



*Connecting for a Social Good:
A Multi-level Analysis of a Nascent Online Community*

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DECLARATION

This thesis is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text. I further state that no substantial part of my thesis has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. It does not exceed the prescribed word limit for the relevant Degree Committee.

SUMMARY

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Online communities (OCs) such as Wikipedia have the potential to transform our global society and economy. Building and sustaining OCs, however, appears to be rather complex. Indeed, most OCs fail early on. The extant OC literature cannot fully explain this phenomenon. This thesis is thus motivated by the increasing importance of OCs and the unsolved complexities regarding building and sustaining them. In particular, it aims to answer the research question of how nascent OCs evolve and what the influences are on this evolution.

To this end, it examines a longitudinal 34-months long case study of AshokaHub, a nascent global OC of social entrepreneurs, combining interview data with qualitative and quantitative data from the AshokaHub platform. Despite favourable conditions at AshokaHub's launch and a re-launch with new functionality and curation strategies, user contributions remained limited. Drawing on the OC and social entrepreneurship literatures as well as the theories of affordances, technological frames of reference and groupware adoption, this thesis develops a multi-level model to address the research question. This model theorizes the evolution of nascent OCs and the influence of context and materiality on this evolution. It highlights that OC evolution happens as users across different social worlds within the OC continuously adopt and change their ways of using it. It also highlights that, on an individual user level, this OC evolution happens in a recursive process of framing, affordance perception and affordance actualisation that influences and is influenced by the material characteristics of the OC's technological platform and is shaped by the OC's context. This thesis thus contributes to the OC literature by providing insight into how nascent OCs evolve and what influences this evolution. In addition, it contributes to affordance theory by introducing the concept of a collaborative OC affordances. This concept aims to explain how collaborative affordances emerge and evolve on OCs given the generative nature of their underlying technological platforms.

These findings have managerial implications as well. Good practices are identified that can support the successful start of an OC. This is complemented with a discussion on how to be situationally aware of the unpredictable evolution of an OC after its start.

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LIST OF ABBREVIATIONS

ASN	Ashoka support network
IS	Information systems
IT	Information technology
NEON(I)	Acronym used to describe the set of available collaboration objects on AshokaHub: needs, events, offers, news, and ideas (only in Phase 3)
NGO	Non-governmental organisation
OC	Online community

PART I

CHAPTER 1: INTRODUCTION

Online communities (OCs) such as Facebook or Wikipedia have become a ubiquitous phenomenon in today's world and have the potential to significantly transform our global society and economy. OCs are not a marginal phenomenon but are increasingly important for both practice and research. As the example of open source software communities shows (von Hippel and von Krogh 2003; von Krogh and von Hippel 2006), such OCs have become a critical source of global innovation and knowledge creation. Being open and globally accessible, such OCs also greatly benefit the public and, in particular, organisations in the social sector such as NGOs, volunteer organisations and social enterprises, which can tap into deep knowledge and expertise despite their severe resource constraints.

Building and sustaining OCs, however, appears to be rather complex. Indeed, most OCs fail in their 'infancy'. As Hagel and Seely Brown (2012) argue: "[When] it comes to building a space online that people want to visit regularly and contribute to, well, most of us never get there, and for good reason. It's really hard." Even organisations with vast resources seem to experience the difficulty of building and sustaining OCs, as the alleged failure of Google's OC, Google+, suggests (Mulligan 2014). Hence, this thesis is motivated by the increasing importance of OCs and the unsolved complexities regarding building and sustaining them.

One high-visibility attempt at building an OC is AshokaHub, a limited-access, home-grown online space launched by Ashoka in 2011. In its own words, Ashoka "identifies and supports the world's leading social entrepreneurs, learns from the patterns in their innovations, and mobilizes a global community that embraces these new frameworks to build an 'everyone a changemaker world'" (Ashoka 2020). When this research was conducted, Ashoka had built and nurtured a network of more than 2,500 social entrepreneurs, called Fellows¹. The intent of AshokaHub was to enable Fellows to find each other, connect, collaborate and exchange resources and knowledge (Ashoka Hub 2012).

Despite favourable starting conditions, AshokaHub did not achieve the level of adoption and use that had been expected. More than two years after its launch, adoption by Fellows and contribution activity did not grow and remained limited. This is particularly surprising for a number of reasons. Firstly, the AshokaHub project was initiated by Fellows themselves. Secondly, Fellows are selected as being high-achieving social entrepreneurs with a passion for

¹ In 2020, the Ashoka network consisted of more than 3,500 Fellows (Ashoka 2020).

building new things; they are strongly committed to the social enterprise ideology, share a strong identification with Ashoka and each other and aim to achieve large-scale changes in society which usually requires collaboration with numerous stakeholders. Thirdly, the AshokaHub platform was re-launched one and a half years after its launch with significantly updated functionality based on user feedback; this was expected to remedy the slow initial adoption. Finally, Ashoka staff actively contributed content and collaborated in order to jump-start the community and support the take-off of AshokaHub. The focus of this thesis is to understand the dynamics that led to an unsuccessful launch of the OC despite the promising starting conditions.

The extant OC literature cannot fully explain this phenomenon for three reasons. Firstly, current OC studies have neglected the initial phase of an OC's evolution, which lays the foundations and rules for later collaborative behaviour. Instead, they have implicitly assumed a mature, 'steady state' OC where user² contributions merely need to be sustained (cf. Faraj et al. 2011). Secondly, the extant literature has theorised only little about how collaboration actually happens in OCs (Faraj et al. 2011). With only few notable exceptions (e.g., O'Mahony and Ferraro 2007), OC researchers largely focused on investigating the motivational factors for user participation or the structural features of their underlying networks in a 'snapshot' fashion. These snapshot investigations of OCs were conducted at one particular point in time, often using one-time surveys of users (cf. Nambisan and Baron 2010; Wasko and Faraj 2005). Therefore, studies that focus on the process of how different factors affect user contributions over time have rightly been called for (cf. Faraj et al. 2011). Finally, OC researchers have not studied what role the material characteristics of the technology platform underlying the OC play for the dynamics unfolding on it (Faraj et al. 2011). Especially in a nascent OC without a rich history and rules of behaviour, the materiality of the platform may be involved in influencing new users' sensemaking processes. For example, the platform's functionality could be enabling and constraining certain behaviours.

² Throughout this thesis, the term 'users' is employed to refer to the members of an online community who are, at the same time, users of the technological platform underlying this online community. The theories that this thesis draws on use either the term 'user' or 'member'. In order to avoid confusion, the term 'user' has been chosen for this thesis.

This thesis thus aims to explore this understudied area and answer the following research question:

How do nascent online communities evolve? What are the influences on this evolution?

To this end, it examines a longitudinal 34-months long case study of AshokaHub. The data from this case are unique because they range from five months prior to launch until 29 months post-launch. Moreover, the study draws on interviews with diverse stakeholders, such as the OC management team, Ashoka Fellows and Ashoka staff, and also draws on qualitative and quantitative platform activity data.

Drawing on the literatures on OCs and social entrepreneurship and the theories of affordances, technological frames of reference and groupware adoption, this thesis then advances a multi-level model for theorizing the evolution of nascent OCs and the influence of context and materiality on this evolution. It highlights that OC evolution happens as users across different social worlds within the OC continuously adopt it and change their ways of using it. It also highlights that, on an individual user level, this OC evolution happens in a recursive process of framing, affordance perception and affordance actualisation that influences and is influenced by the material characteristics of the OC's technological platform and is shaped by the OC's context. With this model, this thesis contributes to the OC literature by providing insight into how nascent OCs evolve and what influences this evolution.

In addition, this thesis contributes to affordance theory by extending the shared affordances concept and introducing collaborative OC affordances. This concept aims to explain how collaboration activity emerges and evolves on OCs even though users may have vastly different perceptions of how to use the underlying OC platform. The fundamental idea is that collaborative OC affordances emerge if enough users perceive and actualise the same or similar affordances related to some type of collaboration in temporal and visual 'proximity'. This proximity in turn is influenced by visibility algorithms running on the OC platform.

These findings have managerial implications as well. Good practices are identified that can support the successful start of an OC. This is complemented with guidance on how to be situationally aware of the unpredictable evolution of an OC after its start.

This thesis is divided into three parts. Part I contains three chapters and outlines the theoretical and methodological foundations of this thesis. Chapter 2 outlines the theoretical context of this study and draws on literatures and theories that can potentially help answer the research question. This includes a review of the OC literature, a review of the groupware adoption

literature to explore the notions of OC adoption and evolution, a review of the literatures on affordances and technological frames of reference to explore the notions of influence of materiality and context, and finally a brief review of the social entrepreneurship phenomenon to help explain the context of the AshokaHub case. Chapter 3 outlines the case setting of this thesis. It illustrates the background of Ashoka, introduces AshokaHub and describes the author's strategy of gaining and maintaining access to AshokaHub. This chapter concludes with an outline of the overall evolution of activity on AshokaHub. Chapter 4 outlines the method used in this thesis. It first discusses epistemological and ontological considerations. It then argues for an extended grounded theory approach as an appropriate method for studying nascent OCs and presents the qualitative and quantitative methods used in this approach. Finally, it describes the resulting research process with its different phases and concludes with a discussion of how this study aims to use and theorize from process data.

Part II contains five chapters and presents the results of the data analysis along the phases defined in the previous chapter. Chapter 5 examines prospective users' perceptions before the launch of AshokaHub. This serves as a characterisation of the starting conditions of the AshokaHub OC. Chapter 6 then analyses the changes observed in the context and platform unfolding on AshokaHub over the 19 months following the launch and in the first year following the re-launch. This serves as background information to the analyses of how the activity and perceptions of the three user groups evolved over time after the launch. These analyses follow in Chapter 7 (transactional users), Chapter 8 (community builders) and Chapter 9 (curators). Each of these three chapters structures the findings in two phases and three categories: OC context, community and platform. Together, these chapters illustrate how the nascent AshokaHub online community evolved and what the influences were on its evolution.

Part III contains three chapters and presents the discussion and implications of the data analysis. Chapter 10 discusses the implications and contributions to theory. As a contribution to the OC literature, it first develops a multi-level model for theorizing the evolution of nascent OCs with a particular focus on the influence of context and materiality. As a contribution to affordance theory, this chapter then introduces the novel concept of collaborative OC affordance, which emerged from the analysis. Chapter 11 then discusses the implications for managerial practice. First, good practices are identified that can support the successful start of an OC. This is complemented with guidance on how to be situationally aware of the unpredictable evolution of an OC after its start. Finally, Chapter 12 concludes the thesis. It provides a short summary, discusses the limitations of the study and outlines avenues for future work.

The following three chapters present the theoretical context (Chapter 2), the case setting (Chapter 3) and the method (Chapter 4) used in this study to answer the research question of how nascent online communities evolve and what the influences are on this evolution.

CHAPTER 2: THEORETICAL CONTEXT

In reviewing different literatures as to their potential to help answer the research question, the OC literature appears to be the most appropriate starting point. Subsequently, this chapter reviews the literatures on groupware adoption, on affordances and on technological frames of reference as well as on social entrepreneurship. The literature on groupware adoption is insightful because it studies the adoption and use of technologies which, like OC platforms, enable large scale collaboration (Baecker 1993). The literatures on affordances and technological frames of reference are reviewed because they can help us understand how OC users perceive and conceptualise the OC's context and what the role is of its underlying technological platform. Finally, the social entrepreneurship literature is included as it helps explain the context of the evolution of AshokaHub.

Online Communities

Background on Online Communities

OCs are commonly referred to as spaces that attract people based on a commonality of bonds, desires, shared features, or common interests (Faraj et al. 2016a). In this context, an OC has been defined as “a large collectivity of voluntary members whose primary goal is member and collective welfare, whose members share a common interest, experience or conviction and positive regard for other members, and who interact with one another and contribute to the collectivity primarily over the Net” (Sproull and Arriaga 2007, pp. 248–249). Sproull and Arriaga (2007) distinguish six different types of OC. Of these, five focus on “talk and self-expression” (Sproull and Arriaga 2007, p. 257). Such OCs may centre around and share information about specific brands, (sports) teams, entertainers (consumer communities), shared hobbies or work practices ((a)vocation communities), a shared geographic locale (place-based communities), a shared condition such as race, age or medical conditions (common-condition communities) or a shared social or political concern (concern communities). By contrast, collaborative work communities “use the Net to voluntarily produce real products, be they software, literary works, or other creations” (Sproull and Arriaga 2007, p. 257).

Historically, OC research largely focused on two major areas (Faraj et al. 2016a): the structural characteristics of OC social networks and user motivations for contributing to the OC (e.g., Faraj and Johnson 2011; Wasko et al. 2009). Social network research tends to focus on the micro-level of the OC to see which actor in a network attaches herself to or communicates with which other actors. Theories about direct and indirect reciprocity and preferential attachment

have emerged to explain the structure and dynamics of social networks underlying OCs. While such theories can shed light on certain micro-level dynamics when the OC is already mature, they do not particularly focus on the more nascent dynamics as to how certain content or interaction emerges in the first place. Understanding the motivations of users in OCs is more helpful in this regard. This field of research is reviewed in the next section.

User Motivations in Online Communities

A recent review of the OC literature (Faraj et al. 2016a) finds that researchers have studied most extensively the motivations for user contribution and collaboration (e.g., von Krogh and von Hippel 2006; Markus et al. 2000; Stewart and Gosain 2006; Nambisan and Baron 2010; Wasko and Faraj 2005). This focus has led to a growing consensus about what motivates users to join or contribute to OCs (Faraj et al. 2011). These factors have been found to interact in complex ways (Roberts et al. 2006) and, in particular, to partially moderate each other's influence on contribution behaviour (Nambisan and Baron 2010). As Nambisan and Baron (2010, p. 567) argue, it is thus important to “focus on understanding the relative importance of, and the potential interaction effects among, the factors that underlie the different theoretical perspectives.”

The OC literature has identified different motivations for user contribution behaviour. On the one hand, OC users may simply want to consume information from an OC. For instance, users may ‘free-ride’ (cf. Wasko et al. 2009) to find out how other people solved a certain problem without wanting to contribute to the OC themselves. On the other hand, users may want to contribute to the OC. The motivations for doing so may vary significantly, however. The literature has identified four main sets of such motivations.

The first set of motivations for contributions revolves around passion, or the member's devoted enthusiasm for the OC's goals, work or ideology (Faraj et al. 2011; Markus et al. 2000; Stewart and Gosain 2006), and altruism, or enjoying helping others (Markus et al. 2000; Wasko and Faraj 2005). Such motivations are independent of other users' activity in the community.

The other three sets of motivations for contribution, which relate to social capital, social exchange and social identification (cf. Nambisan and Baron 2010), are different from the first in that their respective strengths are considered dependent on the level of activity, size or interconnectedness of the OC. For instance, a more active, larger and more interconnected OC may offer more and stronger ties to, and thus a stronger sense of responsibility towards, other users (social capital perspective), more potential for learning and reputational gains (social

exchange perspective) and a greater chance of finding similar users and groups to identify with (social identification perspective).

The second set of motivations thus relates to the notion of user contributions based on a sense of responsibility towards other OC users based on existing relationships. This perspective is derived from social capital theory. *Social capital* is usually defined as “resources embedded in a social structure that are accessed and/or mobilised in purposive action” (Wasko and Faraj 2005, p. 38; cf. also Lin 2002). It is suggested that this social capital enhances members’ sense of responsibility towards the community and their feelings of obligation to help other community members (Nambisan and Baron 2010). As a result, this concept has been found to play an important role in certain pro-social behaviours such as collective action, community involvement, abiding by cooperative community norms and foregoing opportunities to free-ride (Coleman 1990). Although some scholars have suggested that social capital would be less important in the OC setting because these arguably lack “a shared history, high interdependence, frequent interaction, and closed structures”, the concept has been found to apply to these spaces as well (Wasko and Faraj 2005; cf. also Nahapiet and Ghoshal 1998). Studies have indicated that social capital, and the ensuing sense of responsibility, may drive knowledge sharing and helpful contributions (Wasko and Faraj 2005) and peer-to-peer assistance (Lakhani and von Hippel 2003; Nambisan and Baron 2010). Social capital theory in the context of OCs therefore suggests that “an individual’s relationships with other members elicits a sense of obligation and duty that drives participation” (Nambisan and Baron 2010, p. 555).

The third set of motivations relates to the notion of user contributions based on the potential for reputational gain and learning. This perspective is derived from *social exchange* theory. This theory posits that individuals only engage in social exchange with others if the benefits of the exchange outweigh the costs (Nambisan and Baron 2010). First, the potential to gain a better reputation within the OC may drive users to contribute more (von Hippel and von Krogh 2003; Markus et al. 2000; Wasko and Faraj 2005). Most OCs are structured in such a way that others can see the contributions an OC user has made to discussions or objects of collaborative work. Contributions that are perceived by others as demonstrating a certain level of competence may enhance the author’s reputation in the OC. This is supported by more recent studies such as Levina and Arriaga (2014) who argue that OCs should be seen as social fields where status and position are very important and where users contribute to gain social distinction. Second, the opportunity for expertise enhancement in a subject area through learning may drive user contributions (Nambisan and Baron 2010). Although user contributions are visible to everyone and hence everyone can benefit in some way from the knowledge shared by OC users in this

open space (e.g., solutions to certain problems other OC users are facing), it is mainly the active participation in the problem-solving process through contributions that actually drives most of the learning for OC users (von Hippel and von Krogh 2003).

The fourth set of motivations relates to the notion of user contributions based on *social identification* with the OC or some group within this OC. This perspective is derived from social identity theory. This theory posits that “people tend to classify themselves and others into various social categories, such as organizational membership, religious affiliation, gender, and age cohort” (Ashforth and Mael 1989, p. 20). This leads to the self-concept of people being comprised of a “personal identity encompassing idiosyncratic characteristics (e.g., bodily attributes, abilities, psychological traits, interests) and a social identity encompassing salient group classifications” (Ashforth and Mael 1989, p. 21). An individual’s social identity may be derived from a number of different groups (e.g. department, sports group etc.) and may be comprised of multiple, more or less loosely coupled identities. *Social identification* then can be defined as “the perception of oneness with or belongingness to some human aggregate” (Ashforth and Mael 1989, p. 21). If, for instance, a woman classifies herself as part of the group of female students in the United Kingdom, she perceives herself as a member of this group and the group’s fate as her own. In general, social identification has been found to shape members’ interactions with the group or community and, in particular, to improve member support of the community and drive higher levels of participation in activities that benefit the community (Nambisan and Baron 2010). This logic also applies to OCs. Here, social identification with the whole community has been found to drive user participation (Dholakia et al. 2004). This process of social identification may be driven by the perceived similarities between OC users. As Nambisan and Baron (2010, p. 558) note in this context, OC users who “perceive that they share similarities with other members of the community are more likely to subscribe to the norms and values of the community and the associated activities, as well as promote its overall well-being”.

Beyond User Motivations: Understanding Online Community Development and Use

OC research has started to go beyond user motivations. Increasingly, it highlights broader characteristics of OCs, including fluid membership, curation strategies, swift trust, epistemic orientation and knowledge generation (Faraj et al. 2016a; Kraut and Resnick 2011). These characteristics can help us better understand OC development and use.

Firstly, OCs are different from existing organizational forms in that members can come and go at will and at any point in time. Moreover, while part of the OC, members can choose different

modes of participation from lurking on the fringes of the community to becoming part of the small core group of experts that creates the majority of content on the OC to organisers of collective action in the OC (Phang et al. 2015; Zhang et al. 2013). This freedom of access and activity allows for the potential of unprecedented diversity of contributions and innovation but also raises question of controlling and steering the OC in a certain way. Recent studies also emphasise that such roles are emergent, evolving and self-selected (Arazy et al. 2016; Faraj et al. 2011; Johnson et al. 2015).

Secondly, this notion of control or steering, which is often referred to as ‘curation’, can take a number of forms, including attracting and socialising new members, encouraging commitment and contribution and regulating behaviour (Kraut and Resnick 2011). Attracting and socialising new members refers to bringing more people into the OC, not only to make up for members who leave the OC but also to help the OC grow a critical size to increase the likelihood of success. This can involve identifying and recruiting members with the right characteristics, skills and motivations to contribute but also screening out inappropriate members. The difficulty here is for OCs to quickly convey their ‘value proposition’ in such an effective way that newcomers, who always have the choice of several similar OCs, actually join. Encouraging commitment and contribution relates to the challenge of continuously and sustainably nurturing user motivations such as a shared OC identity. While OCs can be sustainable even if only a small fraction of users actually contributes (cf. Wasko et al. 2009), such a consistently contributing core group needs to be established and maintained. Regulating behaviour refers to the challenge of making sure that activity on the OC adheres to certain pre-defined rules and the damage done by inappropriate behaviour is limited. OCs are particularly prone to the emergence of inappropriate behaviour due to anonymity of users, ease of entry and exit and the pervasive use of textual communication, which can lead more easily to misinterpretation. These three areas of curation can be implemented in different ways using a number of levers, including the community structure, feedback and reward structures, roles, rules and policies as well as presentation and framing (Kraut and Resnick 2011).

Thirdly, the fluidity of OC membership is made possible by the phenomenon of members quickly developing enough trust to share knowledge and experiences. While originally thought to only emerge in contexts of physical co-presence, trust has been shown to quickly emerge in online context too (Alavi and Leidner 2001). Possible reasons include the perceived similarity with other members of the OC, their large number and the ability to express opinions more freely than in controlled or local contexts.

Fourthly, OCs are thought to be most vibrant and sustainable if they develop and support some type of social practice that members continuously engage in (Faraj et al. 2016a). Members

develop a sense of mutual accountability and eventually converge on a repertoire of ‘justified true beliefs’ and ‘ways of doing’. Members gradually become connected as well as develop and associate with a shared identity. Such ‘stability’ is always challenged by the inherent influx and outflux of members, topics and rules but it is exactly this dynamic nature that allows for new ideas and energy to enter the OC as well.

Finally, OCs can be conceptualised not only as spaces where members exchange opinions and experiences on common topics but also places where effective and value-generating knowledge flows can happen in a sustained manner. While explicit knowledge, which can be easily codified and thus made shareable via electronic means (Nonaka 1994), has long been associated with knowledge sharing online, new research theorizes that even certain types of tacit knowledge, which is often considered particularly valuable for innovation, can now be effectively shared in OCs (Faraj et al. 2016a). When OC members intensively engage with other members in the OC’s social practice over time, especially when they continuously use stories that convey rich meaning, tacit knowledge can be shared. While the OC may not be the appropriate place to share deep embodied knowledge of offline activities, vibrant OCs can be places where deep and novel knowledge is generated at a much faster pace than in traditional offline settings. This is particularly visible in the context of open source software communities (von Krogh and von Hippel 2006).

Current Shortcomings of the OC Literature

Despite the comprehensive understanding of OC users’ potential motivations in mature OCs and the more recent developments outlined above, the extant OC literature does not yet explain how nascent OCs evolve and what the influences on this evolution are. A recent review of the OC literature lends support to this view (Faraj et al. 2016a). Faraj et al. take stock of the OC research to date and find that existing research has primarily focused on the reasons for contribution and participation in OCs. Moreover, they argue that current research relies primarily on large data sets aimed at answering structural questions regarding the social network underlying OCs and therefore it is unlikely to uncover the complete OC dynamics unfolding over time and over multiple layers of activities and actors.

Such research thus has difficulty explaining why certain content and activity emerges in the first place. A complete understanding of the early stage triggers of OC activity is thus missing. Indeed, OC studies have largely neglected the initial phase of an OC’s evolution, which lays the foundations and rules for later collaborative behaviour. Instead, they have implicitly

assumed a mature, ‘steady state’ OC where user contributions merely need to be sustained (cf. Faraj et al. 2011).

In addition, Faraj et al. (2016a, p. 669) argue that still little is known about how OCs evolve and what influences such evolution, and in particular about “the activities of members, the inner workings of communities, or the processes and technologies that support them.” Indeed, the extant literature has theorised only little about how collaboration actually happens in OCs (Faraj et al. 2011). With a few notable exceptions (e.g., O’Mahony and Ferraro 2007), OC researchers have largely relied on ‘snapshot’ studies of OCs which were conducted at one particular point in time, often using one-time surveys of members (cf. Nambisan and Baron 2010; Wasko and Faraj 2005). Therefore, studies that focus on how OC evolution is influenced over time (cf. Faraj et al. 2011), how contribution in OCs could be sustained (Faraj et al. 2016b) and how successful OCs can be built (Kraut and Resnick 2011) are called for.

Finally, research has not studied what role the material characteristics of the technology platform underlying the OC play for the dynamics unfolding on it (Faraj et al. 2011). Indeed, the nature of the OC’s underlying technology platform, how the technology is designed and what affordances it invites remain core issues (Faraj et al. 2011; Majchrzak, Faraj, et al. 2013). As is increasingly recognised, studies of online actions have to take into account the materiality of the designed platform (Leonardi et al. 2012; Orlikowski 2007; Orlikowski and Scott 2014). Especially in a nascent OC without a rich history and rules of behaviour, the materiality of the platform may be essential in influencing new users’ sensemaking processes. The platform’s functionality could be involved in enabling and constraining behaviour. Although some OC researchers have recently started to hint at the importance of certain material characteristics for OC activity (cf. van Varik and van Oostendorp 2013), a fundamental and comprehensive understanding of this interdependence over time appears to be missing. Faraj et al. (2016a) agree and put a finer point on it. On the one hand, they argue, some OC research tends to conflate some of the enabling technologies, known as social media, and their material characteristics with the more social phenomena emerging in the OC. The focus on social media technologies’ features such as following or posting can thus obfuscate the intricate ways and strategies with which OC members can use different features to achieve different goals to navigate and contribute to the complex virtual spaces that are OCs. On the other hand, some OC research tends to reduce OCs to digital platforms and ascribing the notion of generating OC activity to the platform and its material characteristics, thus neglecting the importance of a vibrant OC ‘living’ on top of the digital platform.

A comprehensive understanding of how nascent online communities evolve and what the influences on this evolution are thus still appears to be missing. This study aims to provide such

an understanding. In order to achieve this and hence to answer the research question, two areas need to be examined that the OC literature has been relatively silent about. The first area relates to the evolution of nascent OCs. Here, the literature on groupware adoption may provide helpful insights because it studies the adoption and use of technologies that enable large scale collaboration (Baecker 1993). It is thus reviewed in the following section. The second area relates to how OC users perceive and conceptualise the OC's context and its underlying technological platform. This is important to understand how the process of OC evolution is influenced over time. The literatures on affordances and technological frames of reference may be helpful here and are reviewed in detail in a later section.

Groupware Adoption and OC Evolution

In order to answer the research question of how nascent OCs evolve and what the influences are on this evolution, the literature on groupware adoption may provide useful insights because it studies the adoption and use of technologies that enable large scale collaboration (Baecker 1993). The following sections give a general background on the groupware adoption literature first, then provide more details on two particularly relevant strands of this literature and finally outline potential insights from the groupware literature for OC evolution.

