DIGITALES ARCHIV

ZBW – Leibniz-Informationszentrum Wirtschaft
ZBW – Leibniz Information Centre for Economics

Schiemer, Benjamin; Schüßler, Elke; Grabher, Gernot

Book Part

Chapter 12 Collaborative Innovation Online: Entanglements of the Making of Content, Skills, and Community on a Songwriting Platform

Provided in Cooperation with:
ZBW LIC

Reference: In: Managing Inter-organizational Collaborations: Process Views (2019). Emerald Publishing Limited, S. 293 - 316.
https://doi.org/10.1108/S0733-558X20190000064018.
doi:10.1108/S0733-558X20190000064018.

This Version is available at:
http://hdl.handle.net/11159/677140

Kontakt/Contact
ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: *rights[at]zbw.eu*
https://www.zbw.eu/

Standard-Nutzungsbedingungen:
Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte. Alle auf diesem Vorblatt angegebenen Informationen einschließlich der Rechteinformationen (z.B. Nennung einer Creative Commons Lizenz) wurden automatisch generiert und müssen durch Nutzer:innen vor einer Nachnutzung sorgfältig überprüft werden. Die Lizenzangaben stammen aus Publikationsmetadaten und können Fehler oder Ungenauigkeiten enthalten.

Terms of use:
This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence. All information provided on this publication cover sheet, including copyright details (e.g. indication of a Creative Commons license), was automatically generated and must be carefully reviewed by users prior to reuse. The license information is derived from publication metadata and may contain errors or inaccuracies.

https://savearchive.zbw.eu/termsofuse

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Mitglied der Leibniz-Gemeinschaft

CHAPTER 12

COLLABORATIVE INNOVATION ONLINE: ENTANGLEMENTS OF THE MAKING OF CONTENT, SKILLS, AND COMMUNITY ON A SONGWRITING PLATFORM

Benjamin Schiemer, Elke Schüßler
and Gernot Grabher

ABSTRACT

This chapter advances our understanding of collaborative innovation processes that span across organizational boundaries by providing an ethnographic account of idea generation dynamics in a member-initiated online songwriting community. Applying a science and technology studies perspective on processes "in the making," the findings of this chapter reveal the generative entanglements of three processes of content-in-the-making, skill-in-the-making, and community-in-the-making that were triggered and maintained over time by temporary stabilizations of provisional, interim outcomes. These findings also elucidate interferences between these three processes, particularly when an increased focus on songs as products undermines the ongoing collaborative production of ideas. Regular interventions in the community design were necessary to simultaneously stimulate the three processes and counteract interfering tendencies that either prioritized content production, community building, or

Managing Inter-organizational Collaborations: Process Views
Research in the Sociology of Organizations, Volume 64, 293–316
© 2019 by Benjamin Schiemer, Elke Schüßler, Gernot Grabher. Published by Emerald Publishing Limited. This chapter is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this chapter (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at http://creativecommons.org/licences/by/4.0/legalcode
ISSN: 0733-558X/doi:10.1108/S0733-558X20190000064018

skill development, respectively. The authors conclude that firms seeking to tap into online communities' innovative potential need to appreciate community and skill development as creative processes in their own right that have to be fostered and kept in sync with content production.

Keywords: Collaborative innovation; innovation as process; online communities; creative content production; music industry; digitization

INTRODUCTION

The shift from "closed" to "open" forms of innovation in the 1990s (Chesbrough, 2003; Felin & Zenger, 2014) was preceded by various forms of inter-organizational innovation networks. Strategic alliances and joint ventures, for example, were forged by firms and their competitors, suppliers, and research partners in the 1980s to mobilize knowledge and financial resources as well as to share the risks of innovation processes (Dhanaraj & Parkhe, 2006; Sydow, Schüßler, & Müller-Seitz, 2016). Rather than internal resources located in the R&D department, external networks of firms evolved into the central "locus of innovation" (Powell, Koput, & Smith-Doerr, 1996). With the proliferation of digital technologies, innovation processes increasingly extended from closed business-to-business relationships toward a broad spectrum of interactions between businesses and globally dispersed user and consumer communities. To tap into the proverbial "wisdom of crowds" (Surowiecki, 2004), firms launched online communities (cf. von Hippel, 1976, 1978) to develop products and services jointly with users and consumers (e.g., Ansari & Munir, 2010; Grabher & Ibert, 2018; Parmentier & Mangematin, 2014). At the same time, self-organized communities began to produce non-proprietary knowledge independent of firms in areas as diverse as software development, rare disease treatments, or the production of cultural content (Benkler, 2006; Grabher & Ibert, 2013). From an inter-organizational network perspective, these different forms of online collaborative production afford potentials to harness resources that are inaccessible through corporate forms of production.

As a result, innovation processes today unfold in complex ecologies of relationships among firms, online and offline communities, and digital platforms (e.g., Boczkowski, Matassi, & Eugenia Mitchelstein, 2018; Grabher, Melchior, Schiemer, Schüßler, & Sydow, 2018). Innovation in the automotive industry, for instance, involves not only strategic alliances among competing original equipment manufacturers (OEMs), but also cross-industry alliances involving developers of autonomous driving technologies, ride-hailing and open-source mapping platforms, as well as user communities. Recent research has significantly expanded our knowledge of the various types of online communities and the modes of firm-community relations (Dahlander & Magnusson, 2005; Jeppesen & Frederiksen, 2006; O'Mahony & Bechky, 2008; Porter, 2004) as well as the processes of developing online communities (Kraut et al., 2012; Ren, Kraut, & Kiesler, 2007; Wiertz & de Ruyter, 2007). This research has highlighted that organizations

face the challenge that the capitalization on knowledge produced by these non-firm actors might, in fact, undermine their innovative potential by interfering with community dynamics (e.g., Cohendet & Simon, 2015; West & Lakhani, 2008).

The pertinent literature has mainly focused on (1) the social dynamics of online communities underpinning the production of content (e.g., Garud, Jain, & Tuertscher, 2008; Grabher & Ibert, 2013; Jarvenpaa & Lang, 2011; West & O'Mahony, 2008); (2) the practices of knowledge sharing and advancing skills in online communities (e.g., Charband & Navimipour, 2016; Faraj, Jarvenpaa, & Majchrzak, 2011; Faraj, Kudaravalli, & Wasko, 2015; Hwang, Singh, & Argote, 2015); and, finally, (3) the processes of community building, evolution and governance (e.g., Aaltonen & Lanzara, 2015; Dahlander, Frederiksen, & Rullani, 2008; O'Mahony & Ferraro, 2007; Preece & Maloney-Krichmar, 2005). While extant studies highlight that all three dimensions of online social production are highly dynamic and interlinked in generating innovation (e.g., Aaltonen & Lanzara, 2015; Garud et al., 2008), the multifold interdependencies between dynamics of content production, skill formation, and community building over time have so far rarely been examined in a systematic fashion.

In this chapter, we study online community dynamics in the context of the music industry, which is widely regarded as an exemplary case for understanding the implications of the digitization of creative content production (e.g., Dobusch & Schüßler, 2014). The music industry has undergone a number of profound changes induced by new "technological assemblages" (Leyshon, 2014, p. 10) such as by the encoding of new software formats like MP3, the emergence of internet distribution systems as well as new digitized tools for music production. Since the late twentieth century, music production has increasingly been freed from the socio-spatial constraints and financial burden of traditional studio production. Concurrently, precarious work conditions shifted music production into the realm of private reproduction (Watson, 2016). The historically dominant three major labels had to forfeit their monopoly in music production and distribution (Leyshon, 2014). In sum, the traditional vertical music industry value chain has been transformed into a complex heterarchic ecology of firms, freelance musicians, online production, and distribution platforms as well as local scenes and online communities engaging in creative content production.

