi.org/10.1147/sj.404.0831

Liedtka, J., & Ogilvie, T. (2011). *Designing for growth: A design thinking tool kit for managers*. Columbia University Press.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.

Løvlie, L., Polaine, A., & Reason, B. (2013). *Service design: From insight to implementation.* Rosenfeld Media.

Layder, D. (1998). *Sociological practice: Linking theory and research*. SAGE.

MacLaverty, R. (2021). *Using service design tools to facilitate communities of practice in software development organizations* [Master's thesis, Laurea University of Applied Sciences].

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: guided by information power. *Qualitative Health Research, 26*(13), 1753-1760. https://doi.org/10.1177/1049732315617444

Matsumoto, Y., Kasamatsu, H., & Sakakibara, M. (2021). Challenges in forming transdisciplinary communities of practice for solving environmental problems in developing countries. *World Futures*, *78*(8), 546-565. https://doi.org/10.1080/02604027.2021.2012878

Mestad, A., Myrdal, R., Dingsoyr, T., & Dyba, T. (2007). Building a learning organization: Three phases of communities of practice in a software consulting company. In *40th Annual Hawaii International Conference on System Sciences* (HICSS'07). IEEE, pp.189a.

Meroni, A., & Sangiorgi, D. (2016). *Design for services*. Routledge.

Michalk, A. (2013). Online community building: Common mistakes & tips for success. [Business] Viewed 16 June 2022. https://www.slideshare.net/AlisonMichalk/online-community-building-common-mistakes-tips-for-success?qid=39386c82-a7aa-4bcc-859f-bec610289e1f&v=&b=&from_search=1.

Mutch, A. (2003). Communities of practice and habitus: A critique. *Organization Studies, 24*(3), 383-401. https://doi.org/10.1177/0170840603024003909

Niiniluoto, I. (1985). Progress in the applied sciences. In E. Kaukonen, J. Manninen. & V. Verronen (Eds.), *The history of science and its progress*. Publications of the Finnish Academy.

Nickols, F. (2003). *Communities of practice: A start-up kit.* Distance Consulting, 3-13.

Nowak, K. (2017). Communication in communities of practice: Literature review. In *European Conference on Knowledge Management*, 1162-1169. Academic Conferences International Limited.

Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of Social Research Methodology*, *11*(4), 327-344. https://doi.org/10.1080/13645570701401305

Nxumalo, L., & Mnkandla, E. (2019). Individual benefit from knowledge sharing in software development communities of practice. In *2019 IEEE AFRICON*, 1-5. IEEE. https://doi.org/10.1109/AFRICON46755.2019.9133857

Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for*

*visionaries, game changers, and challengers* (Vol. 1). John Wiley & Sons.

Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). *Value proposition design: How to create products and services customers want.* John Wiley & Sons.

Oyegoke, A. (2011). The constructive research approach in project management research. *International Journal of Managing Projects in Business, 4*(4), 573-595. https://doi.org/10.1108/17538371111164029

Paasivaara, M., & Lassenius, C. (2014). Communities of practice in a large distributed agile software development organization – Case Ericsson. *Information and Software Technology, 56*(12), 1556-1577. https://doi.org/10.1016/j.infsof.2014.06.008

Pearsall, M. (1970). Participant observation as role and method in behavioral research. In W. J. Filstead (Ed.). *Qualitative methodology: Firsthand involvement with the social world (Markham sociology series)* (pp. 340-352). Markham Publishing Company.

Probst, G. & Borzillo, S. (2008). Why communities of practice succeed and why they fail. *European Management Journal, 26*(5), 335-347. https://doi.org/10.1016/j.emj.2008.05.003

Pyrko, I., Dörfler, V., & Eden, C. (2017). Thinking together: What makes communities of practice work? *Human Relations, 70*(4), 389-409. https://doi.org/10.1177/0018726716661040

Reason, B., Løvlie, L., & Flu, M. B. (2015). *Service design for business: A practical guide to optimizing the customer experience*. John Wiley & Sons.

Roberts, J. (2006). Limits to communities of practice. *Journal of Management Studies, 43*(3), 623-639. https://doi.org/10.1111/j.1467-6486.2006.00618.x

Saldaña, J. (2011). *Fundamentals of qualitative research*. Oxford University Press.

Schenkel, A., & Teigland, R. (2008). Improved organizational performance through communities of practice. *Journal of Knowledge Management, 12*(1), 106-118. https://doi.org/10.1108/13673270810852421

Smite, D., Moe, N. B., Floryan, M., Levinta, G., & Chatzipetrou, P. (2020). Spotify guilds. *Communications of the ACM, 63*(3), 56-61. https://doi.org/10.1145/3343146

Stickdorn, M., Hormess, M. E., Lawrence, A., & Schneider, J. (2018). *This is service design doing: applying service design thinking in the real world*. O'Reilly Media, Inc.

Swanborn, P. (2010). *Case study research: What, why and how?* SAGE.

TENK (2019). *The ethical principles of research with human participants and ethical review in the human sciences in Finland. Finnish National Board on Research Integrity TENK guidelines 2019.* Publications of the Finnish National Board on Research Integrity TENK 3/2019. Helsinki, TENK.

Tschimmel, K., Santos, J., Loyens, D., Jacinto, A., Monteiro, R., & Valenca, M. (2015). *Research report D-Think: Design thinking applied to education and training*. ESAD Matosinhos

Voskoglou, M. G. (2019). Communities of practice for teaching and learning mathematics. *American Journal of Educational Research, 7*(6), 386-391. https://doi.org/10.12691/education-7-6-2

Webber, E. (2016). *Building successful communities of practice: Discover how learning together makes better organisations*. Drew London Limited.

Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems Thinker, 9*(5), 2-3.

Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Wenger, E. C., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review, 78*(1), 139-146.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A*

*guide to managing knowledge*. Harvard Business School Press.
Yin, R. K. (1994). *Case study research. Design and methods.* SAGE.

## Author Note

Jukka Ojasalo, Ph.D., is currently head of the Master's Degree Programme of Business Administration at Laurea University of Applied Sciences. He completed his Ph.D. at Hanken Swedish School of Economics and Business Administration in Helsinki, Finland in 1999. He has earlier been a professor of marketing at Lappeenranta University of Technology as well as at Turku School of Economics and Business Administration. He is an adjunct professor at Aalto University School of Business and Helsinki University Faculty of Social Sciences. He is a visiting professor of marketing management at the University of Johannesburg College of Business and Economics. Before his academic career, he worked for several years in the IT-industry and the Finnish government. He has published two textbooks and a large number of scientific articles on service management, innovation, marketing, service design, networks and smart cities. Email: jukka.ojasalo@laurea.fi, ORCID: http://orcid.org/0000-0001-9271-5879

Marius Wait, PhD., is an associate professor and the head of the department of marketing management in the School of Consumer Intelligence & Information Systems in College of Business and Economics at the University of Johannesburg in South-Africa.

Ronan MacLaverty, M.Sc., MBA, is director of platform development in Varian Siemens Healthcare Company, Helsinki Finland.

**Acknowledgements:** The authors are grateful to the reviewers of this article for their valuable comments in improving the manuscript.



## Article Citation

Ojasalo, J., Wait, M., & MacLaverty, R. (2023). Facilitating communities of practice: A case study. *The Qualitative Report, 28*(9), 2792-2813. https://doi.org/10.46743/2160-3715/2023.5976