Background on Groupware Adoption

Baecker (1993, p. xi) defines groupware as the multi-user software supporting “computer-assisted coordinated activity such as communication and problem solving carried out by a group of collaborating individuals.” The groupware literature has gone beyond studying technologies supporting small groups to studying technologies that enable large scale collaboration such as electronic mail and conferencing tools (Baecker 1993).

One of the key issues the groupware literature has investigated over the past decades is the notion of groupware adoption, aimed at answering why and how users adopt new groupware technologies over time. Grudin (1993) already argued in the early 1990s that there are certain factors that can contribute to the failure of groupware. Failure can happen if, firstly, those who need to put in additional effort to make the groupware work are not the ones who experience the immediate benefit; secondly, if the technology threatens existing power structures or key individuals; thirdly, if the groupware is too rigid to allow improvisation in handling exceptional situations; finally, if the groupware application is too complex to learn or it is too difficult to apply past experiences or intuitions to the groupware technology at hand. Grudin also suggests that email, as a highly flexible, largely text-based technology, works because it avoids exactly these issues. The emerging view was that groupware technologies needed to be responsive to the organizational and social context in which it was embedded (Baecker 1993).

While the adjacent stream of research on knowledge management systems (KMS) addresses similar types of information systems, their findings on KMS adoption do not add substantially more than the groupware adoption literature to our understanding of such adoption processes. Alavi and Leidner (2001, p. 107) define knowledge managements systems as information systems with the aim to “support creation, transfer, and application of knowledge in organizations.” There are three main categories of such KMS: firstly, systems that allow users to codify and share best practice; secondly, corporate knowledge directories that help users

understand who has what expertise in an organization; and thirdly, systems that connect users and allow them to communicate and collaborate. The latter type displays similar characteristics to groupware. Nevertheless, Alavi and Leidner do not discuss adoption processes at length. Rather, they outline well-known barriers to adoption in information systems such as the ease of use, characteristics of the human-computer interface as well as the flexibility and effectiveness of search mechanisms. Likewise, later studies on critical success factors do not seem to have focused on the adoption processes of collaborative KMS per se but rather on knowledge management in general (cf. Yew Wong and Aspinwall 2005).

During the decade after Grudin's and Baecker's early work, the groupware literature intensively studied the topic of groupware adoption. Generally, studies found that groupware adoption is not well-planned and rational but rather a "messy process" (Mark and Poltrock 2004, p. 298). As a result of this messy process, adoption of new groupware technology often fails. Mark and Poltrock (2004) identify a number of sources of resistance to groupware adoption that build on and go beyond Grudin's findings. These sources of resistance include non-cooperative organizational culture (Orlikowski 1993), the absence of a critical mass of users (Markus 1987), lack of common ground, collaboration readiness, or collaboration technology readiness among the distributed teams (Olson and Olson 2000) as well as unexpected extra work for group members (Rogers 1994).

A number of approaches have been used to study user adoption of groupware technologies. Mark and Poltrock (2004) highlight three main ones: diffusion of innovation (Rogers 1995), the technology acceptance model (TAM) (Davis 1989; Mathieson et al. 2001) and adaptive structuration theory (AST) (Barley 1986; DeSanctis and Poole 1994; Markus and Silver 2008). Diffusion of innovation theory posits that the characteristics of the innovation itself, the communication channels used to diffuse the innovation, the rate of adoption and the social system into which the innovation is brought influence the diffusion and adoption process. The more compatible the innovation is to practices, values, and needs of individual users and the social system, the more easily users can observe the innovation, the bigger the perceived relative advantage over other technologies, the more likely is wide-spread adoption to happen. If one tries to apply the diffusion of innovation model to the case of geographically distributed groupware users, which is similar to an OC setting, it has a number of shortcomings (Mark and Poltrock 2004): Firstly, this model assumes that adoption is a solitary, individual decision. Adoption in distributed groupware cases and OCs, however, decisions are likely to be interdependent, networked and coordination-intensive. Secondly, this model assumes a homogeneous diffusion arena. This is unlikely to hold in geographically distributed groupware settings or OCs where users belong to very different work spheres and environments that have

different technology requirements and different resources and attitudes supporting or hindering adoption. The diffusion of innovation model is therefore not considered fully appropriate to answer the research question.

Another model for groupware adoption is the technology acceptance model (TAM). In its original form as proposed by Davis (1989), TAM was simple and parsimonious. It essentially aimed to explain technology adoption using the factors of perceived usefulness and perceived ease of use. The temporarily stable form of the model was proposed by Venkatesh and Davis (1996) and posited that external variables such as system characteristics, user involvement in design, training approaches and the characteristics of the implementation process influenced the two key antecedents of actual system use: perceived usefulness and perceived ease of use. Perceived ease of use is also assumed to have an influence on perceived usefulness. Together, perceived ease of use and usefulness are assumed to influence a behavioural intention to use the technology, which in turn can then lead to actual use and adoption of the technology. Over time, the model was significantly extended to include more variables such as gender (Gefen and Straub 1997), attitude (Yang and Yoo 2004) and trust (Gefen et al. 2003) to increase its explanatory power. This proliferation of extensions of the original TAM led to the creation of a more comprehensive but highly complex model that integrated 25 variables (Lee et al. 2003). Bagozzi (2007) thus delivers a thorough critique of this development, arguing that these extensions resemble a patchwork of unintegrated approaches and that they do not give sufficient insight into why a particular variable influences technology adoption. Moreover, similar to the diffusion of innovation model, TAM assumes adoption to be an individual decision, neglecting the interdependence of decisions in distributed groupware (Mark and Poltrock 2004) or OC settings. TAM is therefore not considered fully appropriate to answer the research question.

A more promising approach for analyzing adoption of groupware technologies is adaptive structuration theory (AST). AST has been widely used in IS research, especially regarding the adoption of groupware technologies (Jones and Karsten 2008), and has been used to understand how users shape a technology within the context of use (Mark and Poltrock 2004). DeSanctis and Poole (1994) developed AST by modifying structuration theory (Giddens 1984) to “address the mutual influence of technology and social processes” (Jones and Karsten 2008, p. 141). DeSanctis and Poole (1994) introduce the notion that designers and developers incorporate existing social structures, which may serve as templates for planning or accomplishing tasks, into the information systems they build. They thus create new structures in these systems which can be described with two characteristics. Firstly, there are structural features. These are defined as “the specific types of rules and resources, or capabilities, offered by the system” (DeSanctis and Poole 1994, p. 126) such as periodic pooling of comments or certain voting algorithms.

These structural features can create meaning and control in technology-mediated group interactions. Information systems that support group collaboration are seen as different from traditional information systems such as accounting systems in that they can be seen as sets of loosely-coupled structural features that invite many different types and combinations of use. Secondly, there is the spirit of social structures of information systems. This is defined as “the general intent with regard to values and goals underlying a given set of structural features” (DeSanctis and Poole 1994, p. 126). The spirit can be understood as the designers’ official intention regarding the system, as a guide describing how to use the system, how to interpret certain features, and how to work with the system in exceptional cases that are not explicitly specified.

DeSanctis and Poole (1994) argue that users actively decide how they want to use technology and other structures. Adoption practices are thus not automatically determined but can rather vary significantly. Groups of users choose specific structural features from many potential sets and appropriate them in a variety of ways. This notion of appropriation can be described in four aspects. Firstly, users can employ a range of appropriation moves such as directly using technology structures or interpreting them as they are used. Secondly, users can appropriate technology faithfully, that is consistently with the spirit of information system’s social structures, or unfaithfully. Thirdly, users can appropriate structural features for “different instrumental uses or purposes”, eliciting why structural features are used in a certain way. Finally, users can display different attitudes as they appropriate technology structures. These attitudes include comfort, or the extent to which users are relaxed and confident when using the technology, respect, or the extent to which they perceive the technology to be valuable for their work, and challenge, or users’ willingness to invest time and effort to excel at using the information system.

Appropriation processes can vary depending on a number of factors related to the nature of group members and their relationships inside the group. DeSanctis and Poole (1994) argue that four factors are particularly important: the users’ style of interaction; their degree of experience with and knowledge of the structures embedded in the technology; the degree to which these users agree on which structures to appropriate; and the degree to which users assume that other users know and accept the (typical) use of certain structures. DeSanctis and Poole connect this last point to the notion of critical mass (Markus 1987), arguing that the better known a given structure is, the less users may deviate from typical usage patterns, allowing for a technology’s typical usage pattern to spread rapidly through a community and thus to quickly grow its perceived value.

Appropriation processes also draw on more than just technology structures. DeSanctis and Poole (1994) argue that there are other sources of structure that are relevant in the appropriation process. Firstly, there are the nature of the tasks at hand and the organisation environment in which appropriation happens. Secondly, there are emergent sources of structure that are generated in the appropriation process such as data outputs, interpreted results of tasks and implications of applying environmental rules. Finally, also generated in the appropriation process, there are new social structures such as rules and resources.

When taken together, these concepts of adaptive structuration theory are suggested to allow for propositions such as this: “Given advanced information technology and other sources of social structure n_1 to n_k and ideal appropriation processes, and decision processes that fit the task at hand, then desired outcomes of advanced information technology will result” (DeSanctis and Poole 1994, p. 131). However, if group interaction processes are not consistent with the technology’s structural potential, the outcomes will be less predictable and less positive.

A Social Worlds Perspective and OC Evolution

While adaptive structuration theory provides a number of useful concepts for understanding technology adoption in OCs, such as the notion of emergent structures from system outputs or new resources and rules, it shares the shortcoming with the diffusion of innovation and technology acceptance models that it does not account well for groupware or OC technologies that connect users in different work spheres across different locations (Mark and Poltrock 2004). Using the concept of social worlds (Clarke 1991; Strauss 1978), Mark and Poltrock (2004) propose a model of groupware adoption in geographically distributed settings that aims to address these shortcomings. They define a social world as a unit of collective action and, quoting Strauss (1978, p. 131), they state that social worlds are “groups with shared commitments to certain activities, sharing resources of many kinds to achieve their goals, and building shared ideologies about how to go about their business.” In contrast to the other models for groupware adoption discussed above, Mark and Poltrock use social worlds as the units for adoption of groupware in a geographically distributed organisation.

In the context of groupware adoption in a distributed organisation, Mark and Poltrock further define social worlds using four characteristics. Firstly, social worlds have fluid boundaries based on work and collaboration practices, and not on geographical location. These social worlds are connected through communication, not geographical location. Secondly, each social world is different due to the diversity of the respective members but also due to the unique cultures, practices, organizational and environmental conditions of each social world. This can

lead to diverse barriers to adoption at the local sites, such as lack of local technical and management support, supporting or hindering policies, limited resources, organizational resources, the degree of infrastructure readiness, technology standards and discouragement by local colleagues. Thirdly, people usually belong to multiple social worlds at the same time. They can thus act as conduits of groupware diffusion when they bring technology from one of their social worlds into another. People are therefore also faced with adoption decisions not just in one homogeneous environment but potentially in multiple, very diverse social worlds. Fourthly, each social world can have different online and offline communication channels such as email distribution lists, work colleagues, or conferences. Finally, due to the aforementioned differences between social worlds, rates of diffusion and groupware adoption are likely to vary between social worlds. Where members of a social world perceive a better fit to established work and collaboration practices, where the conditions and characteristics of a social world are more favourable to adoption or where members are able to coordinate efficiently on specific ways of use, the groupware technology is likely to be adopted more quickly than in other social worlds.

Even though much larger, OCs resemble groups of users interacting and working together using a piece of collaboration-focused information technology. Moreover, the technologies underlying OCs do not simply automate linear organizational processes. Rather, they provide highly flexible means of communication and collaboration such as forums and posts that give users a lot of opportunity to interpret the technology in new ways and create ever-changing uses of the same technology. This opens up the possibility of examining the evolution processes of OCs in light of the literature on the adoption of groupware systems.

The social worlds model of groupware adoption offers a number of insights that can shed light on adoption processes in OCs. The model proposed by Mark and Poltrock is particularly fitting here because it looks at the diffusion of groupware technology across a complex distributed organization without a management mandate. Firstly, it suggests that a large, geographically distributed OC can be seen as a constellation of geographically dispersed social worlds that are connected through users who are members of multiple, overlapping social worlds. Each of these social worlds has fluid boundaries as members of social worlds move from one to the next. This notion of constantly shifting, dynamic entities is in line with the conceptualization of OCs as “fluid organizational objects” (Faraj et al. 2011, p. 1225). As a result, an analysis of overall OC adoption can be decomposed into analysing its constituent social worlds and focus on characteristics unique to each social world that affect adoption. Secondly, due to overlapping membership in social worlds and due to the differences in key characteristics such as environment, tasks, policies and resources across these social worlds, different types of use of

the OC can emerge in different social worlds. These can then travel across the OC using the members of multiple social worlds as conduits. This creates benefits for later adopters as they then have access to a larger variety of interpretations and uses (Mark and Poltrock 2004). This also highlights the role that 'heroic' users and curators can play in shaping the course and development of a new technology's use (Mark and Poltrock 2004; Tuomi 2002). Finally, given the distributed nature of social worlds, electronically mediated coordination activities need to happen in a social world to agree on and implement particular types of use.

Perspectives on Materiality and Context in OCs

The previous section on groupware adoption can help us address the first part of the research question, that is how nascent OCs evolve. In order to address the second part of the research question, that is what the influences are on this evolution, the literatures on affordances and technological frames of reference may be helpful. On the one hand, the affordance concept allows us to understand the action possibilities that users perceive when engaging with the materiality of a focal technology, in this case the technology platform underlying the OC. On the other hand, technological frames of reference can help us understand how the changing context of existing experiences with technology, work practices and communities can influence users' fundamental assumptions and expectations about the OC technology, thus impacting on their perceptions of action possibilities and the ongoing process of OC technology use. The following sections first give a brief overview of perspectives on materiality and then review in detail the literatures on affordances and technological frames of reference in light of the research question.

A Brief Overview of Perspectives on Materiality

There are well recognised perspectives to theorising the role of technology in organising. Orlikowski and Scott (2008) identify three such perspectives which they call 'discrete entities', 'mutually dependent ensembles' and 'sociomaterial assemblages'. While not without controversy, this categorisation provides a helpful structure to explore the different approaches to materiality taken in the literature.

The 'discrete entities' perspective assumed that organisations and technology are independent, discrete entities where the impact of the latter on the former could be studied with variance models (cf. Aiman-Smith and Green 2002; Blau et al. 1976; Huber 1990). This approach was dominant in the early days of the field. Here, technology is considered a concrete and relatively distinct entity that can interact with certain aspects of the organization in which it is used. Such interaction is particularly visible during stages such as design, diffusion, implementation, adoption, adaptation or breakdown. Here, technology is commonly used as an independent or moderating variable in variance models that aim to understand the impact of technology and other factors on organisational outcomes such as efficiency, productivity, or innovation. In such models, technology is usually simplified and operationalised as the number, type or cost of certain technologies. While such studies can surely highlight certain organisation-level or industry-level effects of technology use or 'what works', they are less likely to identify how

changes occur over time (Langley et al. 2013). Moreover, such studies have been criticised of assuming a form of technological determinism which implies that certain organisational outcomes will ensue if only the right amount or type of technology is put in place (Barley 1988; Orlikowski and Scott 2008).

Numerous researchers now seem to have moved on from the ‘discrete entities’ perspective to a more complex, processual view of the socio-technical phenomenon. The perspective of ‘mutually dependent ensembles’ has emerged in response to this earlier view. Its core assumption is that technology and organisations are “interdependent systems that shape each other through ongoing interaction” (Orlikowski and Scott 2008, p. 457). This perspective does not posit variance models with dependent and independent variables. Rather, it adopts a process approach to studying technology. It focuses on answering how co-evolution of certain aspects of organizational life and technology emerge and evolve over time. Examples of this perspective include Barley’s (1986) work on how the use of technology (in his case CT scanners) restructured organisational relations and Orlikowski’s (2000) work on how the design and use of technology can shift the nature of work. Orlikowski and Scott (2008, pp. 452–453) find that proponents of this perspective emphasise concepts of relationality and social construction of technology. Roberts and Grabowski (1996) emphasise a view that analyses the interactive relations of technology and structure in organizations. Zammuto et al. (2007) introduce the notion of affordances, which creates relations between technology and organisational actors who see specific opportunities for use based on the material characteristics of the technology. Finally, Barley (1988) argues that, as technology is designed, implemented, used and changed, it is continuously construed by organisational actors. This process of social construction is then constrained by the technology’s material properties and the larger organisational context in which the technology is situated. This perspective thus offers to address questions about how co-evolution of certain aspects of organizational life and technology emerge and evolve over time. It could be argued, however, that this perspective focuses on the role of technology only at certain points in time or events. Therefore, one can argue that this perspective neglects the fact that organisational practices and relations always entail some mediation by technology and that, as a result, there should not necessarily be a separation of organisations and technology (Orlikowski and Scott 2008).

A third perspective focusing on ‘sociomaterial assemblages’ subsequently emerged. Orlikowski and Scott (2008) describe ‘sociomateriality’ as an umbrella term for different theoretical approaches which share this fundamental assumption. Examples include Pickering’s (1993) notion of the ‘mangle of practice’ and actor–network theory (cf. Latour 2007). Some have argued that sociomateriality simply groups together and applies a common label to existing

theoretical approaches (Monteiro and Rolland 2012) and one could thus question whether sociomateriality actually offers anything new (Kautz and Jensen 2013). While conceding that there may not be one unified conception of sociomateriality but rather several co-existing variants, Jones (2014) argues that the combination of five notions can help sociomateriality generate distinctive insights in the IS field: materiality, relationality, inseparability, performativity and practices.

‘Strong’ sociomateriality, which may be considered the more ‘radical’ variant and reading of the original conceptualisation by Orlikowski (2007) and Orlikowski and Scott (2008), draws largely on the work of Barad (2007). It is based on a fully relational and strongly processual ontology where entities only exist in their relationship to other entities (Jones 2014) and where organisations are in a continuous state of becoming (Jones 2014; Tsoukas and Chia 2002). From this perspective, reality is not fixed and a distinction between non-human and human does not exist a priori. It is impossible to distinguish between different forms of materiality except as and when they are enacted in different settings. Moreover, the existence of entities is considered fully relational so that even the existence of physical objects like the moon is considered dependent on human agency of interaction or observation. Similarly, entities are not seen to have properties independent of such agency. Rather, properties are acquired only through their enactment in sociomaterial ‘intra-action’. The sum of all such iterative intra-activity in the world is referred to as performativity in the strong sociomaterial perspective. This perspective focuses exclusively on the immediate, situated instance of action without considering the broader social context of the action. Finally, practices can be seen as a routinized way in which these actions are performed.

In contrast, ‘weak’ sociomateriality, which Jones (2014) develops from his analysis alongside ‘strong’ sociomateriality, can be understood as supporting the idea that material and social phenomena exist independent of the observation of them and that humans and nonhumans do not necessarily have to be considered equivalent. Nevertheless, weak sociomateriality accepts that objects may be, at least in part, constituted by sociomaterial entanglement. Weak sociomateriality interprets the five notions quite differently from its stronger counterpart. From this weak perspective, different materialities (e.g. physical or digital) are seen as creating different conditions of possibility for enactment and such enactment of materiality can vary depending on the particular setting. Relationality is seen as restricted to human/machine agency and material and social phenomena are seen as existing independently of the observation of them. Further, the material and social can be separated. They exist independently of each other and only become sociomaterial as they are intertwined in human processes and activities (Leonardi 2013a). In the same way, entities, including material and digital artefacts, are seen to

possess intrinsic properties that exist independently of time or place and irrespective of whether they are significant to certain practices involving these entities in a particular situation. Not only can such nonhuman entities have properties but they can also do things that humans cannot fully control. This is referred to as performativity in the weak sociomaterial perspective. Human processes and activities are seen to unfold in a broader social context which is shaped by and shapes these processes and activities. Such processes and activities then are not only embedded in the social context but also are separate from the material objects that are used in them. In weak sociomateriality, these processes and activities are called practices.

It might appear that the emerging weak sociomaterial perspective is not so different from existing approaches (Jones 2014). Indeed, the perspective of ‘mutually dependent ensembles’ described above seems to have a number of important similarities: the notion of human and material entities being separate but mutually dependent; a process perspective in which human and material entities shape each other in ongoing interaction over time; the emphasis of social construction of technology and relationality; the notion of different materialities creating different conditions of possibility for enactment; and the importance of the social context in which these interactions happen. A combined perspective that emphasises these notions appears particularly appropriate for studying how nascent online communities evolve over time and what the influences on this evolution are – on a material level in terms of the digital technology underpinning the OC, on a community level in terms of the OC members’ perceptions and actions and on a context level in terms of the external practices and communities influencing behaviour on the OC.

Such a combined perspective also appears more appropriate than the other two perspectives. On the one hand, the ‘discrete entities’ perspective outlined at the beginning of this section neglects the processual dimension with its static variance models and is thus less suited to examine the process of OC evolution over time. Moreover, its leaning towards technological determinism is inconsistent with the epistemological assumptions made in this study. On the other hand, a strong sociomaterial perspective is inconsistent with the ontological assumptions made in this study about the independent existence of material and human entities and their properties. Moreover, the sociomateriality perspective still lacks adequate methodologies to guide empirical studies (Cecez-Kecmanovic et al. 2014) and example studies (Jones 2014). In addition, it is questionable whether the breadth and specificity of analysis that is required for a valid, strongly sociomaterial study (Jones 2014) can be achieved at all in an OC setting. Here, the researcher arguably cannot follow or take part in the practices of OC members as closely or with access to as much rich information as she could in a real-life organisational setting.

To answer the research question, this combined perspective needs to analyse two aspects in particular. Firstly, it needs to highlight how and why OC members use the underlying technology and how this changes over time. This is critical because, in contrast to offline communities, contribution behaviour, which is the lifeblood of an OC, can only happen if OC members actually use the OC's underlying technology to share content, post a comment or send a message. Secondly, the combined perspective needs to highlight how the changing context of practices and communities outside the OC influences this ongoing process of OC technology use. This is critical because an OC does not exist in isolation. All of its members have previous experiences with OCs and related technologies, different motivations and pressures, in short a social context, that is likely to influence OC technology use over time and thus OC evolution. In order to address the first aspect, that is to understand how and why OC members use the underlying technology and how this changes over time, this underlying OC technology needs to be conceptualised. Studies that aimed to thoroughly integrate the actual material characteristics of the technology into the analysis, have often applied a traditional, cognitivist lens, accepting vendor-based product categories of technology (such as enterprise resource planning or social media), reducing it to a fixed set of features, and avoiding considering the differences in the same technology over time (Faraj and Azad 2012). This arguably leaves IS researchers unable to analytically differentiate between the generic and static product categories and features on the one hand and the actual, more granular categories-in-use on the other hand that emerge when users apply the technology in a situated organisational context (Faraj and Azad 2012). This 'category and feature-centric' approach has been criticised for failing to capture the relationality and complexity of technology use (Faraj and Azad 2012; Leonardi and Barley 2008; Orlikowski and Scott 2008).

The affordance concept has been proposed by some as an appropriate solution (Faraj and Azad 2012; Leonardi 2011; Leonardi and Vaast 2017) and an intuitive operationalisation of such a relational approach (Faraj and Azad 2012). The affordance concept thus provides a way of transcending the two opposed approaches of technological determinism, which arguably overemphasises the role of the material aspects of technology, and social constructivism, which often neglects such materiality completely (Leonardi and Vaast 2017). With its focus on relationality and the notion that different materialities create different conditions of possibility for enactment, the affordance concept is also consistent with the combined perspective outlined above. The theoretical work on the affordance concept by some of its main proponents (e.g. Leonardi 2013a; Zammuto et al. 2007) has also been subsumed under the 'mutually dependent ensembles' perspective (Orlikowski and Scott 2008) and 'weak sociomateriality' perspective (Jones 2014) respectively. The affordance concept thus emerges as a potentially helpful

perspective to bring materiality into the analysis. It is explored in more detail in the following section.

An Affordance Perspective to Understand the Materiality of OCs

The concept of *affordances* was originally formulated by Gibson (1979). His fundamental idea is that animals have their own needs and physical characteristics and that the objects they make use of have properties or features. Any animal can perceive the properties of an object, such as its roundness, but the utility of these properties, i.e. what they afford, such as rolling the object, is relative to the behaviour and posture of the animal (Leonardi 2013b). Norman (1988, 2007) is primarily responsible for then introducing and popularising the affordance concept in the realm of technology design (Faraj and Azad 2012). Norman (2007) developed a different variant of the affordance concept, arguing that affordances need to be perceived to be useful. Users perceive affordances that invite a certain way of interacting with the object. The interaction possibilities of objects are thus based on the users' experiences and mental framing of what the object can do. This means that each user could perceive different affordances for a given object.

Relatively recently, scholars have introduced the affordance concept to the IS literature (e.g. Leonardi 2011; Markus and Silver 2008; Zammuto et al. 2007). However, much of the work appears to rely only on a cursory use and reading of the affordance concept and often equates affordances with features (Faraj and Azad 2012). While this may be true for animals in Gibson's original account, it does not apply to humans acting in social settings. When applied in IS research, the affordance concept hence needs to be expanded to account for the relationality of technology use, i.e. the notion that affordances differ from one person to another. In particular, this means that which affordances a user perceives depends on her individual intent, abilities and the web of social constraints and rules she finds herself in (Faraj and Azad 2012; Hutchby 2001). As a result, perceived affordances are not just based on the materiality of the technology at hand but also on the particular characteristics of the individual user engaging with the technology. This means that any study applying the affordance concept cannot assume a single, generic user but needs to understand the specific characteristics if not of individuals then at least of groups of similar users. This also means that even if the material characteristics of the technology do not change, the same user may perceive different affordances if the context changes. As later chapters show, these insights are applied in the analyses and discussion of this study.

For the purpose of this study, *affordances* are thus defined as “action possibilities and opportunities that emerge from actors engaging with a focal technology” (Faraj and Azad 2012, p. 238). Opportunities for action provided by a technology are not independent of the experience, goals or social context of the individual user. Rather, user’s previous experience, goals and social context can influence which affordances these users perceive. This relational interpretation of the affordance lens has proven useful in identifying the circumstances when the introduction of a new organisational technology leads to shared appropriation by groups (Leonardi 2013b), in explaining how organisations and IT are symbiotically enacting new organisational forms (Zammuto et al. 2007), in offering a framework for the study of consequences of IT use (Markus and Silver 2008), as generative mechanisms to understand IT-related organisational change (Volkoff and Strong 2013), in understanding knowledge integration and reuse in Wiki-based IS (Majchrzak, Wagner, et al. 2013) and the relationship of social media and organizing (Leonardi and Vaast 2017), or as a potential way to understand the role of technology in OCs (Faraj et al. 2011).