In order to scrutinize collaborative innovation dynamics in this unfolding new ecology, we provide an in-depth case study of the member-initiated and governed online community "February Album Writing Month" (fawm.org). The key aim of FAWM is to collaboratively produce 14 songs within the temporal constraint of a single month (in each year of its existence). By 2013, FAWM had more than 7,000 members from 30 countries (see fawm.org; Settles & Dow, 2013); in subsequent years, FAWM only displayed the number of currently active members that fluctuated between 2,300 and 2,500 active members each year. The community is not committed to complete recorded versions of finalized songs, but rather to writing and recording "song sketches" that may or may not be commercially produced later on. Similar to other online communities such as Wikipedia and Linux, the content at FAWM is collectively produced in a cumulative and open-ended process (e.g., Garud et al., 2008). In distinct contrast to Wikipedia and Linux, however, collaborative dynamics within FAWM are explicitly temporally

limited to the single month of February. Despite this institutionalized termination each year, members refer to FAWM as an "online idea generator" to write songs for subsequent development. FAWM, then, epitomizes an instructive hybrid case of a temporally bracketed collaborative effort that induces open-ended generative processes.

Our analysis elucidates that three parallel, tightly interwoven processes unfold simultaneously on FAWM: (1) the production of songs which we, alluding to Latour's (1987) idea of science-in-the-making as a messy and ongoing process, call *content-in-the-making*; (2) the development of musical and technical knowledge and respective skills to which we refer as *skill-in-the-making*; and (3) the production of a sense of belonging, social coherence, and friendship, which we term *community-in-the-making*. Our analysis demonstrates that these three processes do not necessarily support each other in generating innovation in a smooth fashion. Instead, the very dynamics that induce innovation in one process might undermine generation in another when, for example, the rating of a song induces a competitive momentum that compromises the further evolution of the community built on an egalitarian and collaborative ethos.

With our analysis, we seek to advance extant knowledge in two regards. First, building on Garud et al.'s (2008) notion of "incomplete by design," we empirically substantiate the assertion that innovation in online communities cannot be reduced to a single product or process, but is more appropriately conceptualized as an ongoing production of multiple interim outcomes through three entangled processes. We demonstrate that the commitment of community members to these processes is not assured by the prospect of benefitting from final products, but by producing temporary stabilizations of provisional interim outcomes that call for further engagement of community members. Second, we reveal the crucial importance of ongoing adjustments of reinforcing structures (cf. Hargadon & Bechky, 2008) that incentivize the simultaneous production of content, skills and community to cope with the interfering dynamics of community growth, professionalization, and internal competition, thus specifying such structures for an online context.

COLLABORATIVE INNOVATION IN ONLINE COMMUNITIES

Rather than the expression of an arcane genius, innovation is increasingly conceived as a collective and collaborative endeavor. As already diagnosed in the 1990s, communities of practice both within and across firms had turned into critical arenas for the collaborative production of knowledge (Brown & Duguid, 1991). With the advent of the novel socio-technical affordances of the so-called web 2.0, collaboration for innovation further shifted into the realm of geographically dispersed online communities that crystallize either around specific products or brands or are formed bottom-up independently of the corporate sector (Faraj et al., 2011; De Souza & Preece, 2004). Our focus here is on the latter type of independent communities that are neither firm-hosted nor firm-related, but still

constitute an important element in the complex online and offline ecology of innovation in sectors such as the music industry. In contrast to communities of practice that revolve around a shared passion or interest and that are governed by a set of values and norms, such online communities typically share a "common subject matter of work" (Gläser, 2001, p. 7; Schiemer, 2018), as exemplified by scientific communities or open-source communities like Linux.

Content-producing communities typically evolve and morph over time by shifting from content production to knowledge sharing or by broadening their focus by explicitly pursuing both goals simultaneously (e.g., Aaltonen & Lanzara, 2015; Fayard & DeSanctis, 2005). To account for these dynamics more systematically, Faraj et al. (2011, p. 1235) advocated to refocus research from the structural mechanisms of community governance or community members' motivations toward the dynamic "flow and connection of ideas over time" and the "emergent properties of collaboration." From such a dynamic perspective, technology does not determine community governance, but rather "creates the conditions in which new kinds of governance capabilities can emerge" (Aaltonen & Lanzara, 2015, p. 1667). These ongoing transformations of communities unavoidably engender challenges such as membership growth (e.g., Aaltonen & Lanzara, 2015; West & O'Mahony, 2008) or fragmentation (e.g., Garud et al., 2008) that, in turn, might be converted into a creative momentum when, for example, growth is used as an opportunity to renegotiate and reconfigure the roles, boundaries, or design of the community.

Exemplified by the cases of Wikipedia and Linux, Garud et al. (2008) conceptualize the inherent and systemic "incompleteness" of socio-technical features as well as of the collaboratively produced content as the key generative attributes of open-source communities. In both communities, each design change can be seen as a form of temporary stabilization (sedimented in a version at a particular point in time) and, at the same time, a request for future activity (to revise and update a particular version). This argument resonates with the idea that information technology, rather than engendering finalized results, perpetuates the provisional and transient state of "permanently beta" (Neff & Stark, 2004). Relatedly, the processual view of Barrett, Oborn, and Orlikowski (2016) reveals how online communities simultaneously produce financial, epistemic, and reputational capital through socio-technical entanglements of digital infrastructures and agency in which tensions and frictions induce creative action (Stark, 2009). Most importantly, as these studies convincingly reveal, the socio-technical features of community design are both process and outcome: any design outcome is an intermediate step in an ongoing journey triggering further processes of community redesign and collaborative engagement. Learning in online communities, then,

> comes into the picture both as a process by which knowledge is encoded in routines expressing collective governance capabilities and as an outcome made possible by the evolving governance framework. (Aaltonen & Lanzara, 2015, p. 1666)

Moving beyond issues of community governance, Charband and Navimipour (2016) identify factors that sustain the knowledge sharing process in online environments such as, for example, membership based on self-selection, norms

of reciprocity, non-competitive environments and the asynchronicity of interaction (see also Grabher & Ibert, 2013). In a similar vein, Faraj, von Krogh, Monteiro, and Lakhani (2016, p. 669) stress the "enriched" rather than deficient sociality of online communities that "provide a generative landscape to sustain collaborative relations on a hitherto unknown scale." While knowledge sharing in the respective literature is often perceived as a practice separate from community building and content production, Faraj et al. (2016, p. 678) allude to "value-generating knowledge flows" that co-constitute the stability and design of online communities. From this perspective, content production, knowledge sharing, and community building are in fact inextricably interwoven and mutually constitutive. However, what remains unresolved to date is *how* this mutual constitution unfolds and is enacted over time.

To address this question, we shift from a *variance*-ontology that views innovation as an outcome toward a *process*-ontology that views innovation as an ongoing activity (Fortwengel, Schüßler, & Sydow, 2017; Van de Ven, Polley, Garud, & Venkataraman, 1999). This shift implies to zoom in on the messy, non-linear processes of innovating that performatively constitute online communities instead of perceiving online communities as fixed entities that need to be designed in a particular fashion to generate innovation (Garud, Gehman, Kumaraswamy, & Tuertscher, 2016; Garud, Tuertscher, & Van de Ven, 2013; Schiemer, 2018). The study of creative problem-solving in consulting firms by Hargadon and Bechky (2006) provides an instructive illustration of this particular perspective. Collective creativity occurs in fleeting moments in time that are triggered by four types of interdependent activities: (1) "help-seeking," the active search for assistance in a problematic situation; (2) "help-giving," the response to such an inquiry; (3) "reflective reframing," the collective creation of a possibly more appropriate formulation of the search question; and (4) "reinforcing," activities that support individuals in help-seeking, help-giving, and collective reframing (Hargadon & Bechky, 2006). While this perspective, developed largely through the work of the Minnesota Innovation Research Programme around Andrew Van de Ven, is already well established in innovation research in more traditional contexts, it has hardly been employed empirically in the study of online communities. An important exception is the historical account of Wikipedia by Aaltonen and Lanzara (2015), who theorize community governance as a collective capability resting upon multiple, dynamically evolving routines.