Affordances can be quite diverse in that one technical object can be used “in myriad ways and have multiple effects on the organization of work” (Leonardi 2011, p. 153). For example, two recent studies focusing on slightly different aspects of social media ended up identifying different sets affordances for the same technology (cf. Majchrzak, Faraj, et al. 2013; Treem and Leonardi 2012). To emphasise the relational and perceptual nature of the affordance concept, affordances are called *perceived affordances* in this study. *Constraints* are the flip side of affordances. Users may not only perceive affordances but also perceive that a technology constrains “their ability to carry out their goals” (Leonardi 2011, p. 153). In summary, users have perceptions, technological objects have materiality, and affordances or constraints are created when users construct perceptions of a technology’s materiality (Leonardi and Vaast 2017).

The term perceived affordance emphasises that there is a difference between the mere perception of an affordance and its actualisation, which has been highlighted in recent work (Strong et al. 2014; Volkoff and Strong 2013). *Affordance actualisation* is defined as “the actions taken by actors as they take advantage of one or more affordances through their use of the technology” (Strong et al. 2014, p. 70). Such actualisation may happen through certain patterns of feature use that mostly combine only some features of the technology (Leonardi 2013b). For example, the affordance of an inventory management system to optimise the loading efficiency in a warehouse may be actualised by the user retrieving data of past trial runs, running simulations and then entering new parameters into the system. Strong et al. (2014) further consider actualisation as an iterative process where the outcomes of the action are

thought to provide feedback for adjustments in these actions, in the user's goals or in the design of the IT artefact itself. The concept of affordance actualisation thus implies that some affordances may be perceived but may not be actualised. Why some affordances are actualised and some are not can depend on different factors such as individual abilities and preferences or the characteristics of the work environment (Strong et al. 2014).

When all members of a group perceive and actualise the same or a similar affordance, this can be considered a *shared affordance* (Leonardi 2013b). Leonardi proposes that such a shared affordance can bring about changes in work and communication practices because users who share this affordance now have a new, common resource that they can use and talk about effectively. In Leonardi's example, users of a piece of crash simulation software who had a shared affordance, i.e. had similar ways of using it, were able to compare their work more easily and thus collaborate more effectively.

In sum, the concepts of perceived, actualised and shared affordances can help conceptualise the influence of the underlying OC technology. At the same time, this study can also contribute to the affordance literature. Firstly, despite some attempts at developing a vocabulary for categorising parts of the material structure of software and digitalised artefacts (cf. Yoo 2010), little is known about the material structure of OCs and the characteristics of such material structure that matter for the emergence and evolution of user contributions in OCs. Secondly, despite some recent work on affordances in social media and Wiki-based intranets (Leonardi and Vaast 2017; cf. Majchrzak, Faraj, et al. 2013; Majchrzak, Wagner, et al. 2013; Treem and Leonardi 2012), our understanding of which types of affordances may be relevant in OCs and how they emerge and evolve over time is still limited. Thirdly, despite some initial understanding of the interrelationships between affordance perception and affordance actualisation (cf. Strong et al. 2014; Volkoff and Strong 2013), it is still largely unclear why some affordances are actualised and some are not. As Strong et al. (2014, p. 71) put it, we need to "study the factors contributing to the ease or difficulty that organizational actors encounter as they act to actualize an affordance". Likewise, despite some initial work (cf. Leonardi 2013b), our understanding of how basic features of a focal technology are combined in the process of affordance actualisation is very limited. Fourthly, affordance research has focused largely on technologies implemented within organisations where there was some authority such as management that pushed for the adoption of these technologies (cf. Leonardi 2011; Leonardi 2013b; Strong et al. 2014). Non-adoption was thus never really a possibility in such settings as users had a natural incentive to use the technology somehow because it became part of their job. Therefore, our understanding of technologies such as OC platforms, whose use is voluntary, is very limited. Finally, while affordance research has begun to consider the

importance of shared affordances (cf. Leonardi 2013b), this research has focused on technologies such as simulation technology, which are not inherently collaborative and generative. Little is known, therefore, about the dynamics of shared affordances in collaborative and generative technologies such as those underlying OCs.

Affordances, especially such shared affordances, are unlikely to emerge in a vacuum. Rather, as noted above, users' previous experiences, goals and social contexts are likely to influence which affordances these users perceive. Indeed, recent work emphasises that we live in a world where "we often interact with the world in constantly changing contexts, using multiple tools simultaneously" (Yoo 2010, p. 222). These different contexts, however, are not things out there that exert a deterministic influence on OC technology use in general. Rather, users of the OC technology perceive the OC technology in light of their individual contexts of existing experiences with technology, work practices and communities outside the OC. These individual contexts thus shape users' fundamental assumptions and expectations about the focal technology – in this case, the technological platform underlying the OC. This, in turn, can then influence their perceptions of affordances. The concept of technological frames of reference focuses on capturing exactly such assumptions and expectations (Orlikowski and Gash 1994; cf. also Davidson 2006). It has thus been drawn on to understand how the changing context of existing experiences with technology, work practices and communities influences the ongoing process of OC technology use, addressing the second aspect of the research question. This is explored in more detail in the following section.

A Technological Frames Perspective to Understand the Context of OCs

The concept of technological frames of reference represents one stream in the wider area of research concerned with cognitive frames and framing (Cornelissen and Werner 2014). It aims to help understand how organisational members make sense of information technology (IT) in light of changing contexts and how these interpretations influence their IT-related actions (Davidson 2006). While acknowledging that a number of terms have emerged to describe the idea of shared cognitive structures, including Giddens' "interpretative schemes" (Orlikowski and Gash 1994, p. 176; Giddens 1984), they draw especially on Gioia's concept of frames, which are defined as "definitions of organizational reality that serve as vehicles for understanding and action" (Gioia 1986, p. 50; quoted in Orlikowski and Gash 1994, p. 176). In particular, organisational frames refer to the "assumptions, knowledge, and expectations, expressed symbolically through language, visual images, metaphors, and stories" (Orlikowski and Gash 1994, p. 176) that help organisational members make sense of certain aspects of

organisational phenomena. Such frames have a flexible structure and content and their constituting dimensions potentially change in content and salience depending on the time and context – which is particularly relevant for this study.

Technological frames of reference (shortened to ‘frames’ in the following) are a special kind of organisational frames. Orlikowski and Gash (1994, p. 178) define such frames as the “subset of members’ organizational frames that concern the assumptions, expectations, and knowledge they use to understand technology in organizations”. These cognitive frames thus inform and underlie individual and collective perceptions of technology (Khoo and Hall 2013) and shape subsequent actions towards this technology (Orlikowski and Gash 1994). Later studies then built on this initial concept and identified frame categories, such as frames related to developing IT applications in organisations (Davidson 2002) or non-IT-related frames including, for instance, the importance of market institutions (Barrett 1999). It appears, however, that frames relating to the use of OCs have not yet received a lot of attention by researchers.

While technological frames are cognitive structures held by individuals, they can be shared by a group of individuals – so-called relevant social groups (Davidson 2006) – when cognitive categories and content overlap to a significant extent (Orlikowski and Gash 1994). In such cases, frames can be thought of as ‘congruent’. It is important to note, however, that if users share such frames, or interpretive schemes, they do not necessarily share meanings or values, because individuals develop meanings and values independently of each other using the interpretive schemes (Boland Jr 1996). If, by contrast, technological frames are ‘incongruent’ in structure or content, this implies that there are “important differences in expectations, assumptions, or knowledge about some key aspects of the technology” (Orlikowski and Gash 1994, p. 180). These differences may lead to difficulties and conflicts with regard to the development, implementation and usage of IT, including “contradictory actions, resistance, scepticism, and poor appropriation of IT” (Davidson 2006, p. 25). Incongruence is thus generally viewed as problematic and interventions usually aim to realign technological frames via articulation, discussion and negotiation to improve organisational outcomes (Azad and Faraj 2013; Davidson 2006; Orlikowski and Gash 1994). This shows that congruence does not necessarily require that users have actually communicated and exchanged their frames; rather, users can be part of a relevant social group because they hold similar frames about the technology in question, even if they do not know each other. Frames are thus unlikely to be identical within a group but rather “bear ‘family resemblances’ to each other” (Khoo and Hall 2013, p. 84).

Frames draw on an individual’s previous experiences, existing frames and current work practices (Orlikowski and Gash 1994). They are “at work when past experiences in similar

circumstances tend to shape present cognitions and subsequent actions” (Azad and Faraj 2013, p. 121). This implies that, for instance, users who start using a new OC platform, such as Facebook or Wikipedia, approach it in terms of similar technology that they are already familiar with and in light of their existing collaboration practices. The initial phase of this exposure to a new technology is likely to be formative in the sense that frames are constructed early on that will guide the ongoing perception of the technology and that can be changed later on only with difficulty (Cornelissen and Werner 2014; Davidson 2006; Orlikowski and Gash 1994).

Finally, the perspective of technological frames of reference highlights that social meaning attributed to technology is developed and exists only in discourse (Barrett et al. 2013) and that frames are carried by discourse in any form of communicated text (Azad and Faraj 2013). This implies that text posted on OC platforms and contained in communications and newsletters surrounding these platforms carry frames that OC users can draw on.

In sum, the concept of technological frames of reference appears to be a helpful perspective to complement the affordance perspective and to understand how the changing context of existing experiences with technology, work practices and communities influences the ongoing process of OC technology use. Frames can be used as a mediating device between OC users’ existing perceptions of this context and their affordance perceptions. Although there is a lack of studies that explicitly investigate this link, some recent studies support this view, indicating that frames influence the perception of affordances (cf. Leonardi 2013b).

Characteristics of Social Entrepreneurship in OC Evolution

The social entrepreneurship literature helps explain the context of the evolution of AshokaHub. Therefore, it is reviewed here to connect some of the characteristics of the social entrepreneurship setting to issues in OC evolution.

Social entrepreneurship is often heralded as the solution to big societal challenges such as global warming, poverty, lack of education, inequality and human rights violations. This is because it “applies business principles to solving social problems” (Dacin et al. 2010, p. 44). Nevertheless, the field of social entrepreneurship research still appears to be in an “embryonic” (Short et al. 2009, p. 161) state and some even find that relatively little research output has been generated and published in major academic journals (Short et al. 2009). Despite a daunting plethora of divergent definitions, recent reviews of the social entrepreneurship literature seem to converge on a broad definition of the term (Mair and Marti 2006, p. 37; Short et al. 2009, p. 169; Dacin et al. 2010): “First, we view social entrepreneurship as a process of creating value by combining resources in new ways. Second, these resource combinations are intended primarily to explore and exploit opportunities to create social value by stimulating social change or meeting social needs. And third, when viewed as a process, social entrepreneurship involves the offering of services and products but can also refer to the creation of new organizations.”

Social enterprises recognise the need for economic value creation (Mair and Marti 2006). As Dart (2004, p. 414) puts it, social enterprises are, in contrast to non-profit organisations, “market-driven, client driven, self-sufficient, commercial, or business-like”. Nevertheless, social enterprises prioritise their social mission over profit maximisation (Di Domenico et al. 2010). Social enterprises are thus ‘hybrid’ organisations that often draw on different logics from the business and NGO or charity worlds to gain legitimacy, obtain resources and become sustainable (Battilana and Dorado 2010; Tracey et al. 2011).

Although social enterprises can be found in many market environments, they typically operate in the context of communities with limited access to resources (Di Domenico et al. 2010), considerable predictability and a high density of institutional or public sector actors. Hence, their market contexts include, for instance, cultural arts, research, health, social care or environmental management (Di Domenico et al. 2010; Haugh et al. 2010). Given this resource scarcity, social enterprises are also likely to be rather small in size.

Due to their lack of resources, social enterprises need to leverage other organisations to achieve their goals. Even though the social entrepreneurship literature has been rather silent on how social enterprises interact with and leverage their networks (Dacin et al. 2010), studies suggest that social enterprises are likely to have continuous partnerships with public, social and private

sector institutions (Haugh et al. 2010). Social entrepreneurs are thus found to espouse a distinct cooperative mindset and to “use resources in cooperative fashion, and often actually share these with other organizations” (Dacin et al. 2010, p. 49). Social entrepreneurs operate social networking and cooperation strategies to secure critical expertise and resources from a range of different stakeholders (Dacin et al. 2010; Di Domenico et al. 2010) from the public and private sectors to tackle deeply rooted societal practices and institutions that may even cross borders. Ashoka founder Bill Drayton goes even further and argues that “[working] together, corporations and social entrepreneurs can reshape industries and solve the world’s toughest problems” (Drayton and Budinich 2010, p. 57). Finally, the “social enterprise movement” (Tracey et al. 2011) has developed a set of values and assumptions, forming what one could call a social enterprise ideology, which emphasises the notions of the social good and togetherness.

In sum, social entrepreneurs engage in similar practices in their life and work outside the OC. These include, for instance, raising funding or mobilising collective action. They also demonstrate a tendency to cooperate with others as a core business strategy and appear to largely share a common set of values or ideology relating to social entrepreneurship. This similarity of practices outside the OC as well as common sources of identification could thus be viewed as positive indicators for the evolution of an OC like AshokaHub where social entrepreneurs connect.

Summary

This study aims to answer the questions of how nascent online communities evolve and what the influences on this evolution are. This chapter reviewed different literatures to examine their respective potential to contribute to an answer.

The OC literature is the obvious starting point. Indeed, the OC literature has developed a lot of insights into OC members' motivations for contribution, which is helpful for this study. However, its other focus areas, such as the structure of the social networks underlying the OC, are less relevant. A comprehensive understanding of how nascent online communities evolve and what the influences on this evolution are thus still appears to be missing. In order to address this shortcoming of the OC literature, three different literatures have been reviewed and relevant insights identified.

Firstly, the review of the groupware adoption literature identified the social worlds model of adoption as particularly helpful. It offers a number of insights that can shed light on adoption and thus evolution processes in OCs because it looks at similar processes for groupware technology across a complex distributed organization. Secondly, the review of the affordance literature identified the key concepts of perceived, actualised and shared affordances as fitting because they can conceptualise the influence of the underlying OC technology on individual user behaviour. Thirdly, the review of the literature on technological frames of reference identified the frames concept itself as helpful to complement the affordance perspective and to understand how the changing context of existing experiences with technology, work practices and communities outside the OC influences the ongoing process of OC technology use. In particular, it highlighted how frames can be used as a mediating device between OC users' existing perceptions of this context and their affordance perceptions.

In addition, the social entrepreneurship literature was reviewed to connect some of the characteristics of the social entrepreneurship setting to issues in OC evolution. This review identified that the similarity of work practices among social entrepreneurs as well as common sources of identification could be viewed as positive indicators for the evolution of an OC like AshokaHub where social entrepreneurs connect.

CHAPTER 3: CASE SETTING

AshokaHub was launched as an OC of social entrepreneurs by Ashoka, an association of leading social entrepreneurs. Despite seemingly favourable starting conditions, activity on AshokaHub did not ‘take off’. It thus presented an interesting puzzle and an excellent case study.

Introducing Ashoka

In its own words, Ashoka “identifies and supports the world’s leading social entrepreneurs, learns from the patterns in their innovations, and mobilizes a global community that embraces these new frameworks to build an ‘everyone a changemaker world’” (Ashoka 2020). When this research was conducted, Ashoka had built and nurtured a network of more than 2,500 social entrepreneurs, called Fellows³. Table 1 contains an exemplary short description of the venture run by Thorkil Sonne, a Danish Ashoka Fellow (Ashoka 2013; Wareham and Sonne 2008).

Thorkil Sonne – Ashoka Fellow, Denmark

Thorkil Sonne is turning the handicaps of autism into a competitive advantage in business, and opening up new opportunities for autistic adults. He has created a for-profit software testing company, Specialisterne, which assesses and employs high-functioning autistic adults and uses their special skills to out-perform the market and offer an often isolated group of people opportunities for active, productive lives. Attention to detail, precision, and unerring focus are qualities that come bundled with the disabilities of autism and make autistic people particularly adept in certain fields. Autistic individuals have markedly different vocational needs than other developmentally disabled people, and Thorkil is providing a working environment where their skills are capitalized upon and it is “normal” to have autism. He has built an office culture that caters to their particular needs while boosting independence, confidence, and cognitive development.

Table 1: Description of Thorkil Sonne’s idea

Fellows join the Ashoka network via a very selective, multi-round election process (cf. Meyskens et al. 2010). Ashoka Fellows are elected for life and join a ‘field of work’, such as civic engagement. Once part of the network, they receive living stipends, professional support from Ashoka staff and partner organisations and, most importantly, access to the Ashoka network. Given this long history, Ashoka can be considered a leading institution in the social entrepreneurship field (Bornstein 2007).

³ In 2020, the Ashoka network consisted of more than 3,500 Fellows (Ashoka 2020).

Introducing AshokaHub

With the Fellowship growing, building a real, global community for Fellows became increasingly complex. AshokaHub was thus conceived as a solution to this challenge. Initiated by a group of Fellows in 2008 and developed initially from 2009 to 2011 by a joint team of Ashoka staff and Ashoka Fellows, AshokaHub was launched as a limited-access online space that aimed to enable users to find each other, connect, collaborate and exchange resources and knowledge (Ashoka Hub 2012). The platform was built completely from scratch in-house and did not leverage any established OC platforms. AshokaHub was envisioned to create self-organised collaborative action that lowered the “high cost of sharing actionable, real-time knowledge” among social entrepreneurs and reduced the “challenges to achieving economies of scale by deploying shared resources toward shared goals” (Ashoka Hub 2012).

In the first phase from summer 2011 to spring 2013, the AshokaHub platform offered functionality that was less sophisticated but similar to other social networking platforms. It offered five main building blocks of functionality. Firstly, the AshokaHub platform offered many of the standard features of other social networking platforms, such as private messaging, user searches, user profile pages containing contact information and other details about the user, and a ‘wall’ on the user’s profile that shows the user’s latest activities. Moreover, users could leave comments on collaboration objects, which are discussed in the following. Secondly, the platform offered four types of ‘collaboration objects’: ‘offers’, ‘needs’, ‘events’ and ‘news’. A user could create such objects and provide more information. While the ‘events’ concept represented events that the user had attended, organised or just wanted to communicate to others, ‘needs’ and ‘offers’ represented specific requests and offerings of any kind that the user wanted to communicate to others. This could involve anything from necessary knowledge in a specific area to collaborating on a joint project or filling a job vacancy. ‘News’ allowed users to share news items with other AshokaHub users. Except for minor differences, all collaboration objects had the same forms and input fields for creation and updating. After a collaboration object was posted, users could comment on it. Thirdly, the platform offered the concept of ‘tags’. Tags are short textual descriptors that a user can attach to her own profile or to events, offers and needs to enable intelligent searching and ‘following’, which is detailed below. There were predefined tags within three categories, namely ‘field of work’ (e.g. ‘education’), ‘target population’ (e.g. ‘youth’) and ‘countries of work’ (e.g. ‘USA’) and free tags that could be defined by the user. Fourthly, the platform offered the concept of ‘following’. A user could follow other users and specific tags. Followed and following users were displayed on each user’s profile page. Finally, the platform offered standardised weekly notifications that were

sent to users automatically. These notifications were customised for each user based on the tags, i.e. topics, and people that she was following and also served as a way for AshokaHub community managers to inform users of matters such as Ashoka-wide conferences. So, for instance, the AshokaHub weekly digest newsletter could inform a user of any new activity related to users as well as new or updated collaboration objects that she was following.

In the second phase from spring 2013 to late 2013, users also had access to community and group functionalities and could create a further collaboration object called ‘idea’. Community and group functions were structural mechanisms that aimed to sub-divide the AshokaHub community into smaller communities and groups administered by curators but driven by users. The idea collaboration object again used the same forms and input fields as the other collaboration objects but was meant to allow users to share and subsequently discuss their ideas with other interested users.

Table 2 provides a summary of these functionality building blocks and their availability on the AshokaHub platform. Moreover, Figure 1 provides a screenshot of a typical view for an AshokaHub user in the first phase (Ashoka Hub 2012).

Functionality	Available since	Details
Standard social networking features	Launch (August 2011)	For instance, private messaging, user searches, user profile pages (incl. a ‘wall’), commenting on collaboration objects
‘Offers’ and ‘needs’	Launch (August 2011)	Specific requests and offerings of any kind, e.g. resources, funding, knowledge, contacts
‘Events’	Launch (August 2011)	Events that the user attends, organises or just wants to communicate to others
‘News’	September 2012	News items that the user wants to share with
‘Tags’	Launch (August 2011)	Short textual descriptors that a user can attach to her own profile, events, offers and needs to enable intelligent searching and ‘following’
Following	Launch (August 2011)	Capability to follow other users and specific tags; followed and following users are displayed on each user’s profile page
Notifications	Launch (August 2011)	Customised email digest for each user based on tags, i.e. topics and people she is following, and as a means of notifying users about relevant Ashoka activity

Community	Re-launch (February / March 2013)	A structural mechanism to sub-divide the AshokaHub community into smaller communities; membership and content administered by curators; communities could include many groups
Group	Re-launch (February / March 2013)	A structural mechanism to sub-divide communities into topic-based groups; membership administered by curators but group creation and content contribution often driven by users
'Ideas'	Re-launch (February / March 2013)	Ideas of any kind to be shared and discussed with other users via the comment function

Table 2: Basic building blocks of functionality of AshokaHub platform

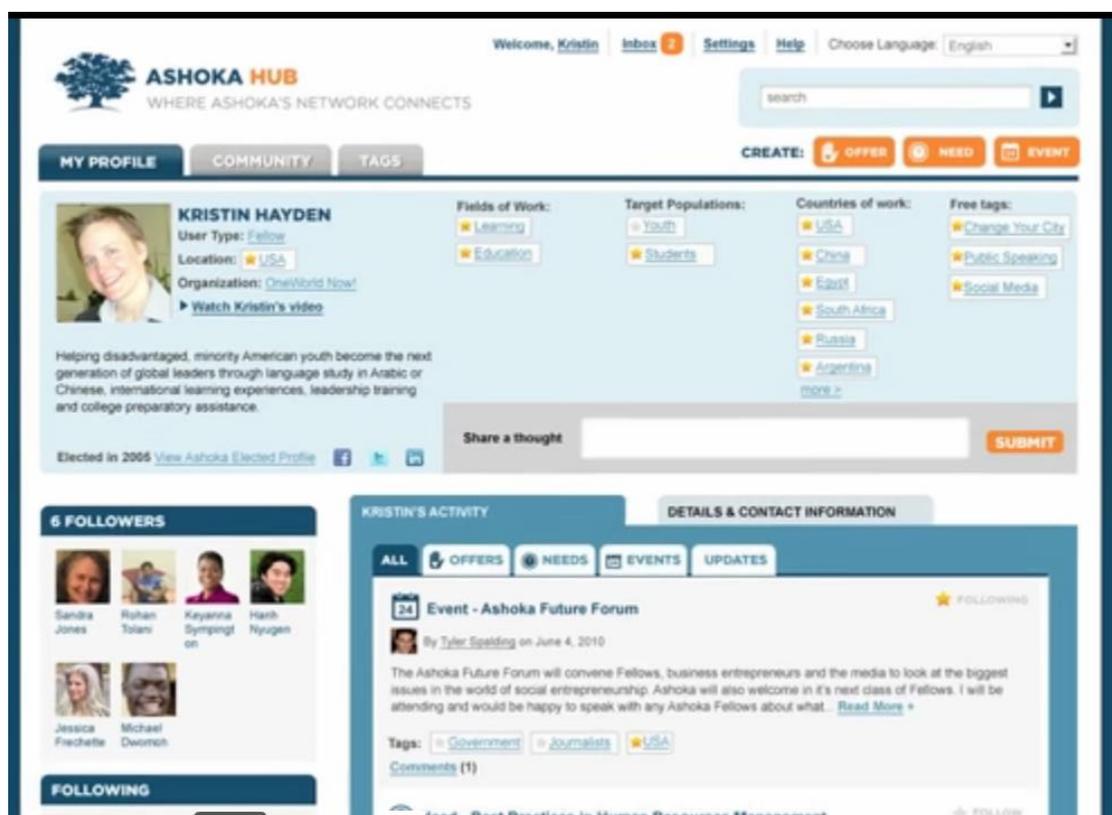


Figure 1: Screenshot of AshokaHub profile page

Gaining and Maintaining Access to AshokaHub

Ashoka is one of the, if not the, leading institution in the social entrepreneurship field and Ashoka Fellows are widely recognised as leaders in their respective fields of work. Although the author had previous experience as a coach for Ashoka Fellows, he started to engage more closely with Ashoka in late 2010 when supporting international Fellows as an independent advisor. This helped him understand Ashoka and the social entrepreneurship phenomenon in more detail and build credibility within the organisation. Based on this engagement, the author was allowed to work with the AshokaHub team in early 2011 and integrate this study into the team's efforts to understand the unfolding dynamics of AshokaHub. Despite the use of interviews as the main data source, the ensuing style of involvement was not fully neutral as being 'part of the team' helped the author gain the trust of AshokaHub users, who shared in-depth insights (cf. Walsham 2006). In terms of maintaining access, professional behaviour was given the highest priority in conducting interviews. Moreover, feedback from the study was given to both the AshokaHub team and the interviewed Fellows (cf. Walsham 2006).

Evolution of Activity on AshokaHub

Activity on AshokaHub started in July/August 2011; the site was officially launched in August but was accessible to Ashoka staff shortly before that. Overall, different metrics, such as the number of comments created each month since the launch, or the number of collaboration objects, such as offers created each month since the launch, indicate that activity on AshokaHub remained rather limited after an initial peak. By the end of the study in late 2013, adoption of AshokaHub and contribution activity remained limited – even more than two years after the launch. One could say, therefore, that AshokaHub did not 'take off' in terms of collaboration activity, as it did not show exponential or near-exponential growth in any of the metrics.

Three distinct groups of users emerged on AshokaHub. Firstly, there were Ashoka staff members who became active on AshokaHub. These are referred to as *curators*. This group had the highest average number of sign-ins per person (25.5 among those with at least one sign-in from the launch until the end of data gathering) and a very wide spread of sign-in numbers, indicating that there were members of this group that signed in to AshokaHub very regularly. Secondly, there was a group, which shall be called *community builder users*, which included Fellows from Asia, Africa and Central and South America, excluding highly developed countries such as Japan or South Korea. This group had the second-highest average number of sign-ins per person (9.4 among those with at least one sign-in since the launch) and also a fairly

wide spread of sign-in numbers, indicating again that there were members of this group that signed in to AshokaHub very regularly. Finally, there was a third group, which shall be called *transactional users*, which included Fellows from North America and Europe as well as other highly developed countries such as Japan or South Korea. This group had not only the lowest average number of sign-ins per person (5.3 among those with at least one sign-in since the launch) but also a fairly narrow spread of sign-in numbers, indicating that members of this group did not sign in to AshokaHub regularly. Moreover, when breaking down the contribution behaviour for user types across different collaboration functionality and objects, it appeared that curators and community builder users were the most active contributors, whereas Fellows from developed countries were the least active contributors by a significant margin.

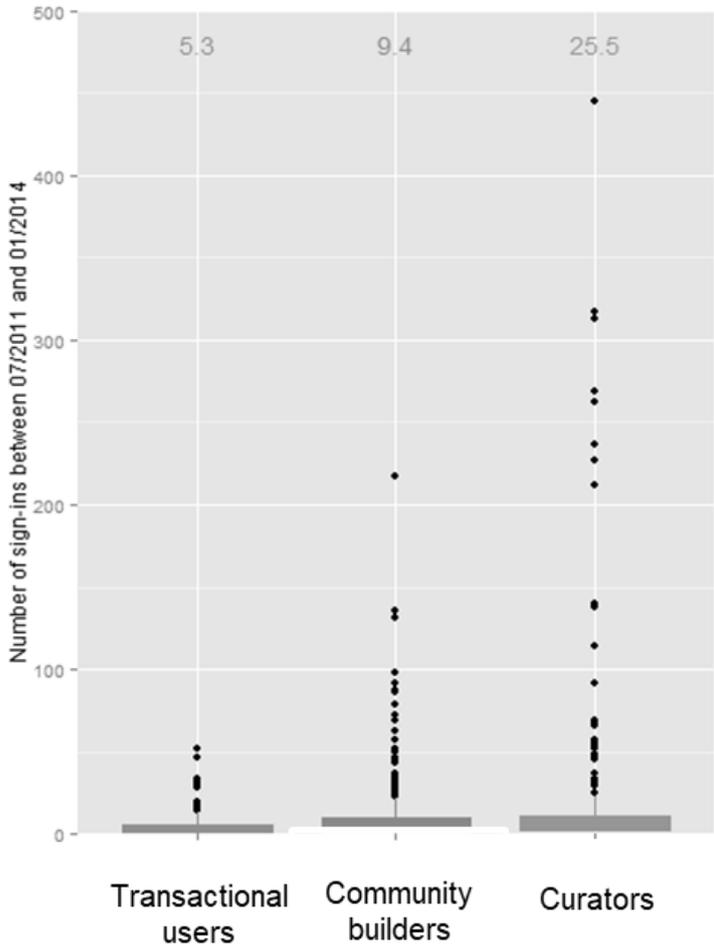


Figure 2. Sign-in counts and averages by user group (07-2011–01-2014)

In addition to these overall findings, the metrics for the different collaboration functionality and objects paint a more nuanced picture of contribution behaviour on AshokaHub. In particular, they allow us to see differences in behaviour across user groups and across time.

Commenting behaviour grew slightly over time and was driven mainly by curators and community builder users, with the proportion of community builder users growing steadily.

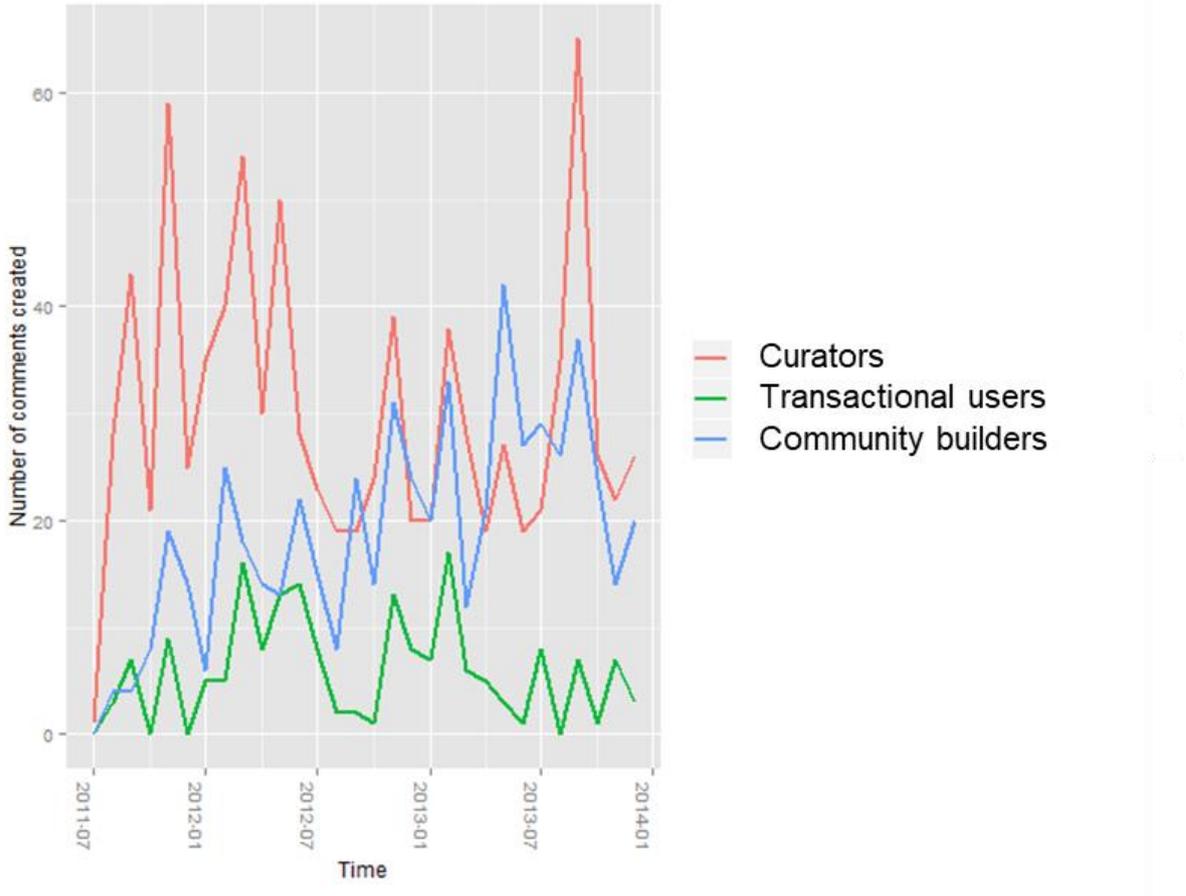


Figure 3. Comment creation by user group by month (07-2011–12-2013)

Contribution behaviour for private messages looked fairly similar to that for commenting, with the major difference that the difference in contribution figures between curators and community builder users was even greater.

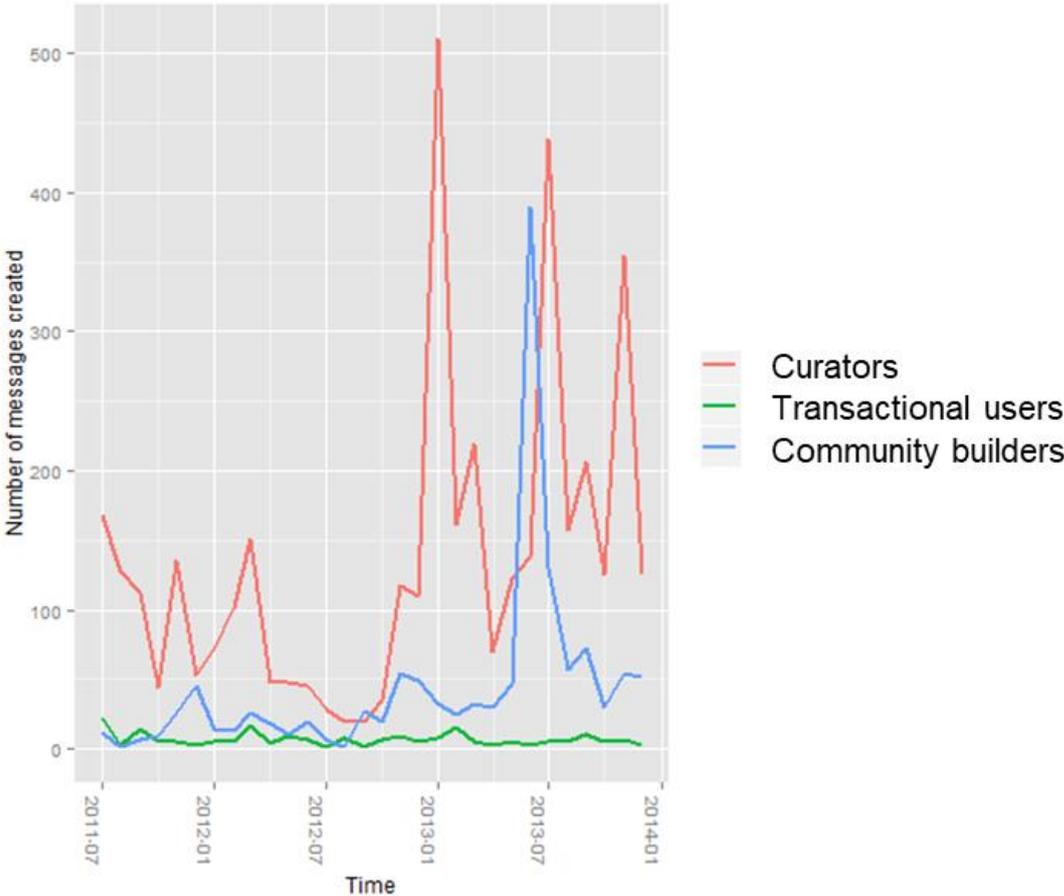


Figure 4. Message creation by user group by month (07-2011–12-2013)

Offer creation per month remained relatively stable from the launch onwards and was driven largely by curators. Even though the difference in terms of offer creation was less pronounced, community builder users were slightly more active overall, especially from 2013 onwards, than their transactional user counterparts.

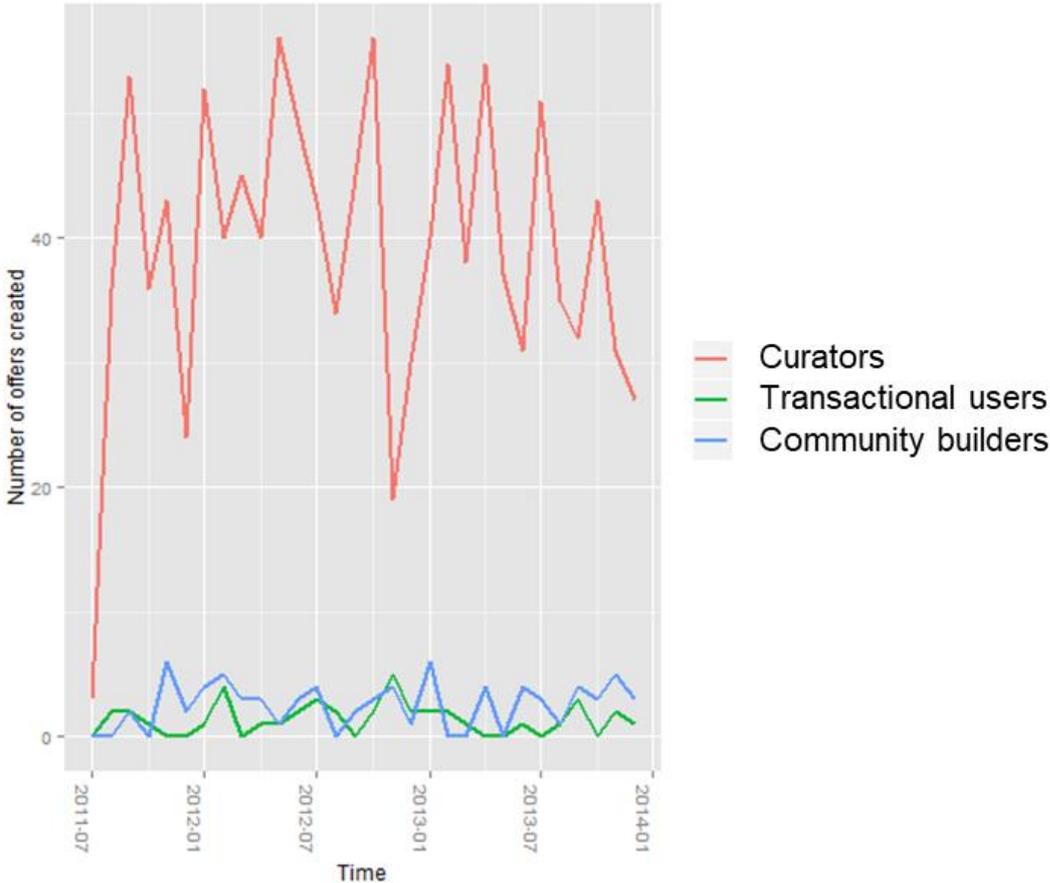


Figure 5. Offer creation by user group by month (07-2011–12-2013)

Compared to offer creation, a significantly lower number of needs was created consistently across the study period. When breaking this down into different user groups, a more mixed picture emerged where curators and transactional users started off creating the majority of needs but then reduced activity towards the end of 2012. Community builder users only started using this collaboration object later on but then increased their use and created more such objects overall than the other groups from late 2012 onwards.

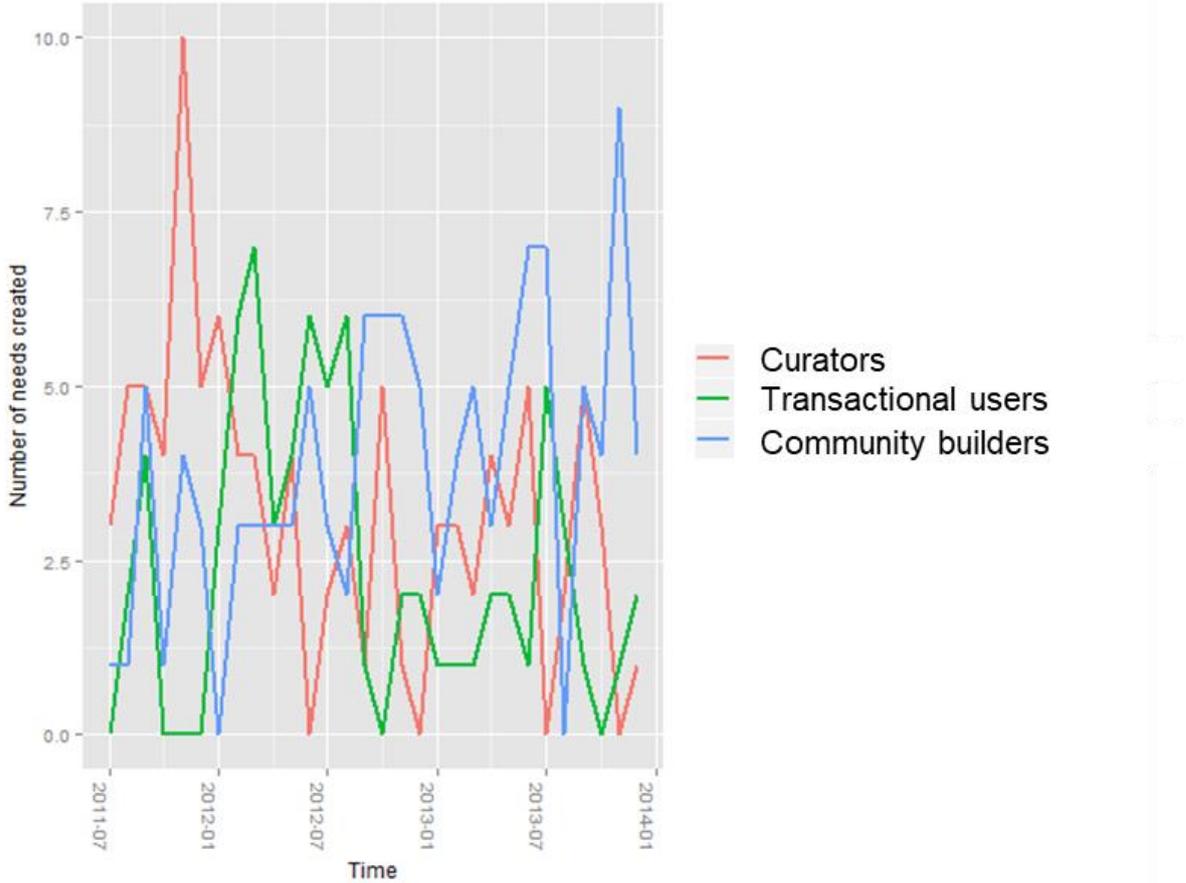


Figure 6. Need creation by user group by month (07-2011–12-2013)

The events collaboration object appeared to have failed. Curators created a lot at the beginning, but creation figures then decreased gradually.

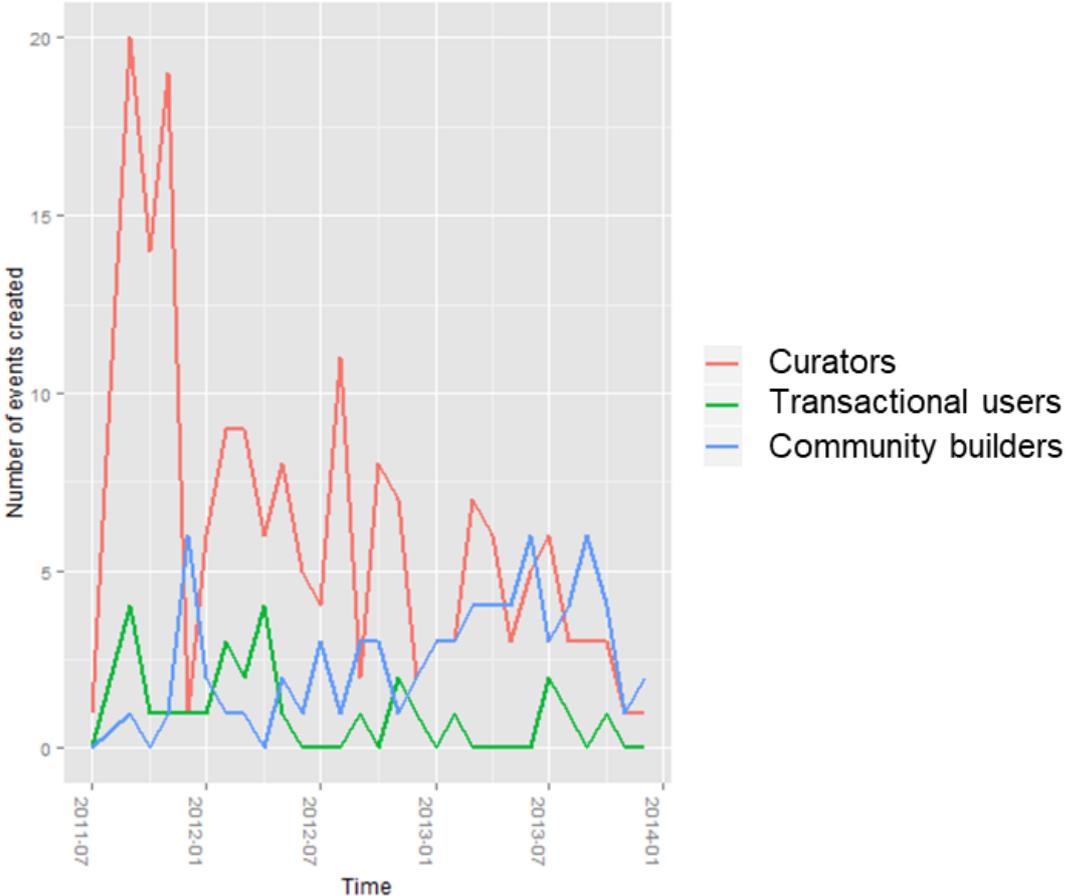


Figure 7. Event creation by user group by month (07-2011–12-2013)

Shortly before the re-launch, the news collaboration object was introduced. After its introduction it saw limited but steady growth in use, driven mainly by community builder users.

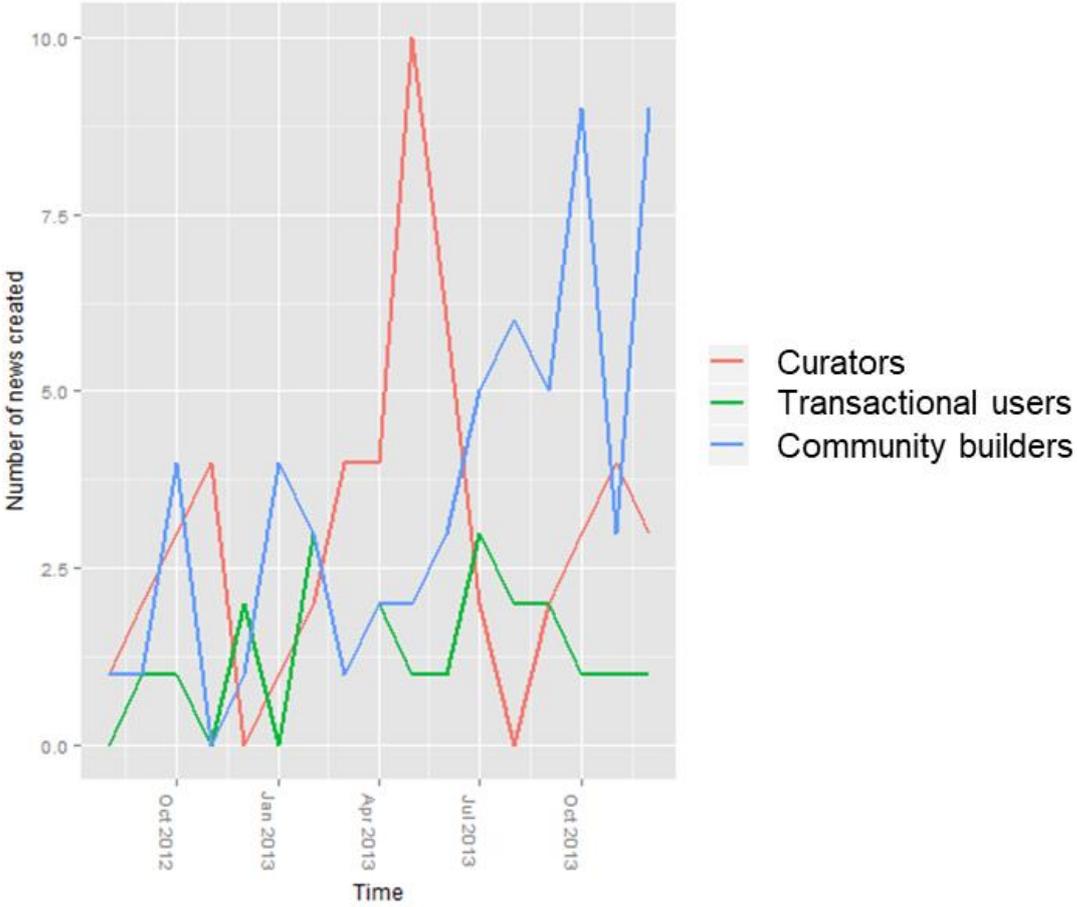


Figure 8. News creation by user group by month (08-2012–12-2013)

With the re-launch came the idea collaboration object. While community builder users started using it to some extent, the other user groups almost did not.

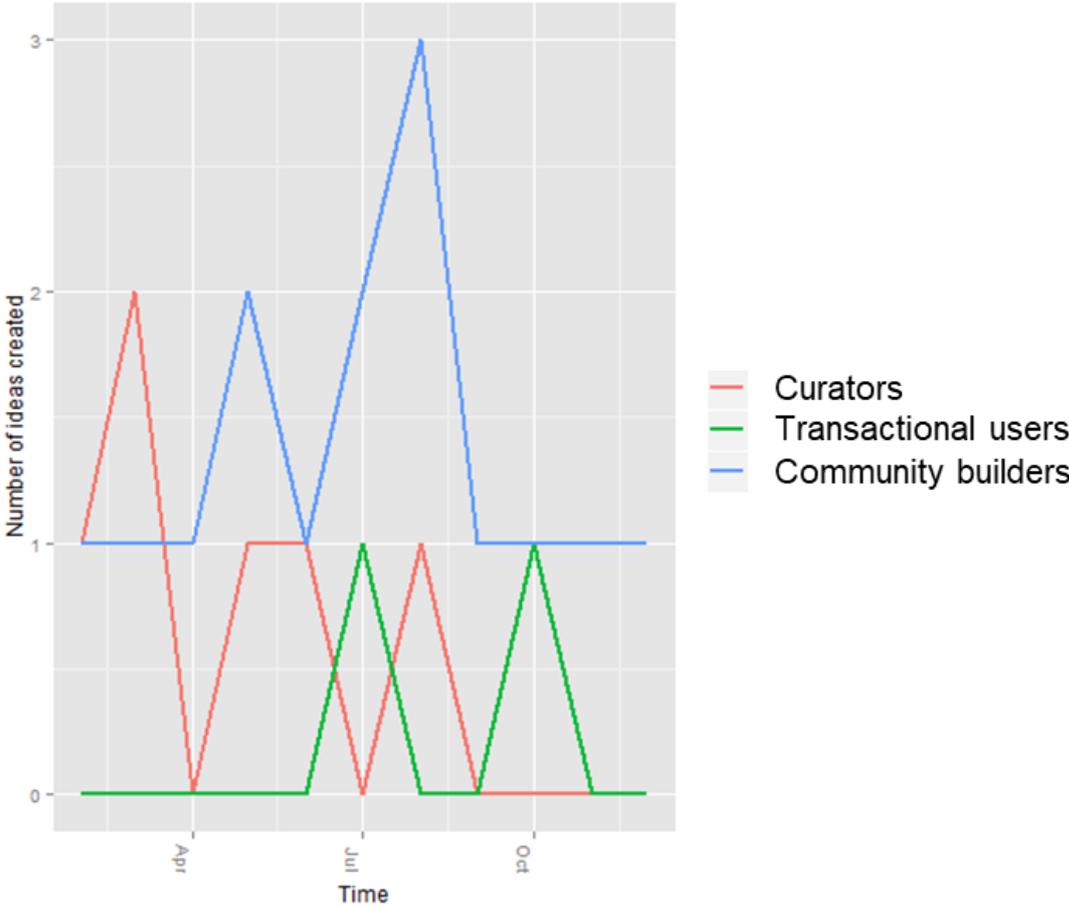


Figure 9. Idea creation by user group by month (02-2013–12-2013)

The same applied to the new group functionality. The idea behind this functionality was to enable a Fellow-led, bottom-up creation of groups so that everyone could build their own ‘place’ on AshokaHub. However, only very few groups were actually created. Overall, this illustrates that AshokaHub did not ‘take off’ during the study period.

CHAPTER 4: METHOD

Investigating the emergence and evolution of OC user contributions is a challenge. OCs are considered “fluid organizational objects” (Faraj et al. 2011, p. 1225) that require new methods that “can grasp the new realities of knowledge collaboration, no matter how emergent, complex, and ephemeral” (Faraj et al. 2011, p. 1235). To address this challenge, an extended grounded theory approach using qualitative data and supplementary quantitative data was used to investigate the longitudinal case study of AshokaHub. Grounded theory serves as the base method, providing the overall research process, including the core concepts of constant comparison and theoretical sampling, and key analytical tools such as open and axial coding. It is extended, however, by supplementing qualitative with quantitative methods. After a discussion of the role of theory, epistemological and ontological considerations underlying this study as well as the rationale for this extended grounded theory approach, both sets of methods are described, followed by a detailed description of the full research process that incorporates these methods in an iterative fashion.