Our aim in this chapter is to apply this processual lens to empirically study collaborative innovation processes online. We draw on Latour's (1987) concept of "science-in-the-making" (that he juxtaposes to "ready-made-science") to consider content production, skill development, and community building as deeply entwined and messy processes "in-the-making." More specifically, we address the following research questions: how do dynamics of content-in-the-making, skill-in-the-making, and community-in-the-making interact to produce moments of collaborative innovation in a member-initiated online community? What is the role of online community design in providing reinforcing structures for collaborative innovation over time?

METHODOLOGY

Case Setting

In February each year, FAWM provides an online space for professional, semi-professional, and amateur musicians to collaborate in their songwriting process. Burr Settles, a software engineer, computer scientist, and singer–songwriter launched FAWM in the United States in 2004, inspired by the website nanowrimo.org (National Novel Writing Month, with more than 200,000 members) where novelists join the collective goal in the month of November of writing a novel. Burke and Settles (2011) describe these kinds of communities as "Online Goal Setting Groups," where amateurs and professionals alike join others in committing to a challenging goal.

Between 2009 and 2013, FAWM members posted 39,301 songs to the site. In 2017, when the first author joined the community, 2,338 members posted 11,168 songs on the site, 963 of which have been documented collaborations (see fawm.org). The five core activities on FAWM are (1) uploading song sketches recorded from devices ranging from cell phones to sophisticated home studios; (2) motivating other members with comments on their song sketches and giving constructive feedback; (3) collaborating directly with others on a specific song; (4) keeping track of the overall progress; and (5) participating in forum discussions. When the institutionalized deadline approaches at the end of February, the moderators close the option to upload more songs. The option to comment on songs and to post forum threads, however, remains available throughout the following year until approximately the end of December, when Settles removes the entire content from the website to subsequently instigate the next FAWM cycle on a "tabula rasa."

Research Design: Online Ethnography

A broad range of methodological strategies ranging from netnography (Kozinets, 2015) over multisited ethnography (Marcus, 1995) to reflexive ethnography (Davies, 2012) are available for an ethnographic engagement with online communities. Our empirical analysis of FAWM is based on a cross-platform and multisited online ethnography harvesting data from an ecology of websites such as Soundcloud, Bandcamp, Facebook, and YouTube, and, of course, FAWM. These sites were selected by following outgoing links from the FAWM website either in the descriptions of the user profiles or in forum discussions. Since activities on FAWM are not only limited to text posts (e.g., forum discussions), but also include listening, recording, uploading, and collaborating on audio material, the active participation of the first author in a reflective, auto-ethnographic fashion (Pink et al., 2015) was instrumental in collecting a particularly rich set of data.

In line with a processual perspective, we study innovation at FAWM from the analytical angle of "events" (Langley, 1999) that mark critical turning points or the moments in which the various innovation dynamics interact (Langley, 2009). In order to address our research questions, we are centered on events on two different time scales. First, we zoom in on events on a small-scale, that is, on the

concrete collaborative dynamics unfolding in the course of two single FAWM months. Second, we study critical moments of community redesign in the course of FAWM's entire history (from the beginning in 2004–2018).

Data Collection

We collected in-depth data in two successive FAWM cycles in February 2017 and February 2018. In addition to observations, the first author, who is a semi-professional musician, joined the community twice as a musician playing the guitar and the Indian sitar, and collaboratively produced seven song sketches in the first cycle and another five in the second. Furthermore, the first author conducted 12 in-depth interviews with members and moderators via Skype and two explorative interviews with participating members of the 2016 challenge. The interview partners were sampled according to different degrees of community involvement. Through this sampling method, our analysis is not limited to the dynamics unfolding in the most active community segment, but in fact covers the entire community. "Novices" to FAWM typically act as lurkers who only passively observe, and who only have a passing interest; "minglers" are socializers who maintain strong personal ties but are only superficially interested in producing songs themselves; "devotees" are primarily interested in producing songs and developing their personal skills, rather than maintaining social ties with the community; finally, only the category of "insiders" is driven by multiple motivations, but depend on the other responses and reactions from the other categories for visibility and collaboration. The first author was able to cover each of these categories, which were developed by Kozinets (2015), with at least one interview and to interview two members in both studied FAWM cycles to monitor the development of community development over time (e.g., novices morphing into more active members). In order to track activities that shift from the online to the offline realm, the first author conducted two face-to-face interviews with local FAWM members and joined a jam session that was recorded an uploaded on FAWM.

Archival data from forum posts from 2017 and 2016, field notes from observing ongoing interactions, and so-called "elicited data" (Kozinets, 2015) co-created in interaction with members and documented in the form of transaction protocols (reaching from short interactions on the platform over daily chat conversations to email conversations up to all four weeks of February) were additionally collected. For the period that preceded our participation in 2017, we used web.archive.org to access older versions by screenshots of the website from 2004 to 2016 to gain access to the development of the design and the number of members and to archived activities (see Table 12.1).

Data Analysis

Our data analysis proceeded in several steps. Based on an initial review of the literature and four exploratory interviews, we followed the production of a song through a single FAWM cycle. The coding of the initial dataset with the qualitative data analysis software NVivo aimed at categorizing the highly distributed interactions between members on FAWM on the one hand, and related

Table 12.1. Data Collection from February 2017 to February 2018.

Data Type		200 Hours of Observation				14 Interviews	Active Participation
Access Via		Textual	Visual	Audio-visual	Audio	Interview Transcripts	Interaction Protocols
Online	FAWM, Facebook, Soundcloud, Skype, Email, Chat	Forum posts, Comments, Bulletin board, Profiles	Photos (profile pictures, equipment, studio facilities), Screenshots from older versions	YouTube videos	Song recordings	11 Interviews	32 Interaction protocols
Offline	Face-to-face					3 Interviews	Offline jam session

interactions in other forums and social media platforms such as Facebook, YouTube, Soundcloud, and Bandcamp (the latter two are free services of online music distribution with additional features such as commenting and chat), on the other. In this initial step, we differentiated between content-oriented interactions (i.e., looking for a specific instrument or vocals for a song), skill-oriented interactions (i.e., searching for specific know-how, like how to develop a "catchy tune"), and community-oriented interactions (i.e., providing feedback, welcoming novices as emerging themes).

In the second step, the first author participated in the community and archived data as they were produced in real time from forums and bulletin boards at FAWM, as well as from threads that were posted on Facebook in a closed group available only for FAWM members. This step yielded important insights into small-scale events during a single FAWM cycle that triggered processes of content production, skill development, and community building. These moments then allowed us to further examine how and when these processes intersect by advancing or obstructing each other. We identified the crucial role played by interim outcomes that not only require further engagement within a particular process, but could also induce activities in parallel and related processes so that they would be "in sync" and support each other.