The Role of Theory

Scholars have taken different stances on the role of theory. While acknowledging the value of ‘substantive theory’ in shaping the research at the beginning, Glaser and Strauss (1967), for instance, argue that researchers should primarily construct theory directly from field data. Others, such as Walsham (1995, p. 77), “would not go so far”. Walsham (1995) distinguishes between three uses of theory: firstly, theory as an initial guide to design and data collection, which is similar to Blumer’s (1954, p. 7) notion of ‘sensitising concepts’ that are drawn from existing theory and can give the researcher a “general sense of reference and guidance in approaching empirical instances”; secondly, theory as part of an iterative process of data collection and analysis; and finally, theory as a final product of the research.

This study adopts the second stance. Hence, theory was used at the beginning of the case study to take account of previous knowledge and create “a sensible theoretical basis to inform the topics and approach of the early empirical work” (Walsham 1995, p. 76). To mitigate the risk of being restricted by this initial choice of theories, this study strove to “preserve a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories” (Walsham 1995, p. 76) by bringing in new theories. Hence, in the process of collecting and analysing data, the initially chosen theories were used to understand the emerging themes

and were complemented by additional theories when necessary to anchor the findings that emerged from the data in the literature (Tracey et al. 2011, p. 64).

Epistemological and Ontological Considerations

This thesis aims to explain how nascent OCs evolve and what the influences are on this evolution. It can be viewed as a process study because it focuses on how and why certain things emerge, develop, grow, or terminate over time (Langley et al. 2013). Process studies have historically been underrepresented in management and organization studies but their number is growing. Arguably, more process studies are needed to answer not the predominant ‘what’ questions of variance-type studies but the ‘how’ questions (Langley et al. 2013). Knowing which organizational approach or management practice is most effective in a certain situation may not be worth much if it’s unclear how to get from the current state to this new state – and what complexities may emerge along the way.

Process studies can take one of two main stances regarding ontology (Langley et al. 2013). On the one hand, process studies can take the stance that processes are changes in substantive things. Most existing process studies have taken this approach and have investigated how and why changes, as a succession of movements, happen to recognisable entities over time. These ‘synoptic’ accounts of organizational change consider change an accomplished event whose causes, consequences and characteristics need to be studied (Tsoukas and Chia 2002). Such accounts usually take the form of stage models where the studied entity moves from stage to stage over time (e.g. , Greenwood and Hinings 1996). Such process studies can be very valuable in settings where little is known about the evolution of the entity in question. The snapshot analyses at the different stages can highlight key dimensions of the studied entities and help develop explanations for their trajectories over time. They can help identify underlying patterns at different points in time. Such studies are, however, limited in that they cannot fully capture the “open-ended micro-processes” that drive change or the “fluidity, pervasiveness, open-endedness, and indivisibility” of change processes (Tsoukas and Chia 2002, p. 570).

On the other hand, process studies can take the stance that processes are the focus and things are, in fact, only temporary instantiations and reifications of processes (Tsoukas and Chia 2002). This stance emphasises that the world consists of an interconnected and ever-changing web of events and experiences rather than substantive entities. In this approach, the web of events is continuously broken down to smaller and smaller events which, for example, are analysed from the viewpoint of one individual over time to reach an understanding of the micro processes of change (Langley et al. 2013). This stance emphasises that organisational

phenomena should be treated as enactments, as “unfolding processes involving actors making choices interactively, in inescapably local conditions, by drawing on broader rules and resources” (Tsoukas and Chia 2002, p. 577). As a result, this stance allows to analyse change not as an abstract concept but ‘from within’, as the unfolding of situated human agency over time. It thus promises to provide insights into the actual accomplishment and emergence of change (Tsoukas and Chia 2002).

This study aligns more closely with the former rather than the latter stance because it is more focused on changes in recognisable ‘entities’ over time. Moreover, the latter stance is more difficult to operationalise as phenomena are described as interwoven, ever-changing webs of processes and thus difficult to pin down for systematic analysis (Langley et al. 2013). Despite this ontological focus, this study aims to mitigate the risks of ‘snapshot’ studies by not just relying on data from certain focal points in time but also gathering rich data between these focal points. This allows for a more comprehensive understanding of the how and why certain changes happened between focal points of the study.

Within the context of seeing processes as changes in recognisable ‘entities’, this study makes some additional and consistent assumptions about ontology. On the one hand, the study assumes that the ontology for the natural world resembles that of positivism in that it assumes reality to be objective and intransitive, i.e. existing independently of humans (Mingers 2004). This is important to account for the material characteristics of the OC platform. On the other hand, the ontology for the social world is considered to have three distinguishing features (cf. Mingers 2004). Firstly, while laws of the natural world are not influenced by their own operation, social structures are, through reproduction or transformation, the result of social activity, which they themselves enabled. Secondly, while natural phenomena are independent of our interpretations of them, social agency (which in turn affects social structures) requires at least some interpretation and understanding of the actions taken. Finally, while natural laws are generally universal, social structures are ‘local’ with regard to space and time.

This study takes a ‘non-positivist’ epistemological position, arguing that “facts and values are intertwined and hard to disentangle, and both are involved in scientific knowledge” (Walsham 1995, p. 75). This position is characteristic of interpretive research (Walsham 1995). In part, this interpretive stance is driven by the realisation that positivist and objectivist IS research has difficulty explaining the observed variance in patterns and processes across organisations (Kraemer and King 1990; Walsham 2009). This position is also consistent with process studies that focus on how certain things unfold and change over time. In such studies, interactions and interpretations of individuals and larger structures such as organisations orient change processes (Langley et al. 2013).

As a result, three assumptions are made (cf. Mingers 2004). Firstly, it is assumed that knowledge is “historically and socially located” (Mingers 2004, p. 94), which means that knowledge in the form of theories, results or conjectures is only ‘transitive’. Secondly, while natural systems can be artificially closed and controlled in experiments, this is usually impossible in social systems. Social systems are by nature interactive and open, which moves the focus of a social science theory from prediction to explanation. Thirdly, while measurements of natural phenomena can be made and compared objectively, the possibilities for measuring social phenomena are very limited because social phenomena are intrinsically meaningful and such meanings can only be understood and described and not adequately compared and measured.

Rationale for an Extended Grounded Theory Approach

According to Suddaby (2006, p. 636), the choice of a particular method should be congruent with the author’s ontological and epistemological assumptions as well as the specifics of the research question. This means that a method should be effective, i.e. allow the researcher to arrive at a well-grounded answer to the question in a consistent manner. Grounded theory emerges as an appropriate base method that is consistent with the overall interpretivist stance adopted in this study and fundamentally aligned with the research question. It is, however, extended to account for the specifics of OCs.

Developed by Glaser and Strauss (1967), grounded theory is a method that focuses on theory emergence from data “based on how well data fit conceptual categories identified by an observer, by how well the categories explain or predict ongoing interpretations, and by how relevant the categories are to the core issues being observed” (Suddaby 2006, p. 634). It is based on two core concepts (Suddaby 2006, p. 634): ‘constant comparison’, which refers to a process in which data collection and analysis happen simultaneously and iteratively, and ‘theoretical sampling’, which refers to the notion that the theory that is constructed in this iterative process determines what data to collect next and how.

Grounded theory emerges as an effective method because it fits the overall interpretive assumptions of this study and is fundamentally aligned with the research question. While some common methods for developing theory from case studies are inappropriate due to their inherently positivist assumptions (cf. Eisenhardt 1989; Yin 2008), grounded theory offers ‘interpretive’ tools (cf. Suddaby 2006; Walsham 2006). It thus helps us understand mechanisms not necessarily as objective facts but as being socially constructed and in constant flux.

Moreover, grounded theory is fundamentally aligned with the research question. It is aimed at developing new theory from data (cf. Suddaby 2006), which is necessary here because the extant literature has theorised only little about how knowledge collaboration happens in OCs (Faraj et al. 2011). The research question also calls for a process study and resulting model that explains how nascent online communities evolve and what the influences are on this evolution. As Volkoff et al. (2007) demonstrate, grounded theory is well suited to help develop such theory from an intensive, longitudinal case study. Moreover, grounded theory can help elucidate the ‘complex’ nature of OCs. The OC phenomenon does not lend itself well to simplistic approaches: as Faraj et al. (2011, p. 12) put it: “For research to develop practically useful [OC] theory, methods and tools are needed that can grasp the new realities of knowledge collaboration, no matter how emergent, complex, and ephemeral.” Unfortunately, they do not offer guidance on what such methods could look like. As a potential solution, they point only to ‘messy and holistic methods’ inspired by complexity theory (Faraj et al. 2011; cf. Law and Urry 2004). Although no dominant method has been exclusively associated with a complexity theory perspective in the management literature, case studies in the grounded theory tradition (Browning et al. 1995) are among the most prominent methods. Grounded theory thus emerges as capable of capturing the particular and ‘complex’ nature of OCs.

However, to be fully effective, the grounded theory method is extended to incorporate both qualitative and quantitative data. So far, OC research has generally relied on either qualitative data from ‘netnographic’ studies (e.g. Jarvenpaa and Lang 2011) or on quantitative data such as historical network data (e.g. Ransbotham and Kane 2011; Singh 2010). Yet given the multi-faceted nature of OCs, it seems unlikely that either type of data on its own can comprehensively capture the emergence and evolution of contribution behaviour in a nascent OC. For instance, the analysis of quantitative activity data may reveal interesting patterns of collaborative behaviour. However, these analyses cannot help understand why such patterns emerge, because the reasons may have to do with trust or identity, which can only emerge from qualitative data, e.g. from interviews. Likewise, the analysis of qualitative data may reveal motivations or viewpoints of OC users. These may, however, be misinterpreted if the researcher is unaware of the ‘quantitative context’ in which such motivations or viewpoints were formed, e.g. defined by the measurable activity intensity and their historical evolution. Moreover, capturing and analysing such longitudinal, rich and varied data is the recommended approach for insightful process studies (Langley et al. 2013).

Although it has not yet become a mainstream methodological strategy (cf. Mingers 2003), combining quantitative and qualitative methods is generally encouraged (cf. Suddaby 2006) and has been put forward as a promising approach (cf. Creswell 2008; Tashakkori and Teddlie

1998; Zachariadis et al. 2013). Such a multi-method approach that draws on interviews “as a key way of accessing the interpretations of informants” and also on quantitative methods (Walsham 2006, p. 323, cf. 1995) promises to help “gain richer and more reliable research results” (Mingers 2001, p. 243).

Although grounded theory is generally associated with qualitative research and qualitative data (cf. Suddaby 2006), it can indeed be used to combine qualitative and quantitative data. As Strauss and Corbin (1998, p. 32) put it, “researchers must think of quantitative procedures as representing not the enemy but rather a potential ally to theory building”. When combining qualitative and quantitative methods, researchers should, however, adhere to two principles (Strauss and Corbin 1998, pp. 29–34). Firstly, the research design, i.e. the exact use and ordering of specific qualitative and quantitative methods, cannot be known *a priori* but has to emerge, like the concepts, during the ‘complex flow of work’ that is the research process. Thus, depending on the concepts and relationships emerging from the grounded theory analysis, certain qualitative or quantitative methods may be most appropriate to further advance the theory. This means that the core grounded theory concept of theoretical sampling, defining *what* is to be studied next and *how*, can be extended to also incorporate quantitative methods as potential choices. Secondly, there must be a ‘true interplay of methods’ where the results of one method guide the application of the next.

Qualitative and Quantitative Methods

In this study, two qualitative methods and one supplementary quantitative method are used.

Netnography

The first qualitative method used in this study is *netnography*. Kozinets (2002, p. 62) defines netnography as a research method that “adapts ethnographic research techniques to study the cultures and communities that are emerging through computer-mediated communications”. Netnographic research usually includes observation of behaviour or participation in OCs (cf. Gupta 2009; Jarvenpaa and Lang 2011). In this study, the stance of a *neutral observer* is taken to avoid OC users being less open and the interviewer becoming socialised to users’ views (Walsham 2006). Moreover, while this stance offers insights that are less rich than those of interviews, it is much less time-consuming than close involvement. This method is thus used to obtain contextual qualitative information about interviewees or the broader ‘interesting’ cases

chosen throughout the research process. To this end, activity on AshokaHub, e.g. around collaboration objects such as offers, needs and events, was observed and analysed.

Interviews

The second qualitative method is the interview. Interviews are common in grounded theory case studies because they represent a “key way of accessing the interpretations of informants” (Walsham 2006, p. 323, cf. 1995; Volkoff et al. 2007). Getting to these interpretations is critical because it can help elucidate in particular the *why* of user contribution emergence and evolution in a way that no other method can.

Although conducting interviews offers rich insights, it is highly time-consuming and therefore a premium is placed on choosing interviewees that promise particularly interesting insights. The choice of interviewees in this study followed the adapted theoretical sampling approach described in the following section. The data that emerged pointed to three distinct user groups on AshokaHub and, especially for Phases 2 and 3, interviewees were chosen to represent these three user groups. The user groups were comprised of (1) AshokaHub curators from around the world; (2) community builder users from Asia, Africa and Central and South America, excluding highly developed countries such as Japan or South Korea; and (3) transactional users from North America and Europe as well as other highly developed countries such as Japan or South Korea.

The distinction between transactional users and community builder users is derived from the amount of tangible and intangible resources that the two user groups appeared to own or have access to and could thus potentially share on AshokaHub. As discussed in Chapter 2, such resources can be defined as including economic capital such as funding, cultural capital such as specific knowledge, social capital such as connections to partners and funders in the private and public sectors and symbolic capital such as reputation in the social entrepreneurship field or a particular industry. While transactional users appeared able to command significant amounts of such resources, this was not the case for community builder users. These differences appeared to be driven largely by the availability of functioning infrastructure and mature institutions in the different countries. Table 3 gives an overview of the number and origin of interviewees by phase and user group.

Phase	Transactional users	Community builders	Curators
Phase 1	<ul style="list-style-type: none"> ▪ Canada: 1 ▪ Germany: 1 ▪ Spain: 3 ▪ USA: 1 	<ul style="list-style-type: none"> ▪ Costa Rica: 1 ▪ India: 3 ▪ South Africa: 1 	N/A
Phase 2	<ul style="list-style-type: none"> ▪ Canada: 1 ▪ Germany: 2 ▪ UK: 2 ▪ USA: 2 	<ul style="list-style-type: none"> ▪ Central America: 1 ▪ The Gambia: 1 ▪ India: 2 ▪ Mexico: 2 ▪ South Africa: 1 ▪ Uganda: 1 	<ul style="list-style-type: none"> ▪ East Africa: 1 ▪ Indonesia: 1 ▪ USA: 4
Phase 3	<ul style="list-style-type: none"> ▪ USA: 2 	<ul style="list-style-type: none"> ▪ Central America: 2 ▪ India: 2 ▪ Chile: 1 ▪ Peru: 1 ▪ Egypt: 2 ▪ The Gambia: 1 ▪ Nigeria: 1 ▪ South Africa: 1 	<ul style="list-style-type: none"> ▪ East Africa: 1 ▪ Germany: 1 ▪ Mexico: 1 ▪ UK: 2 ▪ USA: 1

Table 3: Number of interviewees by phase and user group

All interviews were conducted over the phone. Although this prevented the interviewer from fully capturing the non-verbal elements of the interview (cf. Walsham 2006), phone interviews were the only (cost-)efficient method as AshokaHub users are spread all over the world, a considerable number of interviews had to be conducted and the choice of interviewees depended on the emergent theory. This process was highly dynamic, which made planning fieldtrips in advance very difficult if not impossible. The interviews were conducted in English, Spanish and German to ensure that the interviewees felt comfortable and were able to respond

to the questions meaningfully. Interviews were recorded, transcribed and, where necessary, translated into English (cf. Bryman and Bell 2003).

The interviews were semi-structured and covered certain themes, including the process (*how*) and reasons (*why*) for engagement and contribution as experienced by the interviewees, rather than imposing a strict set of questions. In the first phase, the interviews were slightly more structured, using exemplary motivations for OC contribution found in the literature to understand the relative importance of these motivations for the interviewees. Overall, however, questions were adapted to the interviewee's context, i.e. the interviewee's specific history and realm of knowledge collaboration within AshokaHub. Interviewees were therefore given a lot of flexibility as to how to reply (cf. Bryman and Bell 2003, p. 343). Moreover, additional questions were asked when the interviewer felt the need to explore certain responses further. This is consistent with the grounded theory principle of preserving openness to the field data. During the interviews, time-keeping and striking a balance between passivity and over-direction by the interviewer were key guidelines (cf. Walsham 1995, 2006).

Exploration and Pattern Analysis

As discussed above, quantitative methods can tap into what happens on the AshokaHub platform on a more aggregated level and help identify and analyse interesting patterns. In this study, these methods drew on platform activity data. These data were automatically generated on the AshokaHub platform and recorded almost everything users did along with a time stamp. For instance, these data included users' demographics and interests, following relationships, messages, comments and the creation of collaboration objects, e.g. offers and needs.

As shown in Chapter 3, different activity metrics such as the number of comments created were continuously recorded. These data were retrieved, cleansed and aggregated directly from the AshokaHub platform's core database. Using the R statistical programming language, historical diagrams for different metrics were plotted and analysed. This allowed the visualisation and description of certain larger-scale dynamics unfolding on AshokaHub on an aggregate level. The analysis of these diagrams and metrics over time then pointed to potential patterns that could subsequently be analysed in more detail. For example, it revealed the different behaviours of certain user groups on AshokaHub, as shown in Chapter 3.

The data gathered in these stages were considered (partial) observations of activity on AshokaHub. Qualitative field notes were then taken based on these observations, for instance, recording interesting changes, to make these data accessible to grounded theory coding methods.

The Circular Research Process

Strauss and Corbin (1998, p. 29) consider the theory development process in the grounded theory tradition as a “complex flow of work” that emerges and evolves over the course of the research project. Moreover, they argue for a true interplay of methods where the “qualitative should direct the quantitative and the quantitative feed back into the qualitative in a circular, but at the same time evolving, process with each method contributing to the theory in ways that only each can” (Strauss and Corbin 1998, p. 34). This study subscribes to this view. Figure 10 shows the resulting research process, which only contains three iterations for illustrative purposes.

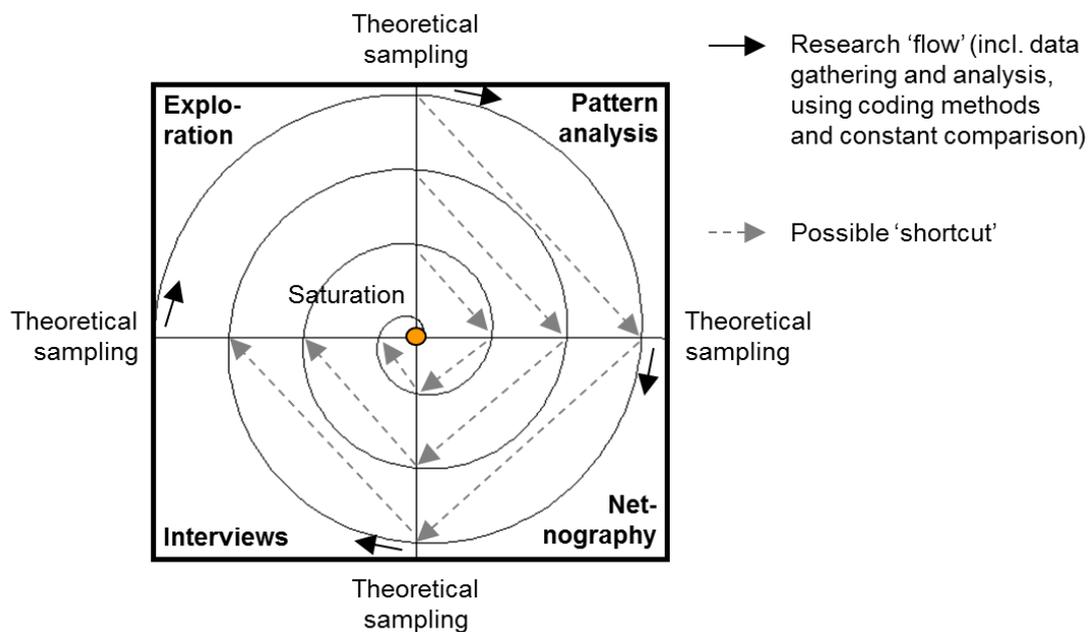


Figure 10: Overview of the research process

The actual research process ran through more iterations of continuous data gathering and analysis. Each new iteration of the research process took a different shape due to the theoretical sampling conducted after each stage. Theoretical sampling not only defined *what* to study next but also *which methods* to use to that end (Strauss and Corbin 1998). These two decisions were made after each step based on the state of theory development at that time and the principle of “[maximizing] opportunities to discover variations among concepts and to densify categories” (Strauss and Corbin 1998, p. 201). Hence, the research process did not always follow the spiral in Figure 10 from exploration to interviews in every iteration. Rather, the process sometimes took ‘shortcuts’, omitting pattern analysis, netnography or interviews if the state of theory development called for it.

Phase 1 of the main research flow started with a set of 11 interviews with Ashoka Fellows, which were conducted before the launch in March/April 2011. These interviews focused on generating a baseline understanding of AshokaHub and its future users and covered the interviewees' expectations of AshokaHub and why they would use and contribute to it. The expected reasons for contribution were investigated in a more structured way, using exemplary motivations for OC contribution found in the literature. Here, interviewees were asked to rate the relative importance of these motivations. These quantitative results, however, were not used for statistical analyses and were only used to provide further observations from the interviews. These data were used to allow more probing and specific questions to be asked and a richer baseline understanding of interviewees' full sets of motivations to be obtained.

After the launch, a number of iterations were conducted. First, exploration and pattern analysis were used to get a 'feel' for the overarching dynamics on AshokaHub and how they changed over time. Depending on the outcomes of these analyses, netnographic observations focused on particular parts of AshokaHub that were likely to yield 'interesting' insights. For instance, such interesting parts of AshokaHub were identified by analysing the number of comments posted on each collaboration object. The more comments there were for a particular collaboration object the more likely this object was to be selected for further netnographic observations. At the same time, care was taken to ensure that samples of all types of collaboration objects were selected in this process to obtain a general overview of created content and discussions.

These iterations helped prepare Phase 2 of the research flow, which again started with a set of interviews. This second set of 21 interviews with Ashoka Fellows and AshokaHub curators was conducted one full year after the launch. Interviews covered the process and reasons for user contributions and platform use as experienced by the interviewees during the first year. It helped derive rich insights regarding concepts and relationships identified earlier in the research process. The interviewee selection process strove to ensure that all three user groups (transactional users, community builder users and curators) were represented, that users with different activity patterns were represented and that interviewees from the first set of interviews were chosen again. Once more, exploration, pattern analysis, netnography and regular informal discussions with the AshokaHub team followed in an iterative manner, driving forward the understanding of the relevant concepts and relationships.

These iterations were the basis for the third and fourth sets of interviews conducted after the re-launch of AshokaHub in early 2013. A total of 19 Ashoka Fellows and AshokaHub curators were interviewed with a focus on how the process and reasons for user contributions and platform use had changed after the AshokaHub team re-launched the platform with new functionality and a new strategy for community curation. Alongside these interviews,

exploratory quantitative analyses as well as netnographic analyses and regular informal discussions with the AshokaHub team continued until late 2013. The aforementioned strategy for identifying ‘interesting’ parts of AshokaHub to conduct netnographic observations was employed again.

Following the grounded theory tradition, data gathering and analysis were performed in parallel during these iterations. In particular, data analysis was done using appropriate coding methods, open and axial coding (cf. Strauss and Corbin 1998; Walsham 2006) and constant comparison. Despite the commonly held view that using grounded theory methods precludes prior engagement with existing theory, using these methods and making theory part of the analysis process do not necessarily contradict each other (cf. Suddaby 2006). In a recent example, Tracey, Phillips and Jarvis (2011, p. 64; cf. also Gioia et al. 2010) explicitly chose such an iterative approach “moving among data, emerging patterns, and the literature” to reach “a synthesis anchored both empirically in [the field] data and theoretically in the literature”. Hence, following this approach, the qualitative data from all iterations were continuously examined using open and axial coding to create concepts as well as higher-order categories and themes. These activities were conducted with continuous cross-comparison (Strauss and Corbin 1998). Figure 11 illustrates the resulting chronological sequence of data gathering and analysis in this study.

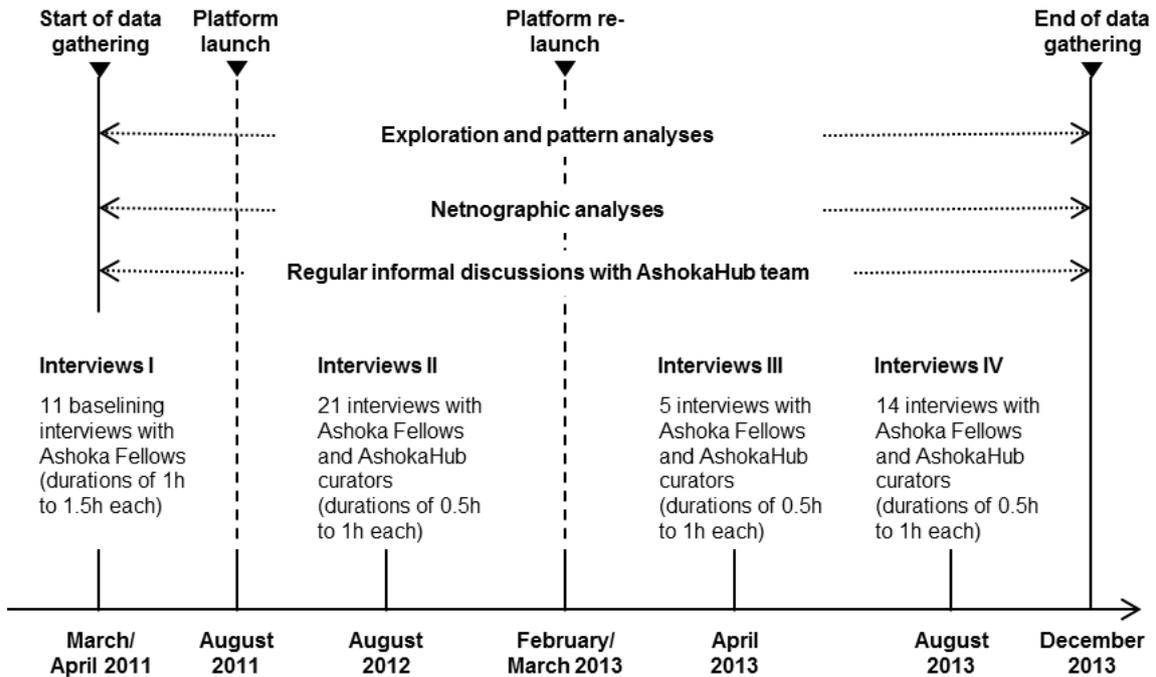


Figure 11. Overview of data gathering and analysis

The goal of all iterations was theoretical saturation, defined as the point at which “no new properties, dimensions, or relationships emerge during analysis” (Strauss and Corbin 1998, p. 143). The iterations stopped when categories and themes were theoretically saturated, i.e. the review of existing data did not yield further insights (cf. Bryman and Bell 2003, pp. 428–429; Eisenhardt 1989; Suddaby 2006). To ensure analysis validity, this process was accompanied by critical scrutiny of potential biases in the interview responses (e.g. interviewees following a cultural script or giving politically motivated answers) (Alvesson 2003) and continuous reflection on whether and how existing conceptualisations influenced the analysis (Suddaby 2006).

Theorizing From Process Data

As Figure 11 shows, the resulting data covered the evolution of AshokaHub from March 2011 to December 2013. This data broadly highlights a sequence of events, e.g. activities before the launch, after the launch and after the re-launch of AshokaHub or between interviewing phases). It also involves multiple levels and units of analysis whose boundaries are ambiguous, e.g. the notion of a context, interactions in the community and the influence of the technical platform underlying AshokaHub. Further, it varies in terms of precision, duration, and relevance because not all occurring events could be comprehensively studied. Finally, it is eclectic in that it covers different phenomena such as changing relationships, thoughts, feelings, and interpretations. The data can thus be classified as ‘process data’ (Langley 1999). According to Langley (1999), there are seven strategies for sensemaking with regard to such process data (see Figure 12).

Strategy	Key Anchor Point(s)	Exemplars	Fit with Process Data Complexity	Specific Data Needs	“Good Theory” Dimensions (Weick)	Form of Sensemaking
Narrative strategy	Time	Chandler (1964) Bartunek (1984) Pettigrew (1985)	Fits with ambiguous boundaries, variable temporal embeddedness, and eclecticism.	One or few rich cases. Can be helped by comparison.	High on <i>accuracy</i> . Lower on <i>simplicity</i> and <i>generality</i> .	Stories, meanings, mechanisms
Quantification strategy	Events, outcomes	Garud & Van de Ven (1992) Van de Ven & Polley (1992)	Focuses on “events” and their characteristics. Eschews ambiguity.	Needs many similar events for statistical analysis: one or few dense cases is best.	High <i>simplicity</i> , potentially high <i>generality</i> , modest <i>accuracy</i> (abstraction from original data).	Patterns, mechanisms
Alternate templates strategy	Theories	Allison (1971) Markus (1983) Pinfield (1986) Collis (1991)	Adaptable to various kinds of complexity. Different templates capture different elements.	One case is enough. Degrees of freedom come from multiple templates.	Each theory can be <i>simple</i> and <i>general</i> . Together, they offer <i>accuracy</i> , but <i>simplicity</i> and <i>generality</i> disappear with theory integration.	Mechanisms
Grounded theory strategy	Incidents (units of text) Categories	Sutton (1987) Isabella (1990) Gioia, Thomas, Clark, & Chittipeddi (1994)	Adapts well to eclectic data and ambiguity. May miss broad high-level patterns.	Needs detail on many similar incidences. Could be different processes or individual-level analysis of one case.	High on <i>accuracy</i> , moderate <i>simplicity</i> . May be difficult to go from substantive theory to more <i>general</i> level.	Meanings, patterns
Visual mapping strategy	Events, orderings	Meyer (1984, 1991) Nutt (1984, 1993) Langley & Truax (1994)	Deals well with time, relationships, etc. Less good for emotions and interpretations.	Needs several cases in moderate level of detail to begin generating patterns (5–10 or more).	Moderate levels of <i>accuracy</i> , <i>simplicity</i> , and <i>generality</i> . Not necessarily good at detecting mechanisms.	Patterns
Temporal bracketing strategy	Phases	Barley (1986) Denis, Langley, & Cazale (1996) Doz (1996)	Can deal with eclectic data, but needs clear temporal breakpoints to define phases.	One or two detailed cases is sufficient if processes have several phases used for replication.	<i>Accuracy</i> depends on adequacy of temporal decomposition. Moderate <i>simplicity</i> and <i>generality</i> .	Mechanisms
Synthetic strategy	Processes (e.g., decisions, change efforts, new products)	Eisenhardt (1989a; with Bourgeois, 1988) Meyer & Goes (1988)	Needs clear process boundaries to create measures. Compresses events into typical sequences.	Needs enough cases (5+) to generate convincing relationships. Moderate level of detail needed for internal validity.	Modest <i>accuracy</i> (but much better than questionnaire research). Can produce <i>simple</i> and moderately <i>general</i> theories.	Prediction

^a Note that the entries in this table are indicative only. There is obviously considerable variation amongst the research following each strategy.

Figure 12. Seven Strategies for Sensemaking (Langley 1999, p. 696)

These strategies are generic approaches, not step-by-step recipes, and can be combined to effectively answer a research question (Langley 1999). The choice of strategy has an impact on the accuracy (i.e. the closeness to original data) of the model or theory emerging from such process data. It also affects its generality (i.e. the range of situations to which the resulting

theory may be applicable) and simplicity (i.e. the number of elements or relationships in a theory). Moreover, different strategies have ‘different forms of sensemaking’. This means that they can detect different aspects of the studied phenomena, such as patterns in processes, underlying mechanisms, the meaning for involved people or prediction. Finally, different strategies have different data needs, ranging from one rich case for the narrative strategy, which aims to understand stories, meanings and mechanisms, to a large number of cases for the synthetic strategy, which aims to develop a predictive theory.

Out of the seven strategies, grounded theory and temporal bracketing appear to be the most suitable for this study. As discussed, grounded theory is already at the core of the research approach. As Langley (1999) confirms, grounded theory uses units of text and categories as anchor points and adapts well to eclectic data and ambiguity, which is likely to emerge in the complex case of AshokaHub. Furthermore, it requires data derived from numerous individual-level analyses of the AshokaHub case, which is provided by interviews and other sources such as netnography. As a result, the grounded theory strategy can highlight meanings and patterns in the data.

Grounded theory is then complemented with temporal bracketing. Temporal bracketing can deal with the eclectic data gathered in this study and allows the researcher to transform complex process data into discrete but connected blocks or phases (Langley 1999). It also allows the researcher to identify the underlying “driving process motors or mechanisms” (Langley 1999, p. 707) and thus complements the focus on meaning and patterns of grounded theory. Langley (1999) argues that such phases do not have any specific theoretical significance. Rather, they simply help structure the description of events into discrete phases within which there is a certain level of continuity in activities and between which there are certain discontinuities. According to Langley (1999, p. 703), this means that, within each phase, “the data are used to describe the processes as fairly stable or linearly evolving patterns”. Between phases, however, patterns may differ more significantly. As the temporal bracketing strategy moves from phase to phase, it also examines how the context affects the processes within a phase and what the consequences of these processes are on the future context in the following phase (Langley 1999). Together, the strategies of grounded theory and temporal bracketing thus promise to produce findings and eventually a model of high accuracy, moderate simplicity and moderate generality.

As the description of the AshokaHub case as well as the timeline in Figure 11 show, there are two natural breakpoints in the study of AshokaHub: the launch of AshokaHub and its relaunch 19 months later. This leads to three phases: the 6 months before the launch of AshokaHub (Phase 1); the 19 months following the launch (Phase 2); and the 10 months following the re-

launch (Phase 3). While there are certainly also other ways of bracketing the process data from this study, these three phases struck a reasonable balance between practical feasibility and the adherence to natural breakpoints. Given the need to analyse three different user groups in each phase, more than three phases could have made the analysis unduly complex. Moreover, the findings that emerged from the analysis confirmed the adequacy of the three phases because they showed significant differences in activity patterns and perceived meanings across the three phases.

PART II

The following five chapters present the results of this study along the phases defined in the previous chapter. Chapter 5 examines prospective users' perceptions before the launch of AshokaHub (Phase 1). This serves as a characterisation of the starting conditions of the AshokaHub OC. Chapter 6 then analyses the changes observed in the context and platform unfolding on AshokaHub over the 19 months following the launch (Phase 2) and in the first year following the re-launch (Phase 3). This serves as background information to the analyses of how the activity and perceptions of the three user groups evolved over time after the launch. These three analyses follow in Chapter 7 (transactional users), Chapter 8 (community builder users) and Chapter 9 (curators). Together, these chapters illustrate how the nascent AshokaHub online community evolved and what the influences were on its evolution.

CHAPTER 5: ANALYSIS OF PERCEPTIONS – PRE-LAUNCH

Before the official launch of AshokaHub, prospective users could access a BETA version of the platform and see screenshots of the platform in an introductory video. In the initial set of interviews conducted in this period, transactional users and community builder users reported on how and why they saw themselves using AshokaHub along with their views on what contextual and platform-related characteristics might influence their use and perception of AshokaHub. Although some differences shine through, the findings suggest fairly similar views among both groups of Fellows in particular regarding the perceived affordances, potential constraints for actualising these affordances and general interests or reasons for using AshokaHub.

From the data two high level categories emerge. The first relates to interviewees' observations about contextual characteristics that are relevant for understanding their perceptions and use of AshokaHub. The second relates to the frames that interviewees used to generally make sense of AshokaHub as well as their perceived affordances.

Context-level Findings

On the context level, transactional users and community builder users demonstrated more differences in their perceptions than similarities. However, one thing that a significant number of users from both groups felt similarly about is the perception of a global Ashoka community. These users felt that before AshokaHub was launched there was a community among Ashoka Fellows, a feeling of togetherness and a respect for other Fellows, even though most Fellows did not know each other personally.

In terms of differences then, what emerged on the context level was a tendency for transactional users to focus on themselves rather than the community of other Fellows. Transactional users were more likely to identify barriers to use. Even though some of them did acknowledge the existence of a global Ashoka community, a majority claimed the opposite, often commenting that there was in fact not one global Ashoka community but rather many local ones. This, in turn, could make it difficult to establish a global community as most activity happened on a local level. Although community builder users did bring up barriers as well, and namely the need to integrate Ashoka communities and activities with AshokaHub, their intent, again, appeared more positive: to put AshokaHub at the core of the Ashoka experience.

Moreover, transactional users tended to expect certain external support from Ashoka. While both user groups brought up themes about Ashoka communities and practices in local, regional or global settings and how they related to the potential success of AshokaHub, transactional users again appeared more focused than community builder users on what Ashoka staff and AshokaHub should do to make the platform work for them rather than what they could do themselves. Most importantly, they argued that Ashoka curators were needed to drive activity and connect users on AshokaHub.

The second concept that emerged regarding contextual characteristics that influence the perceptions of AshokaHub related to being part of and using a comprehensive landscape of OCs when joining a new OC. Being invested in such existing communities and their practices appeared to make Fellows perceive AshokaHub in relation to their existing landscapes. Compared to later phases, this theme was rudimentary in the first phase but revealed that transactional users expected AshokaHub to integrate with their existing OC landscapes. In particular, they expected content and activity to be pulled from and pushed to other OCs such as Facebook.

Level	Category	Concept	Illustrative quotes
Context	Inconsistent views on existence of global Ashoka community		<p><i>It's a very close community. Being an Ashoka Fellow itself is already identifying. [...] There is already a good coherence within the community.</i></p> <p><i>There is great respect. (Ashoka Fellow, India)</i></p> <p><i>I think it's possible to create a global a community.</i></p> <p><i>But you need to link physical communities with the Hub as the one platform. The Hub cannot be a parallel thing. (Ashoka Fellow, India)</i></p> <p><i>Ashoka people are already a community. To complement the whole thing with an online tool makes a lot of sense. (Ashoka Fellow, Germany)</i></p> <p><i>There is no sense of community at the moment. (Ashoka Fellow, Spain)</i></p> <p><i>Communities are local. (Ashoka Fellow, Canada)</i></p>
	Transactional users' self-focus	Expectation of external support	<p><i>There must be people who dynamise the Hub network. A lot of Fellows don't have time. The Hub competes for the Fellows' time. We need community managers, professionals! (Ashoka Fellow, Spain)</i></p> <p><i>A real contact is my requirement before I start messaging other people. Ashoka should introduce us! There should be a person for that. (Ashoka Fellow, Germany)</i></p>
		Expectation of integration with existing OC landscapes	<p><i>It should all be integrated. When I post a YouTube video, it should also appear on the Hub. (Ashoka Fellow, Germany)</i></p> <p><i>AshokaHub should integrate with Facebook.</i></p> <p><i>Facebook and Twitter posts can be pulled into AshokaHub. (Ashoka Fellow, USA)</i></p>

Table 4: Phase 1 - Context-level findings

Community-level Findings

At the community level, the data analysis revealed two major categories. The first category is ‘frames’, which relates to the Fellows’ overarching framing and conceptualisation of AshokaHub, including their interests in contributing to AshokaHub, their perceptions of the nature of the OC platform and their perceived constraints, i.e. activities that they would like to perform on AshokaHub but which AshokaHub does not, in their view, afford. The second category, ‘affordances’, relates to the action possibilities and opportunities perceived and actualised by Fellows in relation to AshokaHub and the inhibitors perceived for such actualisation.

Consistent overall framing of AshokaHub across user types

Despite the more salient differences in perception regarding contextual characteristics, transactional users and community builder users appeared to have fairly similar perceptions regarding AshokaHub itself, their reasons for using it and their perceptions of action possibilities.

Fellows from both groups made similar observations regarding their evaluation and expected use of AshokaHub. Firstly, Fellows had predominantly positive perceptions of AshokaHub. Even though, of course, Fellows refrained from making final assessments of AshokaHub because it had not yet been officially launched, their perceptions were positive rather than sceptical and negative perceptions did not appear at all. It appeared that Fellows felt that a platform such as AshokaHub was indeed needed and what they saw in the beta version and screenshots inspired their confidence. Fellows seemingly had such strong belief in AshokaHub that they anticipated using it regularly, if not daily. This is even more telling as Fellows emphasised their general lack of time, and AshokaHub, of course, competed with existing communication and collaboration practices and platforms.

Such use of AshokaHub was, however, anticipated not to happen “everyone with everyone” (Ashoka Fellow, Spain) but rather in sub-communities. These small communities or oddly designed groups of people were anticipated to form around a geographical area or similar interests across geographical boundaries. As a result, Fellows considered it unlikely that all Fellows would engage in the wider community and with everyone but rather in one or several more focused, smaller communities within AshokaHub. Hence, the idea of a global community did not seem to imply a community where everyone would be talking to everyone. Rather, a

sense of globality would be achieved through a constellation of smaller communities and groups that connect Fellows from different geographies around similar interests.

Despite their generally positive perceptions of AshokaHub, Fellows already had ideas about what should be done differently. Both groups agreed that AshokaHub lacked the ability to collaborate with external people and organisations. All users agreed that some form of opening up to external individuals and organisations was needed to make the platform more useful to them, for instance, to be able to collaborate with more external partners, find new opportunities or access the “experience of others, e.g. funders and companies” (Ashoka Fellow, Canada). Some Fellows had only slight reservations regarding opening up completely and not maintaining a private space for Fellows as this could mean that “inside Ashoka talk would disappear” (Ashoka Fellow, USA). As a solution, they suggested having different areas of AshokaHub that were accessible to external and Ashoka-related internal users and private areas that were accessible only to internal users. In this sense, the lack of ability to connect with external individuals and organisations was perceived as a constraint by all Fellows because it was something that Fellows wanted to do on AshokaHub but that the underlying platform did not allow.

Shared interests across user types

Fellows from both groups also had similar views on why they would contribute to AshokaHub. Among both groups, interests relating to altruism, social identification and social exchange could be observed. These interests could also be seen as the goals that users tried to achieve on AshokaHub. Table 5 gives an overview of the average agreement rates of the two groups on different potential interests. These are the results of the rating exercise that was conducted with interviewees based on motivations for contribution found in the OC literature. As discussed in the methods section, these quantitative results were not used for statistical analyses. Rather, they were only used to get a more comprehensive view of the interviewees’ motivations and ask more probing and specific questions. Values above 3.0 are considered relevant and values with differences equal to or less than 1.0 are considered to be similar.

Observed interests (1 = low agreement; 5 = high agreement; average values)	Community builder user	Transactional user	Both groups
Participation will enhance my reputation in the AshokaHub network	2.40	3.17	2.82
I enjoy helping others	3.20	4.20	3.70
I already have a close ‘electronic’ relationship with these people, i.e. I’m already connected to or in communication with them on the AshokaHub	2.40	1.75	2.11
I have a high level of expertise and tenure in my field of work	4.60	3.40	4.00
I feel a high level of commitment to a sub-group of AshokaHub users with whom I share the same ‘field of work’	4.20	3.50	3.89
I feel a high level of commitment to a sub-group of AshokaHub users with whom I share the same ‘target population’	3.20	2.50	2.89
I feel a high level of commitment to a sub-group of AshokaHub users with whom I share the same ‘location’	2.40	2.33	2.38
I feel a high level of commitment to all AshokaHub users because we all belong to the Ashoka community	4.80	4.50	4.67
I feel a high level of commitment to all AshokaHub users because, independently of Ashoka, we all want to make the world a better place and I want to help them achieve that	4.60	4.25	4.44
I trust that if I help other AshokaHub users, they will also help me	2.40	4.00	3.20
Participation will provide me with ‘strategic’ resources (e.g. access to funding or partnerships)	3.60	4.40	4.00

Table 5: Interests

Altruistic interests, as captured by “I enjoy helping others”, thus emerged as relevant and similar for both groups. Both groups appeared to enjoy helping other Fellows, meaning reaching out to others and offering their advice or resources to help them rather than focusing on immediately advancing their own, private interests.

Interests related to social identification, as captured by “I feel a high level of commitment to a sub-group of AshokaHub users with whom I share the same ‘field of work’”, “I feel a high level of commitment to all AshokaHub users because we all belong to the Ashoka community” and “I feel a high level of commitment to all AshokaHub users because, independently of Ashoka, we all want to make the world a better place and I want to help them achieve that”, emerged as relevant and similar as well. What transpired from the interviews was genuine excitement about,

trust in and identification with other Ashoka Fellows and social entrepreneurs. Transactional users and community builder users often spoke of “we” and a joint goal of making the world better through their ventures. Less salient was the additional notion of identifying with Fellows from a particular field of work such as education or human rights. Some Fellows felt “a strong affinity to people who work in the same area” (Ashoka Fellow, India).

Finally, interests related to social exchange, as captured by “Participation will provide me with ‘strategic’ resources (e.g. access to funding or partnerships)” emerged as relevant and similar for both groups. Fellows from both groups aimed to obtain resources through social exchange: they expected resources of some kind and were willing to offer their participation and contribution in return. Such resources were mainly intangible, such as access, contacts or knowledge and Fellows trying to “bring in enough resources to fulfil [their] mission” (Ashoka Fellow, USA). These interests were governed by an investment-and-return logic, whereby Fellows chose their level of engagement based on their expected return. Such investment-and-return logic was particularly salient for Fellows that considered their ventures to be businesses and that needed to be very prudent about their use of funding, time and other resources.

Given the themes that emerged in the later phases, the results regarding location (“I feel a high level of commitment to a sub-group of AshokaHub users with whom I share the same ‘location’”) were surprising. While location-related interests, i.e. being able to connect with Fellows from the same region with whom one might already have established collaborations or social ties, became very important in the later phases, it did not emerge as such here. Even though some Fellows conceded that Fellows work “very locally” (Ashoka Fellow, Spain), this did not seem to translate into the realisation that local collaboration would be most beneficial. Instead, Fellows appeared thrilled by the prospect of collaboration with other “global Fellows” (Ashoka Fellow, Costa Rica).

Differences in interests across user types

Despite their similarities, Fellows from both groups had different views on why they would contribute to AshokaHub. The first observation from both the table and the interviews is that building one’s reputation, as expressed by ‘Participation will enhance my reputation in the AshokaHub network’, was only relevant for transactional users. While community builder users did not mention this interest at all, transactional users appeared to be more business-minded in the sense that they saw reputation building both within and beyond the Ashoka network as a way of securing necessary resources for their own ventures.

Similarly, reciprocity, as expressed by ‘I trust that if I help other AshokaHub users, they will also help me’, was important for transactional users but not to community builder users. Again, this adds to the interpretation that transactional users approached their decision-making regarding engagement with AshokaHub with more of an investment-and-return logic, where they expected something back from their investment in AshokaHub.

Community builder users, by contrast, appeared more willing to engage with AshokaHub without expecting that someone would help them in return; they appeared to build on their fundamental trust in other Fellows that at some point they would definitely benefit from AshokaHub. This is surprising given that both groups felt that they enjoyed helping others and transactional users felt this the most strongly. Given that this enjoyment of helping others did not reappear as strongly for transactional users in the later phases but the previously discussed ‘investment-and-return’ logic did re-appear, one can speculate that this high value for transactional users could have been driven by their overly positive expectations of how other Fellows would reciprocate if they were helped.

This is in line with the finding that community builder users felt more committed towards certain groups of Fellows and social entrepreneurs more generally. While it was discussed earlier that commitment relating to a group of Fellows or social entrepreneurs based on their location was less relevant for both groups, it appeared that, overall, community builder users felt more commitment to others based on what they did or who they were. Commitment-related values were significantly higher for community builder users than for transactional users and in terms of commitment regarding people who shared the same target population, the value was arguably relevant for community builder users and irrelevant for transactional users. This ties in well with findings from later phases regarding social identification as an interest for Fellows. Community builder users appeared more likely to feel a commitment to and identify with a group of people to which they thought they belonged. While in this first phase transactional users appeared to be driven by identification to some extent, this interest practically disappeared in later phases.

Shared perception of affordances

Given the similarities in Fellows’ frames, i.e. in their views on the nature of the OC platform, constraints and interests for using AshokaHub, it seems fitting that the action possibilities that Fellows perceived on AshokaHub were also very similar. All five perceived affordances that emerged from the data were shared by both groups. The first affordance, ‘Meeting other Fellows’, referred to finding, connecting with and getting to know other Fellows. As mentioned

before, the notion of similarity regarding geographical location or topic was very important here. Most Fellows from both groups anticipated wanting to meet Fellows who lived in the same region or worked on similar topics. It was through this selective connecting and engagement that the previously discussed multitude of sub-communities within AshokaHub could emerge.

The second affordance was ‘Discussing and sharing knowledge with other Fellows’. This affordance relates to actively contributing knowledge, which may be included in posts, documents or other types of content, as well as discussing certain topics on the platform with others. Examples of such knowledge were best practice, tips and hints and “development and usage methodologies” (Ashoka Fellow, India) but also responses to questions posted by others. Again, Fellows wanted to identify “commonalities” (Ashoka Fellow, Germany) before sharing knowledge.

The third affordance was ‘Collaborating on venture activities with other Fellows’. On the one hand, this affordance relates to collaborating on a more operational level with other Fellows to increase “impact” (Ashoka Fellow, Canada), obtain “economies of scale” (Ashoka Fellow, USA) and create “synergies” (Ashoka Fellow, India). This is achieved by sharing clients, projects and distribution channels. On the other hand, this affordance relates to collaborating on a more strategic level with other Fellows and solving problems together that apply to a Fellow’s venture.

The fourth affordance was ‘Driving open source innovation for social issues’. Some Fellows, although not all, from both groups saw this to be a more radical affordance. The difference from the previous affordances is that Fellows did not want to collaborate on making their own ventures more effective or efficient or just share knowledge and resources ad-hoc and in an on-demand manner. Instead, this affordance assumed that Fellows jointly identified a global issue such as “climate change” (Ashoka Fellow, India) or ending “analphabetism” (Ashoka Fellow, Spain) and then collaborated on a joint project to tackle this issue in an open and global manner on AshokaHub. In this way, Fellows thought they would “build something together” (Ashoka Fellow, Germany) and “create a consensus globally” (Ashoka Fellow, India).

The final affordance was ‘Obtaining resources and knowledge for own social venture’. This affordance predominantly relates to obtaining information and knowledge including, for example, more general “best practices and worst practices” (Ashoka Fellow, USA) or very specific “information on how to make ethical decisions” (Ashoka Fellow, South Africa) and “information that Ashoka has collected, including facts and figures (e.g. how many people are dying according to whom, how many women are abused)” (Ashoka Fellow, India). In addition to information and knowledge, Fellows mentioned resources more generally as something that

they would like to obtain from AshokaHub. Such resources included “contacts” (Ashoka Fellow, Costa Rica), “help” (Ashoka Fellow, Spain) and “funding” (Ashoka Fellow, Spain). Again, Fellows emphasised the need to obtain resources and knowledge mainly from Fellows who were in the “same field of work” (Ashoka Fellow, Spain) or have “similarity to [their] activities” (Ashoka Fellow, India).

Shared perception of actualisation inhibitors

Fellows often talked about action possibilities on AshokaHub in this way: ‘I know I can do this activity on AshokaHub to achieve a goal but...’ What emerged from these observations was the notion that although Fellows perceived affordances, there was something that held them back and prevented them from ‘actualising’ these affordances. While the two groups saw different inhibitors, they did agree on the inhibitor mentioned most often: lack of time. Ashoka Fellows are leading social entrepreneurs in their fields and appear to be exceptionally busy people. Even supposedly transactional users said they were “working 80 hours a week, at a shoe-string” (Ashoka Fellow, USA). The limited amount or complete lack of spare time that Fellows had implied that AshokaHub competed for the Fellows’ time with other collaboration activities and platforms. If AshokaHub did not convince Fellows of its value vis-à-vis these alternatives, then Fellows might decide not to use AshokaHub as often or at all, which some Fellows saw as a “problem” for AshokaHub (Ashoka Fellow, Spain). The Fellows’ lack of time appeared to raise a threshold of minimum value that Fellows needed to perceive AshokaHub as delivering before they actively engaged with it.

Differences in perception of actualisation inhibitors

Despite this similarity, it should be noted that transactional users were more likely to perceive lack of time as an issue. One could argue that their ‘investment-and-return’ logic, which led them to view their time as a resource investment that needed to produce a return, was inherent in this perceived inhibitor. Transactional users perceived an additional inhibitor, the ‘complexity of use’ compared to other platforms. Even though not all transactional users recognised this inhibitor, it was one that became more salient in this group of users in the following phases. Four things are particularly characteristic of this inhibitor. Firstly, transactional users argued that AshokaHub was in some way deficient, which made it difficult to use. In short: it was not the Fellows’ fault but the platform’s. Secondly, this deficiency may have been enough to cause the Fellows to stop using AshokaHub. It is important to note,

however, that the ‘threshold’ for dropping out appeared to be much lower for transactional users than for community builder users, making transactional users more likely to drop out over a seemingly small issue such as a cumbersome login process. Thirdly, the perception of deficiency was often relative to an existing technology or OC that the Fellow was already using and used to. This other technology or OC was seen as superior to AshokaHub and the yardstick by which AshokaHub was evaluated. Finally, this and other inhibitors were often viewed in relation to Fellows’ lack of time. The logic was that if Fellows had more time then complexity would not be such an issue, but because Fellows had very little time requirements regarding complexity and other features were stricter.