We also found that avoiding the interference of the three processes strongly revolved around finding means to curb competitive dynamics by transforming evaluative activities and status filters in a way that encouraged collaboration. Therefore, we extended our focus from small-scale events during a single FAWM cycle to critical events of reprograming the design of the website over the entire FAWM history when the three processes were "out of sync." The overarching goal of these re-adjustments was to ensure the "ongoingness" of the three intertwined processes.

INTERDEPENDENCIES BETWEEN CONTENT-, SKILL- AND COMMUNITY-IN-THE-MAKING

FAWM's principal collective goal for the production of content is quantitative rather than qualitative: each member is to produce 14 songs within the time frame of one month. The activities on FAWM, however, are not confined to achieving this particular goal, but involve dynamics beyond each individual FAWM cycle. We refer to the first process that extends beyond the singular month as *content-in-the-making*, since it revolves around producing music and typically results in a provisional song as an interim outcome. Even if some members use FAWM for presenting and testing a produced and polished song to the community, the community treats the song as unfinished by providing specific feedback rather than a generic rating. The activities that feed into this process are, for example, recording drafts, producing, mixing, uploading and tagging songs, and asking for specific collaborative inputs such as expertise on specific genres or specific musical instruments.

The second process we call *skill-in-the-making*. FAWM members constantly aim at improving their mastery of particular skillsets as composers, producers, or mixers by working through various forums to find out "… what they don't know that they are not able to do yet" (Interview insider F.). In this sense, *newly acquired skills* constitute an interim outcome which triggers further activity such as working on content or providing know-how to the community.

The third process of *community-in-the-making* refers to features of the ever-evolving community design such as membership rules, codes of conduct or collaborative ethos. The respective spectrum of activities ranges from welcoming novices over discussing new design elements with the technical designers (e.g., rating mechanisms) to actively searching for and entering collaborations, joining, or initiating challenges or opening off-topic discussions on forums (that neither refer to contents or skills). An interim outcome is a *sense of belonging*, which may trigger new collaborations on songwriting or asking for feedback and know-how. Thus, in line with a process view on innovation, we perceive content production, skill development, and community building as both processes and (interim) outcomes that precipitate further engagement to develop songs, improve skills, and engage in community building.

In Sync: The Mutual Support of Content-, Skill-, and Community-in-the-Making

To get started at FAWM, the necessary technical skills for setting up a sophisticated digital audio interface for song recording is recommended, but not strictly necessary, since the songs can also be produced with a smartphone, for instance. S., a singer–songwriter and long-term insider of FAWM, supported the process of skill-in-the-making by recording YouTube videos that instructed novices in how to set up a studio-like equipment. Like in many other online communities, experts hence share their knowledge with amateurs and semi-professionals.

In order to develop necessary skills for accessing the community, the first author followed several YouTube videos, mainly made by insider S., to set up the digital audio workstation. After opening accounts on FAWM and Soundcloud, the first author recorded a song on his device (which qualifies as content-in-the-making). He subsequently uploaded an unfinished song sketch via Soundcloud that is integrated at FAWM and tagged it as "open for collaboration" in order to invite potential collaborators. Since the solicitation of collaboration is inscribed in the ethos of the community, and since any collaboration results in a visible connection between two members on their profiles, the first author thereby launched a process of community-in-the-making. Tagging uploaded songs as "open for collaboration" (i.e., specifically "needs drums" or "needs lyrics") signifies incompleteness and invites others to collaborate in producing further versions of the song. Even when the collaborations are completed, the song, according to the FAWM code of conduct, has still to be perceived as preliminary sketch as an interviewee reaffirms: "It has to be absolutely clear, no one expects an end product here" (Interview insider J.). The further elaboration of a song is also induced

by supportive feedback such as "Zong-Busting" that is providing comments on a so far ignored sketch to acknowledge the achievements of novices. Minglers, who are strongly motivated to contribute to the community, typically welcome novices and frequently engage in "Zong-Busting."

The active solicitation of critique fosters the process of skill-in-the-making. Often, though, feedback is not primarily intended to improve a particular song, but to strengthen a sense of belonging to the community, as the subsequent quote illustrates.

"If you do not specifically ask for critique, you will only hear what people like about your music," J. explains in an interviews. F. adds that

> Some musicians don't like this kind of nice community. A friend of mine even said this is a kindergarten, there is no professionalism in only being nice […]. Some people don't like that. For me it's very inspiring.

In addition to the knowledge that is accessible through the forums, FAWM members actively help each other via skill-oriented collaborations, as for example, in the realm of songwriting skills. J., for instance, explains how he showed an amateur songwriter how to produce a song properly with a click-track, by "swinging the body to the click, until you don't listen to it anymore, for at least 20 bars, then start recording." J. remembers how he himself as a novice learned via FAWM how to properly compose with the midi-piano. He indicated that he, as a drummer, would not have had the patience to learn it without a community that provides feedback and instructions. Another insider, S., earned wide recognition for his YouTube videos in which he shared his valuable production knowledge with the community.

FAWM's design makes it possible that these processes mutually feed into each other by producing interim outcomes that call for further engagement. The experience in developing a specific song, for example, could be narrated by the FAWM members as an account of advancing a particular skill but also as an impulse that modified the code of conduct of the community. Put differently, each particular in-the-making process potentially contributes to other ones when synchronized accordingly.

The role of failures turned out be of particular importance in the members' narratives. Insider M., for example, recounts the many "bad versions" of songs she has uploaded before she could figure out what "a proper digital audio workstation does to your recordings." It was thanks to the FAWM community that she has acquired this knowledge, which is an example of how content-in-the-making fed into processes of skill-in-the-making. This synchronization of different in-the-making processes is aided by the fact that the FAWM cycles are restricted to the limited period of a single month. Typically, the members' involvement changes over several FAWM cycles since they learn in subsequent years how to successfully engage in content-, skill-, and community-in-the-making at the same time. Members start as novices and, due to the challenging goal of producing 14 songs within one month, morph rather quickly into devotees with a strong focus on content-in-the-making and skill-in-the-making in their first FAWM cycle. Realizing the potential that the community offers in elaborating songs as well as developing skills they transform into minglers in their second FAWM cycle. They continue to socialize

(comment and contribute to forums) and collaborate until their contributions to content-in-the-making and community-in-the-making result in conflicts over the allocation of time. Subsequently, they turn into insiders that constantly shift between these processes. Novice A., for example, was interviewed at two points in time, in his first FAWM 2017 and his second FAWM 2018. The interview 2017 circled mostly around A.'s self-declared "imposter syndrome" that refers to low self-esteem and anxieties of "being caught" by fellow songwriters as an imposter. Also, he had difficulties with the recording setup. In 2017, A. uploaded only seven songs altogether but was surprised by the constructive feedback of the community:

> I am not sure what exactly brought them to my sample tape, it is just random, and they just poke 'round and say "hey welcome to FAWM" or they look and see if you are a first-timer or something like that. But I had like 10 comments on my sample when I first came in. So that was really encouraging to see that people are there and you know interested and that produce before you say anything. (Interview novice A. 2017)

For A., participating in the community-in-the-making process fed into content-in-the-making.

Out of Sync: Interferences between Content-, Skill-, and Community-in-the-Making

In contrast to these instances in which processes mutually reinforced each other, we also observed interferences among the three processes that were mainly caused by three distinct drivers. First, growth in membership resulted in an increased focus on content production as a main target that interfered with skill and community development: content remained uncommented and, thus, lost its character as an incomplete and provisional sketch awaiting further refinement; which in turn also implied that an advancement of skills was not triggered. Second, the increasing professionalization within the community raised the entry barrier for novices and thus undermined content and community development. Third, competitive dynamics afforded by the technology such as the ability to rate and rank content conversely shifted the focus from skill and community development toward content production.