In contrast, community builder users reported a different inhibitor, which related to uncertainty about how best to use the platform’s functionality. Community builder users appeared keen to use AshokaHub and saw a number of action possibilities but realised that they needed help or training to actualise these affordances and hence get the most out of AshokaHub. This inhibitor differed from the transactional users’ inhibitor of perceived complexity. It did not assume that AshokaHub was deficient and needed to be changed to fit personal preferences – and if that was not done, the Fellow would leave. Rather, it was the other way around: Community builder users appeared to perceive AshokaHub as valuable per se and their own ways of working with it as deficient and were willing to invest their time in training or discussions to make AshokaHub work for them.

Level	Category	Concept	Illustrative quotes
Community	Consistent overall framing of AshokaHub across user types	Positive perceptions of AshokaHub	<i>You guys have really got something. This is a powerful tool. (Ashoka Fellow, South Africa)</i> <i>I have the feeling that the Hub can be a useful tool, also internationally. (Ashoka Fellow, Spain)</i> <i>I would like to use it on a daily basis. (Ashoka Fellow, USA)</i>
		AshokaHub as constellation of communities	<i>I would see it as mostly small communities I communicate with often and a single community I use when my small communities don't have the answer. (Ashoka Fellow, USA)</i> <i>It'll be very oddly designed groups of people collaborating, not necessarily all of the Ashoka Fellows. (Ashoka Fellow, South Africa)</i>
		AshokaHub as a connector	<i>The AshokaHub will be the tool to form a community. (Ashoka Fellow, Spain)</i> <i>The forming of communities is quite a complex process. [...] I do feel that something is developing that we're sharing regionally and community formation is very slow. Hub makes it global and faster. (Ashoka Fellow, India)</i> <i>I want to participate together with the Ashoka Fellows who are in the same field of work so I can deepen my understanding, find them and build a community. (Ashoka Fellow, Spain)</i>
		No ability to collaborate with	<i>If we don't count on companies and governments, we can't solve any problems. The Ashoka Fellows have a role to play as entrepreneurs and</i>

	external organisations	<i>drivers. AshokaHub should be a place where other external people can join in. [...] We have to open up otherwise we'll die. (Ashoka Fellow, Spain)</i> <i>I see the Hub as a bowl of spaghetti made up of Fellows and staff only, but with different windows or kiosks on the side, each opening into a separate forum with other types of non-Fellow stakeholders. [...] It would be great to have those [external] people directly at my disposal without gatekeepers. (Ashoka Fellow, India)</i>
Shared interests across user types	Altruistic interests	<i>When I see another Fellow, I'd like to help him or her. (Ashoka Fellow, Spain)</i> <i>I don't expect others to help me. (Ashoka Fellow, India)</i>
	Social identification interests	<i>The full extent of the organisation is so exciting. [...] We all go through the same processes and challenges that we all face. (Ashoka Fellow, Canada)</i> <i>I think I would be happy to interact with anyone. If everyone is an Ashoka Fellow, I trust them. The Ashoka selection process is fanatical. [...] You feel identified with what the others are doing. (Ashoka Fellow, Costa Rica)</i>
	Social exchange interests	<i>It depends on how much time I have. If it's an off-the-shelf need for a triple bottom line, I can just send that. If it takes more time, then there must be a lot of synergy with what I'm doing at the moment. (Ashoka Fellow, India)</i> <i>We are a business! We need to function like a business. We need to bring in enough resources to fulfil our mission. We are competing with NGOs and companies in the same space. We're very rigorous around financial reporting, money, other reporting. What we do is not pure philanthropy. I would use the Hub in that way. (Ashoka Fellow, USA)</i>
Differences in interests across user types	Transactional users' interest in building own reputation	<i>Ashoka is a brand that's associated with you but you have to work for your reputation among Ashoka Fellows. (Ashoka Fellow, Spain)</i>
	Community-builder users' commitment to the community	<i>It's a very close community. Being an Ashoka Fellow itself is already identifying. (Ashoka Fellow, India)</i>
Shared perception of affordances	Meeting other Fellows	<i>It's interesting to get to know people who share your topic – no matter where they are. [...] I'm hoping for more bridge-building. (Ashoka Fellow, Germany)</i> <i>I had this dream to use this Hub to connect with all Indian Ashoka Fellows. (Ashoka Fellow, India)</i>
	Discussing and sharing knowledge with other Fellows	<i>It does offer the possibility that we can share best practices. (Ashoka Fellow, USA)</i> <i>Four Fellows of us formed a mobile group to create movement and help others on AshokaHub on how to use mobile services. (Ashoka Fellow, India)</i>
	Collaborating on venture activities with other Fellows	<i>I'd like to establish links between similar projects to support them. Fellow [X] has incorporated my service learning approach in her project. And I distribute and advertise her project. (Ashoka Fellow, Spain)</i> <i>More strategic decisions and needs would be something to discover in the AshokaHub. (Ashoka Fellow, Costa Rica)</i>
	Driving open source innovation for social issues	<i>I add in a piece and put it back on the Hub. A bit of open source would be great! (Ashoka Fellow, USA)</i> <i>Designing solutions should be open source! Without the Hub the whole thing doesn't make sense! (Ashoka Fellow, India)</i>
	Obtaining resources and knowledge for own social venture	<i>I think I could use the Hub to gather intelligence and other information and best practices. (Ashoka Fellow, USA)</i> <i>At the beginning knowledge is probably most useful but then international contacts to spread model and exchange opportunities. (Ashoka Fellow, Costa Rica)</i>
Shared perception of actualisation inhibitors	Lack of time as key inhibitor	<i>A lot of Fellows don't have time. The Hub competes for the Fellows' time. (Ashoka Fellow, Spain)</i> <i>Some Fellows spend a lot of time going through this. I don't really have time to go through a lot of knowledge. (Ashoka Fellow, South Africa)</i>

Differences in perception of actualisation inhibitors	Transactional users' perception of complexity of use	<i>I'm so busy! I've never been back on the Hub. It has to be easier for us to use. We are 40 people in our team and a lot of it is virtual. We had them download Dropbox and you don't have to login etc. [...] Easy access into the Hub is important, not having to log in again – even if it's only one more login. (Ashoka Fellow, Canada)</i>
	Community builder users' uncertainty of best use	<i>Can someone guide me on how to use it better? (Ashoka Fellow, India)</i>

Table 6: Phase 1 - Community-level findings

Chapter Summary

Although differences shone through, especially at the context level, between transactional users and community builder users in this first phase, the findings suggested fairly similar views overall. This applied in particular to the perceived affordances, potential constraints for actualising these affordances and general interests or reasons for using AshokaHub.

It appeared that in this first phase before the launch there were high expectations for AshokaHub among both user groups. The observed barriers or inhibitors did not seem to have a significant impact on the perceived value and affordances of AshokaHub. After all, the platform was not yet ready and it appeared that the assumption was that these barriers and inhibitors would no longer apply once AshokaHub was launched because appropriate solutions would have been found.

As the following chapters show, the reality of the launched platform and the activity that unfolded on it did not quite meet the high expectations of both user groups. Interestingly, however, transactional users and community builder users appeared to react differently to this development. While the former embarked on a slow trajectory ‘out of AshokaHub’, the latter embarked on a slow trajectory ‘into AshokaHub’. These broad trajectories, together with the trajectory of a new user group, the AshokaHub curators, characterised the OC dynamics that began to unfold in the second phase after the launch of AshokaHub. The next chapter looks in depth at the OC dynamics in the second phase and aims to uncover the underlying mechanisms.

CHAPTER 6: ANALYSIS OF CONTEXT AND PLATFORM CHANGES – POST-LAUNCH

After the launch of AshokaHub, Ashoka Fellows and staff were encouraged to join and started to explore the platform. However, this process was not accompanied by a large marketing or communication effort or a fully established team of curators across the world. Moreover, no changes were made to practices in local Ashoka offices and communities. Rather, Ashoka staff and Fellows started engaging with the platform in a fairly unplanned, trial-and-error fashion. At the end of the first 19 months, from August 2011 to February/March 2013, in which the initial high expectations were tested against the reality of the AshokaHub platform and its emergent community, AshokaHub had seen only limited activity. Most visibly, the extent of collaborative activity was much smaller than originally envisaged. Moreover, the three user groups of transactional users, community builder users and curators appeared to embark on different trajectories in terms of their perceived frames as well as their perceived and actualised affordances on AshokaHub.

This chapter looks at how the context of AshokaHub and the AshokaHub platform changed. The latter relates both to changes of the platform intended by its designers and the changes unfolding because of user activity.

Context: Local Ashoka Communities and Practices

When AshokaHub was launched, existing Ashoka communities and practices, such as local online collaboration groups, mailings lists or direct contact between Fellows and staff, did not change to facilitate or enhance collaboration on AshokaHub. Although the global Ashoka organisation was trying at the time to undergo a favourable culture shift, this had not yet significantly influenced practices and communities in local offices.

[The culture at Ashoka was] very much staff driven so we were always the ones reaching out the Fellows or the Fellows reach out only to us and not to other Fellows. It limits the sort of impact the network has and the value that Fellows in Ashoka can get from one other. [...] Ashoka is trying not to be a service provider and not to be staff-driven [anymore]. [...] What I think that has happened is Ashoka has been changing a lot over the last 5 or 7 years. It began from the sort of service provider [and moved] to a social entrepreneur network. [...] I think the work is still in progress. (AshokaHub curator, USA)

As the quote illustrates, Ashoka tried to move away from being a service provider to Fellows and towards an innovative network of social entrepreneurs with the goal of making “everyone a changemaker” (AshokaHub curator, USA). According to curators, in the past Ashoka was ‘giving’ all the time, i.e. supporting Fellows with stipends, opportunities, contacts and so forth and generally reaching out to them. Fellows were used to ‘receiving’ from Ashoka, and if they had questions or issues, they were used to simply contacting their local Ashoka offices directly. This appeared to have been the officially endorsed and practiced culture at Ashoka and within the Fellowship before the culture change efforts.

Despite leadership commitment and having already run for a number of years, this fundamental change in Ashoka’s culture appeared to still be incomplete and, considering the whole of Ashoka including its local offices, to be happening rather slowly. One reason for this slow progress may be the Fellows themselves, who “are not collaborators” (AshokaHub curator, USA); transactional users in particular, who were used to having direct and immediate contact with local Ashoka staff, may have been reluctant to give up this privileged setup.

After the re-launch, the central AshokaHub team sought to change the dynamics of AshokaHub and hence aimed to empower local curators to drive local change independently and partner with them in implementing bigger changes. Empowering local curators involved, for instance, creating spaces on AshokaHub (groups or communities) that they could take ownership of,

helping curators develop specific strategies for curating and getting Fellows on board with their space and equipping them with tools and resources (such as curator guides and tutorial videos). Partnering with local curators then meant establishing enthusiastic Fellows as ‘Hub champions’, who would drive activity from within the Fellowship by modelling ideal behaviour and activity within their groups and communities, championing AshokaHub at local, offline Ashoka events, and leveraging the new AshokaHub groups or communities features to build online spaces for existing networks within Ashoka

Platform: AshokaHub Platform Structure and Algorithms

At the platform level, four material aspects of the OC platform structure emerged as important after the launch. Firstly, the AshokaHub platform was one ‘mega-community’. It did not offer group functionality, although this is common in other OCs such as Facebook or LinkedIn. Rather, it followed the architectural approach of Twitter, where collaboration objects such as needs and offers were tagged and by following certain tags users were informed of activity in their respective realms of interest. Secondly, AshokaHub had a ‘transactional market’ architecture. Contributions to AshokaHub were mainly made through collaboration objects. However, this invited a bulletin-board or market logic, where users would look for offers and needs that could be fulfilled in a very transactional way. The AshokaHub platform was thus missing ‘personal’ and ‘synchronous’ elements, such as facilities for sharing photos or other personal information, a way of knowing who was online at a particular point in time and the ability to contact such a person instantly. Thirdly, AshokaHub did not have permeable boundaries. Access to the AshokaHub platform was limited to Fellows, Ashoka staff and other selected members. Moreover, the platform did not allow information to be pulled into AshokaHub from external sources, such as Facebook, and nothing from the inside, such as an interesting post, could be shared directly with parties outside AshokaHub. The lack of permeable boundaries made it difficult for Fellows to ‘blend’ and integrate AshokaHub into their current practices and thus caused Fellows to duplicate their efforts. Finally, help content on AshokaHub was limited. Although there was a short introductory video and some general descriptions of the collaboration objects and core mechanisms such as tagging, this material left a lot of room for uncertainty and different interpretations to the point of causing confusion as to how AshokaHub should be used.

Apart from the structure of the AshokaHub platform, which can be considered fairly static in nature, a second important element emerged from the data: the platform’s algorithms. In particular, this relates to the algorithms behind the AshokaHub weekly digest newsletter, the

overarching activity stream and the search algorithms. By and large, it is fair to say that these algorithms were not as sophisticated as those used by other OCs such as Facebook. The algorithm responsible for creating the digest newsletter email was rather simple and, arguably, too simple, as the platform-level findings in this chapter demonstrate. Below is a brief description of this algorithm.

We begin by aggregating all the activity that has happened over the past week.

From this set, for each user, we pick activities in the following order:

- 1. New user activations in the last week containing tags that the current user follows.*
- 2. NEONs created the last week containing tags that the current user follows.*
- 3. NEONs created in the last week by the users that the current user follows.*
- 4. Users that have been most active last week.*
- 5. NEONs that had the most activity happening on them last week.*

We then pick the top 7 items from this list and include that in the Email Digest for that user. (AshokaHub team member)

After the re-launch, in order to increase user engagement on AshokaHub, the AshokaHub's designers and developers changed the platform's structure in parallel to the changes to local Ashoka practices.

We should redefine AshokaHub from being a 'dynamic directory' to a 'community platform' with all the new platform features and strategic initiatives around curation.

(AshokaHub team member)

There were two major and some minor changes, which were driven by user feedback and the goal of making AshokaHub a 'community platform'. Firstly, the re-launched platform allowed curators to create 'nested communities'. This meant that they could create communities, for example, for East Africa, and create groups for all topics and purposes within these communities, for example, a group for all Fellows who shared a passion for creating social change using mobile technology. Within groups, curators could upload important documents and links. Users could send messages and post collaboration objects intended for just one group. Any collaboration items and comments posted to a group would then appear in the group's activity stream. For the first time, users were able to create a boundary 'around' certain activities and have a 'place' to go to.

Secondly, the platform now offered two additional collaboration objects: news and ideas. While both had the exact same fields and structure as the other collaboration objects, such as offers and needs, their purpose was different. Whereas offers and needs had a clear transactional feel to them as they created a market-like atmosphere, news and ideas were supposed to invite more ‘social’ or ‘informal’ activity. News collaboration objects allowed users to share a news item that they found interesting with other users, groups and communities. Ideas had a distinctly creative purpose: they allowed users to post an idea that they wanted to discuss with other Fellows, and others could then comment on it and create discussions that could develop the idea further.

Finally, minor changes included the implementation of an automatic translation functionality that automatically translated all content on AshokaHub into the native language of the user viewing the site. Moreover, it included a ‘share’ button that allowed users to share content on AshokaHub quickly with groups of other users.

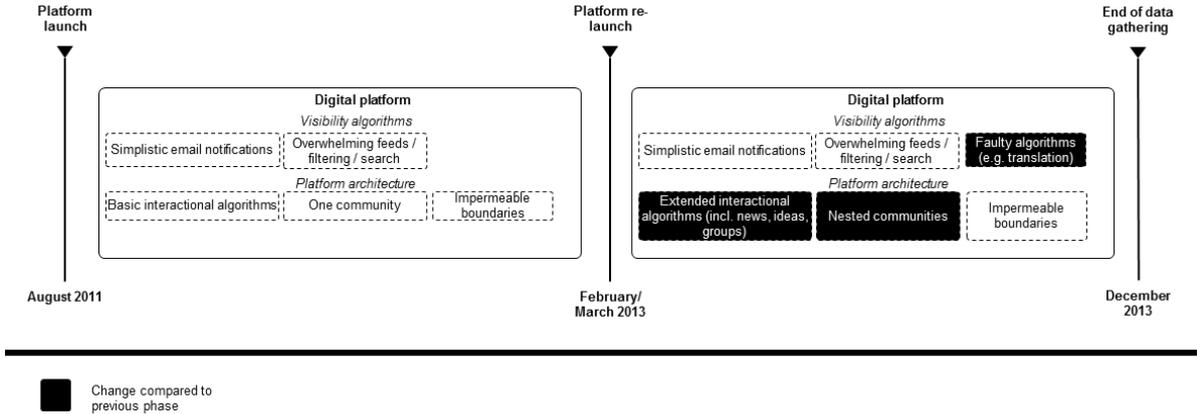


Figure 13. Overview of platform design changes

Platform: Analysis of Netnographic Observations and Platform Activity

After the launch in August 2011, Fellows, curators and a small group of other members could finally start using AshokaHub. This section analyses what these user groups did on AshokaHub after it was launched and then re-launched. The first section gives a high-level activity overview for the different groups. The second section digs deeper and looks at what kinds of activity members of the different groups conducted. Finally, the third section analyses the content of the traces that the groups' activities created on AshokaHub.

High-level Activity Overview

Although AshokaHub was made available immediately to all Ashoka Fellows (both transactional users and community builder users), curators and so-called Ashoka Support Network (ASN) members (who are an external group of industry experts and other advisors and are only included here for completeness), activity was very different across user groups. Table 7 gives a summary.

Phase 2 (19 months)				
	ASN member	Curator	Community builder user	Transactional user
Total population	393	588	2360	434
Users who had never logged in	310	162	1653	196
	79%	28%	70%	45%
Users with at least one login	83	426	707	238
Active contributors and consumers¹	1	56	30	11
	1%	13%	4%	5%
Active consumers only²	3	81	115	39
	4%	19%	16%	16%
Active contributors only³	1	10	11	3
	1%	2%	2%	1%
Mostly passive users⁴	78	279	551	185
	94%	65%	78%	78%
1 At least six active metric points and at least 21 passive metric points during this phase				
2 Up to five active metric points and at least 21 passive metric points during this phase				
3 At least six active metric points and up to 20 passive metric points during this phase				
4 Up to five active metric points and up to 20 passive metric points during this phase				

Table 7: Activity overview for Phase 2

This table can be seen as a funnel. The total user population is spread across the four groups. This total population is known because before AshokaHub was launched user logins were created for all existing Fellows, staff and ASN members.

The first insight is that not all users had logged in at least once. The proportion of users that had never logged on to AshokaHub was fairly high but differed by user group. While for curators the ‘no-show’ rate was fairly low at 28%, this rate was fairly high for community builder users (70%) and ASN members (79%). Transactional users were in between these groups, with a ‘no-show’ rate of 45%.

The second insight is that three usage patterns emerged. ASN members were largely mostly passive users and thus negligible contributors to or shapers of AshokaHub. By contrast, curators had a relatively high percentage of active contributors and consumers (13%) and active consumers only (19%). This user group was the most active and significantly shaped everything that happened on AshokaHub. The final pattern can be seen among Fellows. Interestingly, community builder users and transactional users showed almost identical usage patterns where a very small minority (4% and 5%, respectively) were active contributors and consumers and a significantly larger proportion (19% and 16%, respectively) were at least active consumers. The remaining users were passive. This final pattern – where a very small percentage of users is responsible for the most activity – appears to be normal for OC activity. For instance, Wasko et al. (2009) identified a critical mass of users that amounted to only 4% of an OC’s participants. This also suggests, however, that the fairly active usage pattern of curators is unusual and may be driven by different dynamics and motivations than those of typical Fellows.

After the re-launch in February/March 2013, Fellows, curators and ASN members had access to the new functionality on AshokaHub and were supported by a gradually changing context. The high-level activity analysis indicated that community builder users caught up with Ashoka curators in terms of their tendency to actively contribute to AshokaHub. This represents a significant increase on Phase 2 and made curators and community builder users the dominant contributors to AshokaHub. Transactional users, by contrast, did not increase their contribution activity. This development is shown in Figure 14.

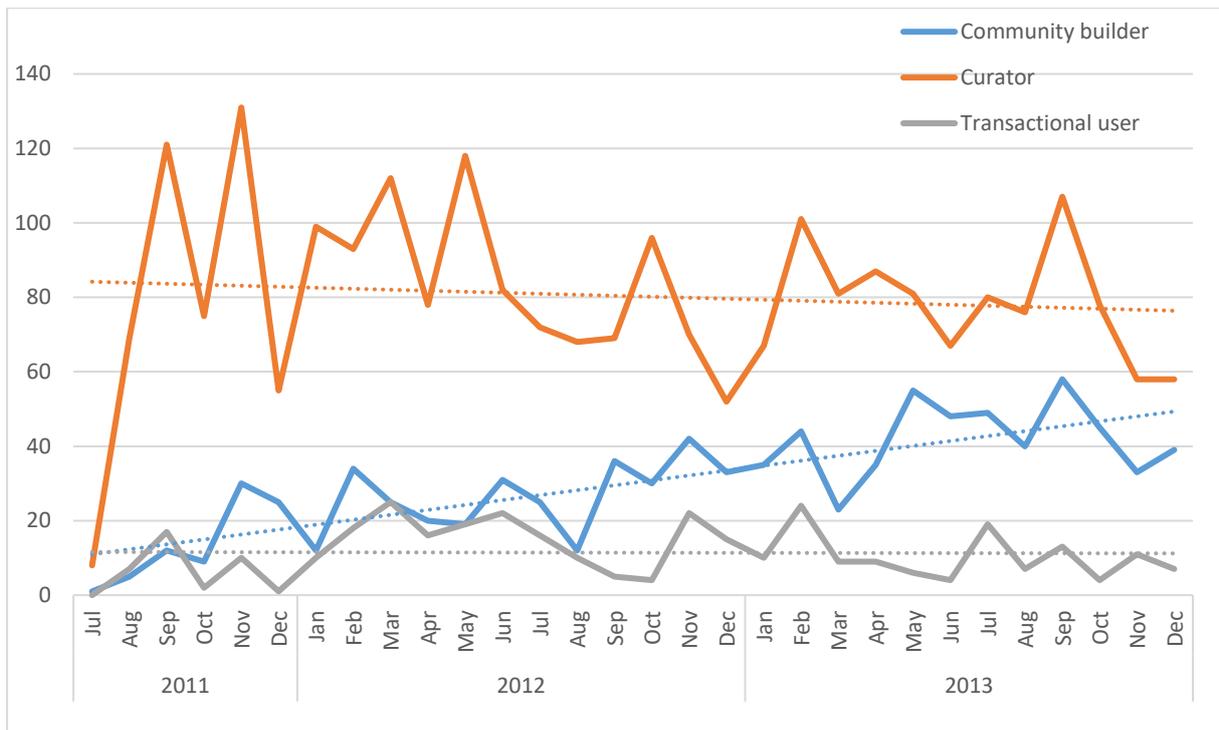


Figure 14. Development of active contributions over time

In relative terms, transactional users became the group with the greatest tendency to actively log on and read content but not to actually contribute. While in absolute terms there were still more community builder users that demonstrated this behaviour, this increase is indeed noteworthy. Overall, this meant that formerly completely passive users found their way onto AshokaHub more regularly even though they did not contribute to it. In Phase 3, ASN members remained a negligible user group in terms of their activity on AshokaHub. These findings are illustrated in Table 8.

Phase 3 (10 months)			
	Curator	Community builder user	Transactional user
Active contributors and consumers¹	38 9%	40 6%	1 0%
Active consumers only²	126 30%	207 29%	133 56%
Active contributors only³	5 1%	2 0%	0 0%
Mostly passive users⁴	257 60%	458 65%	104 44%
¹ At least six active metric points and at least 21 passive metric points during this phase ² Up to five active metric points and at least 21 passive metric points during this phase ³ At least six active metric points and up to 20 passive metric points during this phase ⁴ Up to five active metric points and up to 20 passive metric points during this phase			

Table 8: Activity overview for Phase 3

Detailed Analysis of Activity

When analysing these data in more detail, more insights emerged regarding the types and frequency of activity for the different user groups. When looking only at users that had at least one ‘active metric point’ (i.e. they created at least one collaboration object, comment or message), the analysis provides three insights. Firstly, it suggests that the usage patterns identified before, with ASN members being very passive and curators being very active, still holds. While ASN members had a low active metric point average, Curators had a high average. Secondly, these data suggest that despite having similar usage patterns overall, community builder users were significantly more active with 5.1 average metric points than transactional users with 3.3 average metric points. A comparison of the average number of logins supports this interpretation as it finds that community builder users logged in on average twice as often as transactional users. Thirdly, the analysis suggests that offers, comments and messages were by far the most used collaboration and content objects created on AshokaHub and their use was driven mainly by curators.

The final analysis regarding activity on AshokaHub focuses on commenting activity around certain types of collaboration objects and can thus be seen as an indicator of collaborative behaviour on AshokaHub (see Table 9).

Phase 2 (19 months)						
		ASN member	Cura-tor	Community builder user	Transactional user	Total¹
Needs	Number created by	2	67	79	39	187
	Percentage without comments					34.2%
	Number commented on by	4	109	47	19	123
	Number of comments	11	231	85	38	365
	Average number of comments	2.8	2.1	1.8	2.0	3.0
Offers	Number created by	0	795	59	22	876
	Percentage without comments					81.5%
	Number commented on by	0	129	104	20	162
	Number of comments	0	316	223	40	579
	Average number of comments	0.0	2.4	2.1	2.0	3.6
Events	Number created by	0	137	39	18	194
	Percentage without comments					73.7%
	Number commented on by	2	33	26	7	51
	Number of comments	2	55	49	9	115
	Average number of comments	1.0	1.7	1.9	1.3	2.3
News	Number created by	1	13	15	6	35
	Percentage without comments					65.7%
	Number commented on by	0	8	4	2	12
	Number of comments	0	13	7	3	23
	Average number of comments	0.0	1.6	1.8	1.5	1.9
Ideas	Number created by	0	1	1	0	2
	Percentage without comments					100.0%
	Number commented on by	0	0	0	0	0
	Number of comments	0	0	0	0	0
	Average number of comments	0.0	0.0	0.0	0.0	0.0

¹ The total "Number commented on by" is not equal to the sum of the fields to its left as different user groups could comment on the same collaboration object

Table 9: Overview of comments on collaboration objects

Most importantly, this analysis indicates that most collaboration objects were not commented on. Generally, users did not seem to see the need or opportunity to start and contribute to discussions around certain collaboration objects. As further analyses later in this chapter suggest, there may be a variety of reasons for this. Users may have simply led these discussions outside of AshokaHub via email or other means. Alternatively, they may not have needed to discuss anything in response to a collaboration object. Furthermore, users may not have known that discussions around collaboration objects were possible or expected by the AshokaHub team. Finally, users may not have had enough transparency regarding activity on AshokaHub and therefore may simply not have known that there was something worth discussing on AshokaHub. In sum, this suggests that AshokaHub was not yet a very collaborative space in Phase 2.