As a basis for illustrating the first driver, Table 12.2 shows the development of membership at FAWM with the available data. Data from earlier periods than 2017 were retrieved from the Webarchive (web.archive.org).

The thick lines in Table 12.2 indicate the points in time at which the website was reprogramed. Since the number of songs between 2012 and 2013 had not dropped drastically, the drop in the number of membership was most likely due to Settles who deleted inactive accounts when the website was migrated into a new design.

Soon after the launch in 2004, FAWM became an administrative challenge because of the fast growth in membership. E., co-founder and moderator, recalls the point in time when the number of members exceeded a couple hundred:

> At one point we reached a critical mass, where the number of songs coming in was outstripping the ability of the small group of moderators to keep seeing and commenting on newbies' products. This was a revelation to us when we hit the mid hundreds of the members. (Interview moderator E.)

Table 12.2. Development of Membership FAWM (2004–2018, Userstatistics FAWM).

Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Members	7	119	371	870	1,632	2,314	4,053	5,646	7,215	2,361	2,233	2,470	2,556	2,338	2,446
Collaborations										896	n.a.	795	852	963	1,089
Songs			1,358	2,706	5,707	7,374	10,117	10,334	10,930	9,669	11,168	10,895	10,729	11,168	11,455

"Keeping up" with the content produced at FAWM indicates that the need for community building became as important as song production. A common problem for fast-growing online communities is the development of a small core of active and a vast periphery of rather passive members. This dynamic endangers the coherence of the community, undermines the visibility of new members, and thereby hinders new content production. Settles and his team of moderators became aware of this issue as soon as the number of "uncommented" songs started to rise to an extent that no longer allowed them to comment on all published songs themselves. As a result and incentive, they integrated two counting mechanisms on each members' profile page to avoid novices and new songs to be overlooked "[…] because the worst feeling in the world is having a piece of art you have created not even be acknowledged" (Interview insider S.). First, in 2006, a "Zong-Buster" that counts the number of uncommented songs members have commented on was implemented. Uncommented songs are easy to find, because they are listed on top in the list of published songs at FAWM, which can be found under the corresponding link. The second counter, "Fawmling Comments," reveals the number of comments posted on the uploaded content and the profile pages of first-year FAWMers (for an illustration of the activities of the first author in 2018, see Table 12.3).

Table 12.3. FAWM Activities of the First Author in 2018.

Songs written	7
Collaborations	5
Forum posts	3
Comments given	25
Fawmling comments	3
Zongs busted	5

Source: Own Documentation Retrieved from FAWM

From 2007 onward, a set of rules and guidelines proposed by the moderators as well as by community members was gradually implemented in order to afford both content production and visibility. For example, a "Help Center" substituted the previous FAQ with a link to "Basic Rules" and "Etiquette." The "Basic Rules" describe FAWM currently as an "international songwriting workshop that requires internet connection" (Webarchive FAWM Screenshot, 2007). The following quotation exemplifies an aspect of "Etiquette" (Webarchive FAWM Screenshot, 2007) concerning the newly integrated feature "Watchlist":

> Is the "watchlist" feature sort of like a friends' network?
>
> Sort of, but unlike a lot of website communities where the goal is to get the "most friends," you'll probably want to keep your watchlist down to a reasonable size.
>
> *So s/he who is in the most watchlists doesn't win?*
>
> No, s/he who writes at least 14 songs in 28 days wins

In 2008, a "FAWM Glossary" was added to facilitate the development of a shared language as part of the community-in-the-making process. The section

"FAWM Guidelines and Etiquette," implemented in 2012, further underlined the collaborative ethos of the community (Webarchive FAWM Screenshot, 2012):

> […] Keep the focus on creativity and productivity. Everyone will be reasonable. Everyone expects everyone else to be reasonable. Do not be offended if someone suggests you are not being reasonable.

Only from 2013 onward songs could be tagged as "collaborative" with other members. This tagging provided visibility of documented collaborations that soon became a valuable outcome at FAWM that supported both the process of content-in-the-making and community-in-the-making.

Professionalization in the production of songs turned out to be a second driver of interferences besides growth of membership. Professionalization, in fact, was intensely debated in the forums and among the administrators, leading to several readjustments in the website's design as well.

In 2009, a "Wiki" replaced the previous blog to further enable the process of skill-in-the-making (Webarchive FAWM Screenshot, 2009):

> In previous FAWM events, the community have (sic) generated a wealth of information about songwriting, demo recording techniques, CD production and promotion, etc. For the sixth annual FAWM in 2009, we decided to launch a Wiki so that some of this knowledge can be consolidated in one place for reference to all.

Easy access to knowledge on producing high-quality recordings increasingly started to interfere with the content-in-the-making process within a community that was explicitly dedicated to low barriers to entry. This lingering conflict was discussed in the forums, indicating the reflexivity of the FAWM community that aimed at down-playing the relative importance of the recording quality. The Wiki was eventually transformed into the FAQ section.

The third driver of interferences among the various in-the-making processes, competition, resulted in attempts to curb respective dynamics within the community: "FAWM is not a competition. Art is not a competition" (Interview moderator E.). Consequently, any rating features such as a "like button," for example, were eschewed, even though the community repeatedly questioned this decision. Likewise, ranking mechanisms that would allow conclusions about to the quality or popularity of a song, such as the number of received comments, were deliberately avoided. Instead, new features integrated into the website were geared toward counting content production as well as community-building activities, and subsequently publishing the numbers in the forum (in terms of the number of published songs, comments, Zong-busting, etc.).

Moderator E. explains these decisions in the following quote:

> Some of the things that people ask for and that we've debated back and forth were the "Like-Button" from Facebook … or some way to track how many times a given song has been played. We've had certain features like that even in previous considerations, but these dropped out … because what ends up happening: there is a natural competitiveness that people have. People want look at things as a popularity contest, but FAWM is hard enough … the one thing that always seems to come up at FAWM almost every year is … well: "does the most number of comments mean it is the best song?" Actually no! It is completely unrelated!

Even though some of the members of the community asked for a rating system, Settles and the moderators deliberately refused to integrate a song-rating mechanism. Rankings were once implemented, and members could display songs in order of received comments, but subsequently these rankings were abandoned. However, quantified rankings were implemented regarding members' reputation ("the more comments the better") within the community to sustain community-in-the-making dynamics, thus shifting competition around content production and quality toward competition around active community membership. E. recalls when members started to count the number of their comments as a way of tracking community activities. This development resulted in the "Century Club" to which members were promoted by moderators as soon as their number of comments exceeded 100. In 2018, the most active FAWMer was M. who posted over 700 comments in 28 days.

In addition to responses to challenges posed by community dynamics, Settles, a scholar of computer engineering and human–computer interaction, himself added features on the basis of data analytics tools to FAWM a view times. One was a novel song title generator as well as a word cloud generator for stimulating creativity in songwriting. When the number of uncommented songs started to rise, Settles analyzed social network data and identified collaboration patterns in the community (Settles & Dow, 2013). As soon as Settles and his co-author realized that the amount of comments was a central driver for visibility and motivation at FAWM, they were keen to motivate members to give comments. In 2009, Settles published a scatter plot based on data from 2008 (Webarchive FAWM Screenshot, 2009) that revealed that giving and receiving comments on songs are positively correlated (with a correlation coefficient of 0.79). Based on these findings, the website was redesigned to further encourage people to comment on other people's songs to strengthen the community. Furthermore, Settles and Dow conclude that the application of their analysis could be used for "intelligent recommendations for members in search of good collaborators" (p. 25), a feature that has not (yet) been integrated into the website.

Summary

The generative dynamics of FAWM are constituted by the three processes content-in-the-making, skill-in-the-making, and community-in-the-making. Each of the processes yields a provisional outcome that entices further engagement. In moments of collaborative innovation, content-in-the-making results in a provisional song sketch that invites feedback and thereby concomitantly propels community-in-the-making processes since the visibility gained through comments strengthens the sense of belonging. Reciprocal commenting and feedback also leads to newly acquired skills and improves the overall recording quality of the produced songs. Offering specific know-how to the community, for example, via the forums, further advances community building and content production since a knowledgeable community yields more potential collaborators for further song productions. These dynamics are kept "in sync" by reinforcing structures

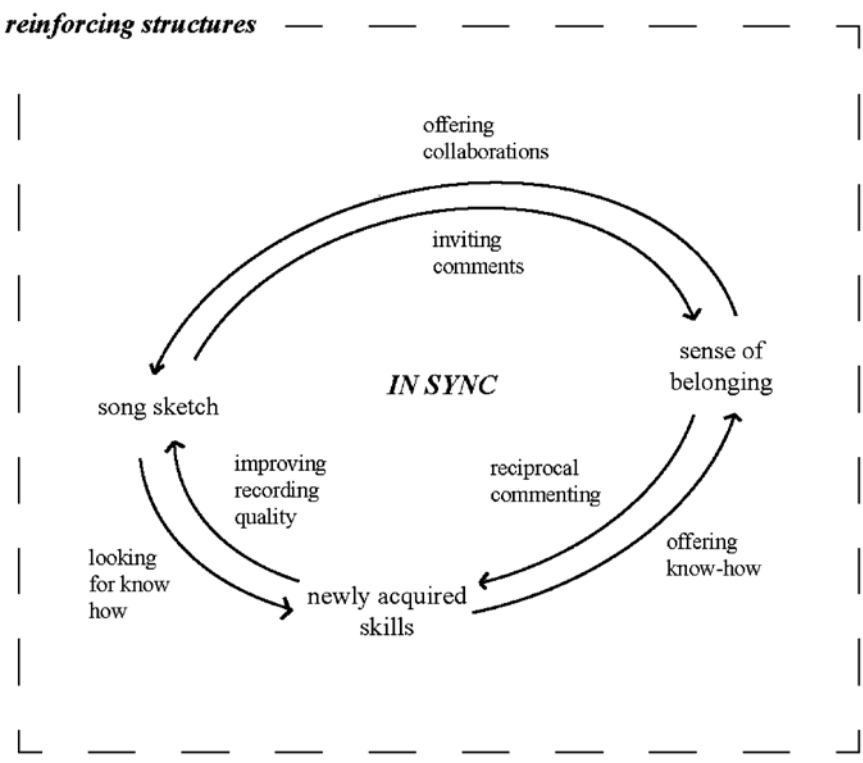

Fig. 12.1. In Sync – Complementary Reinforcements among Processes at FAWM.

that provide incentives to engage in community building and skill development as much as they create a goal-driven setting for producing 14 songs in 28 days (see Fig. 12.1).

Conversely, FAWM had to grapple with interferences among the three in-the-making processes. First, growth in membership and the number of produced song sketches challenged the ability of members to comment on songs which reduced visibility and ultimately undermined the community-in-the-making process. Second, the increasing professionalization led to an overemphasis on production quality and thereby raised, in conflict with the amateur ethos of the community, barriers to content production and community building. Third, rating and ranking mechanisms as means of competitive commenting in the community-in-the-making process led to an overemphasis of skills at the expense of reaching the proclaimed goal of producing a high quantity of new ideas. To cope with these dynamics, reinforcing structures repeatedly had to be adjusted in order to get the three processes back "into sync" (see Fig. 12.2).

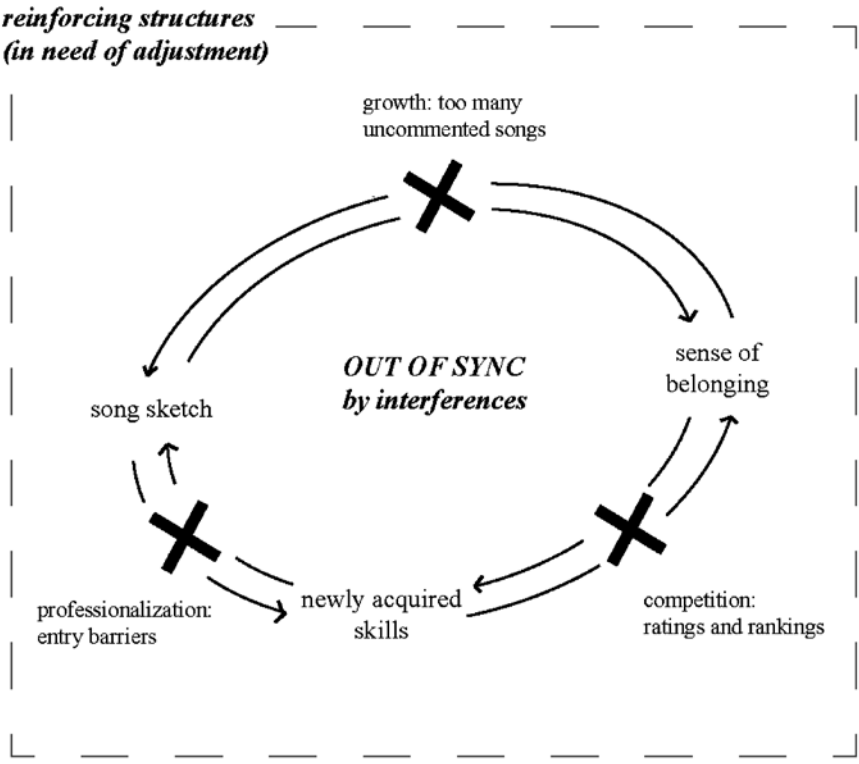

Fig. 12.2. Out of Sync – Interferences among Processes at FAWM.

DISCUSSION AND CONCLUSIONS

Online communities have evolved into a key arena of collaborative innovation across organizational boundaries. The extant literature on online communities has related their innovative potential to particular features of online collaborative production (e.g., Jarvenpaa & Lang, 2011), particularly to the dynamics of knowledge and skill development (e.g., Faraj et al., 2011) and community building and governance (e.g., Dahlander et al., 2008). By primarily focusing on open-source communities, and Wikipedia and Linux in particular, research so far has elaborated the ways in which these communities foster ongoing engagement (Garud et al., 2008) and adjust their governance structure to ensure the production of quality content in the face of growing membership (e.g., O'Mahony & Ferraro, 2007).

This chapter seeks to advance our understanding of collaborative innovation processes in online communities in two respects. First, we apply an "innovation-as-process" perspective (e.g., Van de Ven et al., 1999) that shifts the focus from

perceiving online communities as pre-given organizational entities toward studying the processes and activities that engender communities "in-the-making" (Latour, 1987). This process perspective is instrumental to reveal the messy entanglements of content-in-the-making, skill-in-the-making, and community-in-the-making as parallel. From this perspective, a sense of belonging to a community, in previous literature described as a stabilized feeling (McMillan & Chavis, 1986), itself becomes an innovative outcome of a community that needs to be continuously (re-)produced. Second, our empirical account of an online community dedicated to the production of creative content elucidates the important role played by reinforcing structures for stimulating each of these processes as a basis for moments of collaborative innovation, as well as the need to adjust these reinforcing structures to emerging challenges posed by community development over time.

Our findings indicate that the three interrelated processes of content-in-the-making, skill-in-the-making, and community-in-the-making are triggered and maintained by temporary stabilizations of provisional, interim outcomes. A song that is tagged as incomplete, for example, invites comments and advice from other community members. The temporary marker "incomplete," then, prompts activities that resonate with the generative practices of help-seeking, help-giving, collective reframing, and reinforcing identified by Hargadon and Bechky (2006). In the "permanently beta"-context of an online community (Neff & Stark, 2006), these activities do not necessarily result in a final "cumulative synthesis" (cf. Garud et al., 2016) but rather sustain the collaborative momentum of producing content, enhancing skills, and developing the community over time. The three generative processes are, therefore, open-ended, only temporarily bracketed by the month of February. While this temporal bracketing itself constitutes a kind of reinforcing structure that enables heightened activity along several dimensions, additional reinforcing structures were needed to stimulate the simultaneous production of content, skills, and community. While our use of the word "synchronization" in this regard does not imply a strict form of temporal alignment of the three processes, which in the light of the often asynchronous nature of virtual interactions does not seem adequate or even desirable, it still implies the complementarity of the three processes that depend on and feed into each other and need to be given equal weight in community design.

The present study also elucidates interferences between the three interrelated process of content-in-the-making, skill-in-the-making, and community-in-the-making. First, these interferences were caused by the growth of the community. While the generative potential of the community fostered a growth in membership, this growth in turn tipped the balance of the three processes in favor of content production. Second, interferences among the processes of content-in-the-making, skill-in-the-making, and community-in-the-making were caused by growing expertise resulting in a higher entry barrier for new members. And third, quintessential practices such as tagging, rating, or commenting induced a growing focus on songs as final *products* and, through this very dynamic, undermined the collaborative *production* of ideas. Subsequent interventions in the interface design aimed at sustaining the collaborative ethos of the community by shifting competition around content to competition around community engagement (see

also Gulbrandson & Just, 2011) and, thereby, providing reinforcing structures for ensuring an equal balance of all three processes so that they can feed into each other.

The "in-the-making" perspective on online communities advanced in the present chapter raises further questions concerning collaborative innovation processes that span across organizational boundaries. First, as the case of FAWM has shown, member-initiated online communities can be important sites for the development of content, skills, and community that might be prone to commercial exploitation later on. Yet, firms' attempts to tap into these kinds of communities and strategically orchestrate them might induce competitive dynamics that undermine the very generative dynamics of content production, skill development, and community building the firm seems to benefit from. Second, further research seems required to reveal and conceptualize the complex interplay of the broad spectrum of online communities and platforms that are mobilized in dispersed collaborative online settings. Our findings indicate, for example, that FAWM is used for the collaborative production of song sketches that, in later stages, are promoted as polished songs on platforms such as Facebook or Soundcloud. Collaborative dynamics, then, not only unfold in the "division of labor" between online communities (for idea generation) and firms (for idea exploitation; e.g., Cohendet & Simon, 2015), but also in complex online ecologies (e.g., Boczkowski et al., 2018); it is these ecologies of innovation that deserve further academic attention.

REFERENCES

Aaltonen, A., & Lanzara, G. F. (2015). Building governance capability in online social production: Insights from Wikipedia. *Organization Studies*, *36*(12), 1649–1673.

Ansari, S., & Munir, K. (2010). Letting users into our world: Some organizational implications of user-generated content. *Research in the Sociology of Organizations*, *29*, 79–107.

Barrett, M., Oborn, E., & Orlikowski, W. (2016). Creating value in online communities: The socio-material configuring of strategy, platform, and stakeholder engagement. *Information Systems Research*, *27*(4), 704–723.

Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. New Haven, CT: Yale University Press.

Boczkowski, P. J., Matassi, M., & Eugenia Mitchelstein, E. (2018). How young users deal with multiple platforms: The role of meaning-making in social media repertoires. *Journal of Computer-Mediated Communication*. Retrieved from https://doi.org/10.1093/jcmc/zmy012

Brown, J., & Duguid, P. (1991). Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. *Organization Science*, *2*(1), 40–57.

Burke, M., & Settles, B. (2011). Plugged in to the community: Social motivators in online goal-setting groups. *Proceedings of the 5th International Conference on Communities and Technologies*, 1–10.

Charband, Y., & Navimipour, N. J. (2016). Online knowledge sharing mechanisms: A systematic review of the state of the art literature and recommendations for future research. *Information Systems Frontiers*, *18*(6), 1131–1151.

Chesbrough, H. (2003). *Open innovation*. Boston, MA: Harvard Business School Press.

Cohendet, P., & Simon, L. (2015). Introduction to the special issue on creativity in innovation. *Technology Innovation Management Review*, *5*(7), 5–13.

Dahlander, L., Frederiksen, L., & Rullani, F. (2008). Online communities and open innovation. *Industry and Innovation*, *15*(2), 115–123.

Dahlander, L., & Magnusson, M. G. (2005). Relationships between open source software companies and communities: Observations from Nordic firms. *Research Policy*, *34*(4), 481–493.

Davies, C. A. (2012). *Reflexive ethnography: A guide to researching selves and others*. London: Routledge.
De Souza, C. S., & Preece, J. (2004). A framework for analyzing and understanding online communities. *Interacting with Computers*, *16*(3), 579–610.
Dhanaraj, C., & Parkhe, A. (2006). Orchestrating innovation networks. *Academy of Management Review*, *31*(3), 659–669.
Dobusch, L., & Schüßler, E. (2014). Copyright reform and business model innovation: Regulatory propaganda at German music industry conferences. *Technological Forecasting and Social Change*, *83*, 24–39.
Faraj, S., Jarvenpaa, S. L., & Majchrzak, A. (2011). Knowledge collaboration in online communities. *Organization Science*, *22*(5), 1224–1239.
Faraj, S., Kudaravalli, S., & Wasko, M. (2015). Leading collaboration in online communities. *MIS Quarterly*, *39*(2), 393–412.
Faraj, S., von Krogh, G., Monteiro, E., & Lakhani, K. R. (2016). Special section introduction: Online community as space for knowledge flows. *Information Systems Research*, *27*(4), 668–684.
Fayard, A. L., & DeSanctis, G. (2005). Evolution of an online forum for knowledge management professionals: A language game analysis. *Journal of Computer-Mediated Communication*, *10*(4), JCMC1045.
Felin, T., & Zenger, T. R. (2014). Closed or open innovation? Problem solving and the governance choice. *Research Policy*, *43*(5), 914–925.
Fortwengel, J., Schüßler, E., & Sydow, J. (2017). Studying organizational creativity as process: Fluidity or duality? *Creativity and Innovation Management*, *26*(1), 5–16.
Garud, R., Gehman J., Kumaraswamy, A., & Tuertscher P. (2016). From the process of innovation to innovation as a process. In A. Langley & H. Tsoukas (Eds.), *The Sage handbook of process organization* (pp. 451–465). Thousand Oaks, CA: Sage.
Garud, R., Tuertscher, P., & Van de Ven, A. H. (2013). Perspectives on innovation processes. *Academy of Management Annals*, *7*, 775–819.
Garud, R., Jain, S., & Tuertscher, P. (2008). Incomplete by design and designing for incompleteness. *Organization Studies*, *29*(3), 351–371.
Gläser, J. (2001). Producing communities' as a theoretical challenge. *Proceedings of the Australian Sociological Association*, 1–11.
Grabher, G., & Ibert, O. (2013). Distance as asset? Knowledge collaboration in hybrid virtual communities. *Journal of Economic Geography*, *14*(1), 97–123.
Grabher, G., & Ibert, O. (2018). Schumpeterian customers? How active users co-create innovations. In G. L. Clark, M.P. Feldman, M.S. Gertler, & D. Wójcik (Eds.), *The new Oxford handbook of economic geography* (pp. 409–429). Oxford: Oxford University Press.
Grabher, G., Melchior, A., Schiemer, B., Schüßler, E., & Sydow, J. (2018). From being there to being aware: Confronting geographical and sociological imaginations of copresence. *Environment and Planning A: Economy and Space*, *50*(1), 245–255.
Gulbrandson, I. T., & Just, S. N. (2011). The collaborative paradigm: Towards an invitational and participatory concept of online communication. *Media, Culture & Society*, *33*, 1095–1108.
Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science*, *17*(4), 484–500.
Hwang, E. H., Singh, P. V., & Argote, L. (2015). Knowledge sharing in online communities: Learning to cross geographic and hierarchical boundaries. *Organization Science*, *26*(6), 1593–1611.
Jarvenpaa, S. L., & Lang, K. R. (2011). Boundary management in online communities: Case studies of the Nine Inch Nails and ccMixter music remix sites. *Long Range Planning*, *44*(5–6), 440–457.
Jeppesen, L. B., & Frederiksen, L. (2006). Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments. *Organization Science*, *17*(1), 45–63.
Kozinets, R. V. (2015). *Netnography*. Hoboken, NJ: Wiley.
Kraut, R. E., Resnick, P., Kiesler, S., Burke, M., Chen, Y., Kittur, N., & Riedl, J. (2012). *Building successful online communities: Evidence-based social design*. Cambridge, MA: MIT Press.
Langley, A. (1999). Strategies for theorizing from process data. *Academy of Management Review*, *24*(4), 691–710.
Langley, A. (2009). Studying processes in and around organizations. In D. Buchanan, & A. Bryman (Eds.), *Sage handbook of organizational research methods* (pp. 409–429). Thousand Oaks, CA: Sage.

Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge, MA: Harvard University Press.

Leyshon, A. (2014). *Reformatted: Code, networks, and the transformation of the music industry*. Oxford: Oxford University Press.

Marcus, G. E. (1995). Ethnography in/of the world system: The emergence of multi-sited ethnography. *Annual Review of Anthropology*, *24*(1), 95–117.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, *14*(1), 6–23.

Neff, G., & Stark, D. (2004). Permanently beta. Responsive organization in the internet era. In P. N. Howard, & S. Jones (Eds.), *Society online: The internet in context* (pp. 173–188). Thousand Oaks, CA: Sage.

O'Mahony, S., & Bechky, B. A. (2008). Boundary organizations: Enabling collaboration among unexpected allies. *Administrative Science Quarterly*, *53*(3), 422–459.

O'Mahony, S., & Ferraro, F. (2007). The emergence of governance in an open source community. *Academy of Management Journal*, *50*(5), 1079–1106.

Parmentier, G., & Mangematin, V. (2014). Orchestrating innovation with user communities in the creative industries. *Technological Forecasting and Social Change*, *83*, 40–53.

Preece, J., & Maloney-Krichmar, D. (2005). Online communities: Design, theory, and practice. *Journal of Computer-Mediated Communication*, *10*(4), JCM10410.

Pink, S., Horst, H., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2015). Ethnography in a digital world. In *Digital ethnography: Principles and practice* (pp. 1–18). New York, NY: Sage.

Porter, C. E. (2004). A typology of virtual communities: A multi-disciplinary foundation for future research. *Journal of Computer-Mediated Communication*, *10*(1), Article 3.

Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Inter-organizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly*, *41*(1), 116–145.

Ren, Y., Kraut, R., & Kiesler, S. (2007). Applying common identity and bond theory to design of online communities. *Organization Studies*, *28*(3), 377–408.

Settles, B., & Dow, S. (2013). Let's get together: The formation and success of online creative collaborations. *Proceedings of the SIGCHI conference on human factors in computing systems* (2009–2018).

Surowiecki, J. (2004). *Why the many are smarter than the few and how collective wisdom shapes business, economics, societies and nations*. New York, NY: Doubleday.

Stark, D. (2009). *The sense of dissonance: Accounts of worth in economic life*. Princeton, NJ: Princeton University Press.

Schiemer, B. (2018). *Problematizing communities in creative processes. What they are, what they do, and how they are practiced*. Organized Creativity Discussion Paper No. 18/2. Freie Universität Berlin, Berlin, Germany.

Sydow, J., Schüßler, E., & Müller-Seitz, G. (2016). *Managing inter-organizational relations: Debates and cases*. London: Palgrave Macmillan.

Van de Ven, A. H., Polley, D. E., Garud, R., & Venkataraman, S. (1999). *The innovation journey*. Oxford: Oxford University Press.

Von Hippel, E. (1976). The dominant role of users in the scientific instrument innovation process. *Research Policy*, *5*(3), 212–239.

Von Hippel, E. (1978). Successful industrial products from customer ideas. *Journal of Marketing*, *42*, 39–49.

Watson, A. (2016). Laptops, pro tools, and file transfer protocols: On the intensification and extensification of recording work in the digital age. In B. J. Hracs, M. Seman, & T. E. Virani (Eds.), *The production and consumption of music in the digital age* (pp. 11–25). New York, NY: Routledge.

Webarchive FAWM Userstatistics 2004 (2004, December). Retrieved from https://web.archive.org/web/20041204121451/http://www.cs.wisc.edu/~bsettles/fawm2004/

Webarchive FAWM Userstatistics 2005 (2005, March). Retrieved from https://web.archive.org/web/20050303170639/http://www.fawm.org/

Webarchive FAWM Userstatistics 2006 (2006, June). Retrieved from http://web.archive.org/web/20060603203813/http://www.fawm.org/

Webarchive FAWM Userstatistics 2007 (2007, March). Retrieved from http://web.archive.org/web/20070305230958/http://www.fawm.org/
Webarchive FAWM Userstatistics 2008 (2008, March). Retrieved from http://web.archive.org/web/20080313070754/http://fawm.org/
Webarchive FAWM Userstatistics 2009 (2009, February). Retrieved from http://web.archive.org/web/20090227084040/http://fawm.org/
Webarchive FAWM Userstatistics 2010 (2010, May). Retrieved from http://web.archive.org/web/20100611084135/http://fawm.org/
Webarchive FAWM Userstatistics 2011 (2011, July). Retrieved from http://web.archive.org/web/20110705155521/http://fawm.org/
Webarchive FAWM Userstatistics 2012 (2012, May). Retrieved from http://web.archive.org/web/20120419121115/http://fawm.org/
Webarchive FAWM Userstatistics 2013 (2013, April). Retrieved from http://web.archive.org/web/20130302010204/http://fawm.org/
Webarchive FAWM Userstatistics 2014 (2014, May). Retrieved from http://web.archive.org/web/20140517091843/http://fawm.org/
Webarchive FAWM Userstatistics 2015 (2015, June). Retrieved from http://web.archive.org/web/20150801125456/http://fawm.org/
Webarchive FAWM Userstatistics 2016 (2016, March). Retrieved from http://web.archive.org/web/20160304193120/http://fawm.org/
West, J., & Lakhani, K. R. (2008). Getting clear about communities in open innovation. *Industry and Innovation*, *15*(2), 223–231.
West, J., & O'Mahoney, S. (2008). The Role of Participation Architecture in Growing Sponsored Open Source Communities. *Industry and Innovation*, *15*(2), 145–168.
Wiertz, C., & de Ruyter, K. (2007). Beyond the call of duty: Why customers contribute to firm-hosted commercial online communities. *Organization Studies*, *28*(3), 347–376.