In addition, the analysis suggests that offers, while the collaboration object created the most often, attracted only very few comments compared to the other collaboration objects. It appears that users mainly saw offers and then either sent an email directly to the creator or, probably more commonly, followed the instructions in the offer, which often redirected the user to an external email address or website where the offered resource could be accessed. While needs were the only collaboration object where the majority of objects were commented on, these comments came predominantly from Curators, who appeared to want to ensure that Fellows' needs were addressed. This supports the earlier finding that AshokaHub was not yet a space for collaboration, especially for collaboration among Fellows.

When conducting the same analyses for the time after the re-launch, they revealed that while Ashoka curators and community builder users increased their activity significantly, ASN members and transactional users reduced their activity significantly. This is in line with the aforementioned findings. For community builder users, the significant increase in activity appeared to be due to both an increase in the number of active users and a significant rise in the average creation activity per user. For Ashoka curators, the increase in activity was indeed surprising as the number of active users dropped significantly. It appeared that a change occurred among these users whereby fewer but potentially more seriously engaged staff took on the official title of 'creator' and made AshokaHub part of their jobs, thus increasing the average creation activity per user.

Moreover, the analysis indicated that almost all collaboration objects and the commenting and messaging functionalities began to be used more frequently. This was driven mainly by

community builder users and, to a lesser extent, Ashoka curators. Two types of behaviour emerged here. For the needs and events collaboration objects as well as the commenting functionality, Ashoka curators' activity fell slightly while that of community builder users increased significantly. This could indicate that community builder users felt more ownership of AshokaHub and slowly became a second backbone of contribution behaviour on the platform. This is particularly important with regards to comments as these were often perceived as indicators of peer support and help. For the news and idea collaboration objects as well as the messaging functionality, the activity of both Ashoka curators and community builder users increased, potentially indicating their positive adoption of these types of functionality. Regarding the idea collaboration object, the per-user increase for community builder users was greater than for Ashoka curators; this potentially indicates that this collaboration object gave users the possibility of sharing and discussing their ideas, which some Fellows had noted was missing in Phase 2. Regarding the messaging functionality, the increase in use among community builder users was remarkable, especially compared to the very low activity figures for transactional users. This appears to indicate that community builder users had much less of a problem using another internal OC messaging system than transactional users, who had reported this as being a significant issue for them.

In addition, the analysis suggested that the use of the offer collaboration object stagnated and offers continued to be used almost exclusively by Ashoka curators. Despite the small dips in creation counts across user groups, Ashoka curators remained by far the most frequent creators of offers and community builder users were the second-largest creator. This indicates that, for some reason, Fellows did not see action possibilities with offers.

A further analysis looked at how different user groups commented on different collaboration objects on AshokaHub. The results are shown in Table 10.

Phase 3 (10 months)							
		ASN member	Curator	Community builder user	Transactional user	Total¹	
Needs	Number created by	0	25	55	12	92	
	Percentage without comments						33.7%
	Number commented on by	0	51	29	6	61	
Offers	Number created by	0	379	29	7	415	
	Percentage without comments						71.8%
	Number commented on by	0	89	62	9	117	
Events	Number created by	0	38	40	2	80	
	Percentage without comments						80.0%
	Number commented on by	0	7	13	1	16	
News	Number created by	0	38	49	11	98	
	Percentage without comments						74.5%
	Number commented on by	0	18	11	1	25	
Ideas	Number created by	0	5	16	0	21	
	Percentage without comments						47.6%
	Number commented on by	0	5	10	1	11	

¹ The total 'number commented on by' is not equal to the sum of the fields to its left as different user groups could comment on the same collaboration object

Table 10: Overview of comments on collaboration objects

This analysis indicated that little changed in terms of commenting behaviour around need collaboration objects, although community builder users still became slightly more active. The percentage of needs without comments remained stable at a low level and the distribution of user groups commenting on needs remained largely similar to that in Phase 2.

However, the analysis suggested that Ashoka curators and community builder users commented more on offers in Phase 3, driving down the percentage of offers without comments significantly. In addition, if they commented on an offer, community builder users commented much more frequently on that offer than the other user groups. This may indicate that community builder users potentially found the offers more interesting or were more likely to comment on them.

Furthermore, the analysis suggested that a significantly larger percentage of event and news collaboration objects were not commented on in Phase 3 than in Phase 2. Moreover, the average number of comments for these collaboration objects decreased. Overall, it appeared that these two collaboration objects were not considered worth commenting on, potentially because they could be viewed as simple, unidirectional, self-explanatory communication vehicles that the recipients did not feel the need to comment on.

Finally, the analysis indicated that the idea collaboration object drove more discussions and engagement among Fellows on AshokaHub. More than half of the ideas created were commented on and the number of comments per idea was relatively high compared to the other collaboration objects. Moreover, the main driving force behind these comments was the community builder user group and not Ashoka curators. This indicates that Fellow engagement and contribution activity, particularly for community builder users, became more likely at that point of AshokaHub's evolution, even without the guidance and contribution of Ashoka curators or transactional users.

Detailed Analysis of Created Content

In a final analysis of the netnographic and platform data, this study looked at samples of collaboration objects with relatively active discussions. The results of these analyses for Phase 2 are shown in Table 11 and Table 12.

Phase 2 (19 months)						
		Event	Need	News	Offer	Total
Number of studied collaboration objects		27	12	6	23	68
Collaboration objects – outcomes	Success		58.3%	83.3%	100.0%	52.9%
	Success – recipients' questions answered				65.2%	22.1%
	'More than needed' success		16.7%			2.9%
	Helpful contributions but unclear outcome		16.7%			2.9%
	No reply by collaboration object creator				13.0%	4.4%
Collaboration objects – use	Redirecting users away from AshokaHub to other means of communication				26.1%	8.8%
	Using an inappropriate collaboration object type			33.3%	17.4%	8.8%
Collaboration objects – contents	Asking for resources		75.0%	33.3%		16.2%
	Asking for resources for someone else		16.7%			2.9%
	Opportunity to obtain resources				47.8%	16.2%
	Opportunity to promote own venture				13.0%	4.4%
	Sharing news about own venture			50.0%		4.4%
	Opportunity to attend a non-Ashoka event	40.7%				16.2%
	Opportunity to attend an Ashoka event	14.8%				5.9%

Table 11: Overview of collaboration object outcomes, use and contents

Table 11 focuses on the outcomes, use and contents observed in the studied sample of collaboration objects. This analysis indicates that a little more than half of the studied collaboration objects could be classified as successes. Here, a success is defined as a situation where a user other than the creator of the collaboration object contributed information that the creator acknowledged as helpful and thanked the contributor for. For some collaboration objects there was even the situation where there were so many helpful responses that the creators had

to remove the collaboration object from AshokaHub. Below is the final comment by the transactional user who created a need for software developers.

Thanks for taking the time to reply, [X]! I had a call this morning with a developer team in London and this is now sorted. I'll pull down the request now. Good to know about your contact. I'll keep that in mind for future work. Hope all's well with you! (Ashoka Fellow, UK)

As the interviews presented later in this chapter show, however, for the most part AshokaHub users did not seem to know about such success stories.

Despite this positive finding regarding success on AshokaHub, the analysis also indicates that around a quarter of the created offers immediately pointed users to resources and offerings outside of AshokaHub, thus redirecting them to another website or OC or other form of technology altogether. This helps us understand the low comment rate on offers, as discussed above. Given that offers were the most frequently created collaboration object, this suggests that a significant proportion of collaboration potential was redirected out of AshokaHub. This may have played a role in the point argued above: that AshokaHub was not yet a space for collaboration, especially for collaboration among Fellows.

Moreover, the analysis suggests that some collaboration objects, such as news and offers, were used 'inappropriately'. Of course, from an interpretive standpoint there is no appropriate or inappropriate use of technology in absolute terms. What is meant here is that one type of collaboration object was used when another type of collaboration object was arguably intended by the developers. For instance, as can be seen from the table, the news collaboration object was used to ask for resources when the needs object would have been the appropriate choice. This hints at a theme that became salient in the interviews: some users felt uncertain about how to best use the AshokaHub functionality to achieve their goals. The need and offer objects in particular were mentioned as creating confusion.

Finally, a large portion of the events posted in event objects referred to non-Ashoka events. This may indicate the lack of integration of local communities and events with AshokaHub; it could be expected that official Ashoka events, which happened regularly, would have been the first events to be posted on AshokaHub. This lack of integration of Ashoka communities and practices with AshokaHub is again a theme that is explored in more detail in the following sections of this chapter.

Table 12 complements this analysis of the outcomes, use and contents of collaboration objects as it focuses on the contents of the comments that were posted around collaboration objects.

Phase 2 (19 months)					
	Event	Need	News	Offer	Total
Number of individual codes studied	70	126	22	325	543
Thanking for contribution	20.0%	24.6%	22.7%	19.1%	20.6%
Showing interest in a collaboration object				18.5%	11.0%
Adding information to a collaboration object	5.7%	7.1%		8.9%	7.7%
Asking for clarification	2.9%	7.1%	4.5%	9.2%	7.7%
Contributing to a discussion	1.4%	3.2%		8.6%	6.1%
Redirecting users away from AshokaHub to other means of communication	4.3%	6.3%	9.1%	5.5%	5.7%
Offering resources	0.0%	16.7%	18.2%	0.9%	5.2%
Congratulating another user	15.7%		31.8%	1.2%	4.1%
Announcing sharing with other people	10.0%			3.1%	3.1%
Test message		10.3%		0.9%	2.9%
Starting a discussion	1.4%	2.4%	4.5%	2.2%	2.2%
Pointing to resources elsewhere		4.0%		2.2%	2.2%
Asking for resources	1.4%	3.2%		1.8%	2.0%
Promoting own venture				3.4%	2.0%
Supporting other Fellows' work	1.4%	1.6%	4.5%	1.5%	1.7%
Offering help				2.5%	1.5%
Other	35.7%	13.5%	4.5%	10.5%	14.2%

Table 12: Overview of comment contents

Most importantly, this analysis indicates that there were not many comments that related to starting and driving discussions. This indicates that, for some reason, users did not necessarily see the need or possibility to lead discussions on AshokaHub. Instead, a large portion of comments focused on more transactional interaction around obtaining resources. For example, users showed interest in a collaboration object and asked for clarification, in response to which the creator sometimes added more information to the collaboration object. These comments helped coordinate the process of exchanging resources but not the creation of discussions or collaboration. Moreover, comments regularly redirected users away from AshokaHub to other means of communication such as email or pointed to resources that were not on AshokaHub. Hence, these comments increased the likelihood of users discussing things on another OC or through another form of technology. These observations again support the point argued above

that AshokaHub was not yet a space for collaboration, especially for collaboration among Fellows.

However, this analysis also reveals that comments largely reflected a positive, polite and supportive tone and atmosphere built on trust among users. Thanking others for their contribution, which is also seen in other studies as a regular type of contribution (cf. Wasko et al. 2009), is complemented with spontaneously congratulating other users and expressing support for their work as well as announcing the sharing of the collaboration object with other users to increase its reach. This suggests that while collaboration may not yet have emerged on AshokaHub, curators and Fellows formed a fundamentally well-functioning, trusting and supportive community conducive to collaboration.

Finally, the analysis suggests that a not insignificant portion of comments represented test messages by AshokaHub developers. While less frequent, such traces may have raised concern among users regarding the development status of AshokaHub and, in the worst case, caused users to drop out because they thought that AshokaHub was not yet finished. Indeed, transactional users in particular commented on bugs and errors on AshokaHub and on how the resulting complexity of use negatively affected their use of AshokaHub.

When conducting the same analysis of collaboration object outcomes, use and content for the time after the re-launch, the findings suggested that collaboration object outcomes remained largely similarly successful to Phase 2 but with a slight tendency towards more negative outcomes. While almost half of the collaboration objects could still be classified as successes, the percentage of very successful occurrences among offers, e.g. where recipients' questions were all answered, decreased. At the same time, the percentage of occasions where the collaboration object creator did not reply to other users' comments increased significantly. This indicates that successful connections and exchanges were indeed happening and raises the question of why transactional users in particular had such negative perceptions of activity on AshokaHub. However, it also indicates that not all behaviour on AshokaHub was actually conducive to collaboration.

This last point is supported by another finding of this analysis: that in Phase 3 a larger percentage of collaboration objects (a quarter of the sample) redirected users away from AshokaHub than in Phase 2. These collaboration objects required the reader to leave AshokaHub to get additional resources or otherwise follow up with the collaboration object. This may reflect a tendency for users to use AshokaHub as a bulletin board where opportunities and other items were posted but any ensuing collaboration would not take place.

A final finding also supports this interpretation: that users still used collaboration objects inappropriately. One might have assumed that with continued use and peer feedback such

inappropriate use would have decreased; however, the analysis indicated that the percentage of occurrences of inappropriate use remained similar in Phase 3 to in the previous phase. This may suggest that peer feedback about correct use was not actually happening or that not enough help content was readily available for users. Again, such behaviour might have impeded collaboration as it potentially confused other users.

The final analysis regarding the content of comments that were created in response to collaboration objects supported this view of 'two-sided' activity and content. On the one hand, it indicated that positive, supportive comments for other users were still posted very frequently. Even though positive comments changed in nature between Phases 2 and 3, with less thanking for contribution and congratulating other users and more expressing support for other Fellows' work, the overall percentage of positive, supportive comments remained at a similar level as in Phase 2.

On the other hand, however, the analysis suggested that the percentage of discussion-related comments, such as starting or contributing to a discussion, decreased in Phase 3. This may imply that users generally no longer found discussions around collaboration objects useful. It is interesting to note, however, that idea collaboration objects appeared to attract discussions. This may imply that discussions could have happened more frequently if more idea collaboration objects had been created. The analysis also suggested that the percentage of occurrences of redirecting users away from AshokaHub to other means of communication increased in Phase 3. This may imply that users were not happy with how collaboration worked on AshokaHub and thus suggested other users to use different technologies for follow-up collaboration. Both findings indicate that there was behaviour that was not conducive to collaboration on AshokaHub.

In sum, these analyses painted a picture of a community that was slowly re-starting in terms of engagement and activity after a rather disappointing Phase 2. With Ashoka curators and community builder users forming a double backbone of contribution activity, AshokaHub looked more likely to become a vibrant community despite numerous dropouts by transactional users in Phases 2 and 3.

CHAPTER 7: EVOLUTION OF TRANSACTIONAL USERS – POST-LAUNCH

The analyses of netnographic and platform data discussed in the previous chapter revealed that, after the launch, transactional users gradually became less active on AshokaHub. Subsequent interviews with these Fellows therefore aimed to understand why this had happened. This chapter analyses the observations made by transactional users in these interviews. The findings for phase 3, after the re-launch of AshokaHub, are however limited due to the fact that a majority of transactional user interviewees from phase 2 were so frustrated with AshokaHub that they did not see value in being interviewed again. One Fellow who did want to contribute again nevertheless made a statement that captures this frustration:

I'd love to contribute to an interview – because I was just thinking about this – I still hate the site and have just about decided to boycott it...I'll do the interview and then boycott it! (Ashoka Fellow, USA)

Context-level Findings for Phase 2

Insufficient support from AshokaHub team

Transactional users were critical about the AshokaHub team's efforts to support the community. Transactional users were uncertain about who was on the AshokaHub team and who was curating AshokaHub. This perceived anonymity of the AshokaHub team and the resulting inability to contact someone if there was an issue appeared to be unsettling for transactional users. This led some transactional users to believe that “there is no one assigned really to networking Fellows” (Ashoka Fellow, USA). As a result, transactional users appeared to feel that they were left alone and had to make AshokaHub work by themselves, which, given their many other commitments, they considered an almost impossible task.

Transactional users also felt that the value of AshokaHub had not been properly communicated to them and that this should be rectified as soon as possible. Some transactional users thus expressed the need to create stories around AshokaHub that could be communicated to other Fellows. These stories would need to communicate successes and continuously make the case for AshokaHub, clarifying its value to Fellows. Interestingly, transactional users often equated value with cost- or time-efficiency, which resonates with other findings for transactional users. In the absence of such stories, transactional users appeared to simply try and see whether AshokaHub created value for them compared to the OCs they already knew. Likewise,

transactional users did not perceive a vision or plan for what AshokaHub should be in the future. They did, however, expect such a vision to exist and be communicated to all users. After all, if they were supposed to invest their time and effort in AshokaHub and it did not provide any immediate value for them, then they wanted to know at least whether they would be investing in something with a clear, bright future.

Finally, where curators or the wider AshokaHub team was seen at work, transactional users were largely critical of their approach and impact. Related to this critical perception, transactional users had a tendency to claim that curators were not doing a good job on AshokaHub. To them, it appeared like curators were just ‘throwing’ a lot of ‘stuff’ onto AshokaHub without giving much attention to content quality or the needs of Fellows. This meant not only that the perception of the quality of posted contents among transactional users decreased but also that transactional users felt less inclined to contribute. Curators’ continuous posting of content, even if done with good intentions, thus threatened to potentially backfire and crowd out transactional users as contributors. In addition, transactional users felt that curators were not putting a lot of effort into ‘onboarding’ Fellows with AshokaHub and continuously motivating them to contribute. Even though local Ashoka offices were involved in introducing users to AshokaHub, it was mainly only an “online, email sort of introduction” (Ashoka Fellow, Germany). After that, there was no follow-up or training that could have helped or incentivised transactional users to keep visiting and contributing to AshokaHub. This lack of follow-up care appears to have had a similar impression on transactional users as the lack of or inconsistent communication about AshokaHub and its team: they felt left alone with no visible support from a dedicated team.

Competing Ashoka support networks

To transactional users, Ashoka had mostly been a convenient service provider that they could contact with their issues directly, and existing communities and practices had been geared towards that. Any discussion and collaboration with other Fellows had been marginal. AshokaHub reversed this perception and asked Fellows to step up, become more proactive and help each other as a community. However, such a collaborative mindset was not yet a “lived reality”, owing to how Ashoka staff, curators and Fellows still behaved.

In fact, transactional users and their local Ashoka staff members maintained and thereby reinforced the existing support networks. Transactional users were likely to have established very close working relationships with their local Ashoka offices – which was not possible in the same way for community builder users because their respective local offices may not have

been equally well staffed – and were unwilling to replace them with AshokaHub. Likewise, local Ashoka staff appeared unwilling or unable to replace private email conversations with AshokaHub. As a UK Fellow notes in one of the interviews, AshokaHub would have been much more attractive if the local Ashoka team had not been as responsive.

Similarly, transactional users were likely to maintain their competing communication with local Fellows and staff using other forms of technology such as email. Transactional users often had existing communities and technologies in place to communicate, discuss and even collaborate with other Fellows or Ashoka staff from their local country or region. The local Ashoka staff had often set up and were running email distribution lists, Yahoo groups or Google groups or using similar technologies to enable such local collaboration. Transactional users were thus already somewhat locked into local communities and technologies, which they regarded as valuable or useful. Due to transactional users' time constraints, these existing communities and practices thus competed with AshokaHub for their attention, and given the observed lack of support for AshokaHub by local staff, they opted to stick with what they were used to.

Competing online communities

This 'lock-in' into certain existing communities, practices and technologies is even more important when considering that transactional users were often using the same technologies, such as email or "other Facebook-like platforms" (Ashoka Fellow, Germany), for existing collaboration with local Fellows and non-Ashoka contacts. Indeed, transactional users often saw AshokaHub only as "yet another network" (Ashoka Fellow, Germany) and, as a result, perceived that they had to make a conscious decision about where to invest their time.

Transactional users viewed being active on Facebook, Twitter and, to a lesser extent, professional networks such as LinkedIn as a standard practice for entrepreneurs such as themselves. Transactional users also appeared unlikely to replace any of their existing OCs with AshokaHub because AshokaHub was simply "coming late to the game" (Ashoka Fellow, USA) and thus could not catch up with the established OCs that they were already engaged with. Having this fixed set of 'standard' OCs that commanded a certain share of transactional users' time and attention every day meant that AshokaHub had to compete for that remaining bit of attention. And when making this decision about which OC to pay attention to, transactional users, yet again, appeared to be business minded in the sense that they tended to choose the OCs that provided the best benefit, and often, AshokaHub was not among them.

High-level category	Category	Concept	Illustrative quotes
Competing offline and online practices and communities	Insufficient support from AshokaHub team	Invisibility of curators	<i>The AshokaHub staff – who are they? You know, would be interesting, who are they? (Ashoka Fellow, UK)</i> <i>There is no one assigned really to networking Fellows. (Ashoka Fellow, USA)</i>
		Unclear communication of AshokaHub value	<i>It is about rethinking the way of introducing the Hub to people or it is about communicating success stories that have been developed on the Hub and sharing these with the communities. [...] And the third element I would again repeat is [...] to also work together with Fellows [...] to see how to better or how to make people understand that it's worthwhile investing time in something like the Hub instead of investing it in a different way because it's more cost- and time-efficient. So I think that's also part of the story. (Ashoka Fellow, Germany)</i> <i>I mean, if there is a grand design for AshokaHub, it needs to be explained. (Ashoka Fellow, USA)</i>
		Curators not doing a good job	<i>I guess it's just a default place where they just throw stuff. (Ashoka Fellow, UK)</i> <i>The folks in Toronto sent out a number of emails sort of introducing the Hub and that's it. (Ashoka Fellow, Canada)</i>
	Competing Ashoka support networks		<i>I think it is great to have this piece of technology and even a crappy piece of technology would be useful if it was a vehicle for a lived reality, and it's not a vehicle for a lived reality right now and I am saying that very harshly. (Ashoka Fellow, USA)</i> <i>I think in the UK, and maybe I'm just spoiled, the Ashoka team are just brilliant. So, whenever I need anything, I know I'm gonna get a response. So I almost bypass the Hub because I know that the quickest way of getting an answer is to email one of them and they'll respond. [...] If the UK team weren't there or weren't so responsive, the irony probably is that I would then use the Hub more. (Ashoka Fellow, UK)</i> <i>We, the Ashoka Fellows in Germany, are already very well connected with each other. And we have our own email distribution list as well as our own distribution list for offers and needs. Moreover, we have a German Ashoka Fellows meeting at least twice a year where we have quite extensive discussions. So, we're extremely well connected and collaborate extremely well in Germany. (Ashoka Fellow, Germany)</i>
		Competing online communities	<i>I think there's definitely that sense of you being pulled thinly across multiple places. And you need to think about the value propositions of the different ones. So, for example, Facebook is average for us in the work that we do. Then Twitter is great, we get a lot of benefit from using Twitter. [...] So if there is multiple places that are vying for your attention, you do think to yourself, 'well which one is gonna give me the best benefit'? (Ashoka Fellow, UK)</i> <i>[The American Fellows] have so many networks that Ashoka (and AshokaHub) is just one of many networks. And often their ventures are already so far developed and so successful that they probably don't consider it necessary to be active and collaborate on AshokaHub. (Ashoka Fellow, Germany)</i>

Table 13: Phase 2 - Context-level findings for transactional users

Context-level Findings for Phase 3

By the end of phase 3, observations by transactional users had further deteriorated and were characterised by genuine disappointment and frustration. Again, the category of insufficient support from the AshokaHub team appeared. Some transactional users now even thought that communication was misleading rather than simply inconsistent or lacking.

The same sense of frustration appeared in transactional users' observations about how AshokaHub was being curated. Overall, transactional users thought that if there was a curation strategy, it was focusing on the wrong things. While transactional users voiced concern about the relevance of content on AshokaHub, complaining that it was "too big" and "not organised" (Ashoka Fellow, USA) and making clear that they expected curators to conduct regular reviews and "clean" the platform, they also did not approve of curators' attempts to direct Fellows onto the platform and thus slowly replace existing bilateral communication practices with AshokaHub. Indeed, it appeared that the majority of transactional users were even boycotting such attempts by curators.

Regarding competing OCs, transactional users were still critical of AshokaHub compared to their existing OCs and collaboration practices. Transactional users maintained their existing collaboration practices with other Fellows, which were substantial for some: one transactional user claimed to receive around 15 emails per week from Fellows that she collaborated with. Moreover, transactional users affirmed that AshokaHub was, if anything, only one OC among many. And they appeared to prefer those other OCs not only because they had existing communities and practices there but also because these OC were built on "very robust commercial platforms" (Ashoka Fellow, USA). It seems, therefore, that the developments and platform changes that the AshokaHub team had made had not restored transactional users' confidence in AshokaHub.

High-level category	Category	Concept	Illustrative quotes
Competing offline and online practices and communities	Insufficient support from AshokaHub team	Misleading communication of AshokaHub value	[AshokaHub] <i>does not do what it says it should do</i> (Ashoka Fellow, USA)
		Curators not doing a good job	<i>When I first started using the Hub, it was really a connector for me to new ideas, regarding fundraising, regarding coalition partnerships, and developments within the Ashoka community. It's got how shall I say? It's got old and stale.</i> (Ashoka Fellow, USA)
	Competing online communities		<i>So the main thing is I can get into those other communities whenever they're open. They are using very robust commercial platforms, so a bunch of them are set up on LinkedIn as well as others. They're private, so a couple of them are Facebook pages that are private. [...] Then they allow us to go and share, follow threads</i> (Ashoka Fellow, USA)

Table 14: Phase 3 - Context-level findings for transactional users

Community-level Findings for Phase 2

In terms of transactional users' framing of the AshokaHub community and their engagement with it, the findings from phase 2 indicate a significant deterioration that parallels the findings from the context level.

Deteriorating framing of AshokaHub

In phase 2, transactional users' perceptions had turned from critical to negative. They appeared to think that AshokaHub was a good idea but not working yet. Some observed that they had thought that AshokaHub would become an integral part of their working lives and had been "very happy that this kind of platform was launched" (Ashoka Fellow, Germany). However, while some thought that AshokaHub had simply not yet fulfilled its potential, others were already more frustrated because it hadn't "lived up to [their] expectations" (Ashoka Fellow, UK). Such disappointment and negative perceptions were expressed fairly frequently by transactional users. For instance, some transactional users simply found AshokaHub "not useful" (Ashoka Fellow, USA), especially compared to other OCs such as Facebook or Twitter.

The reasons why transactional users thought that AshokaHub did not work well and why it therefore was less attractive to engage with AshokaHub are, of course, complex. One such reason, however, had already emerged in transactional users' framing of AshokaHub more generally and relates to AshokaHub's perceived community structure. Transactional users perceived AshokaHub as one overwhelmingly big community. These Fellows preferred smaller

communities because they allowed them to navigate AshokaHub more easily and find and collaborate with people that shared similar interests, such as mobile technologies in health care, more quickly and efficiently. Indeed, conducting activities only with similar users was an important theme for transactional users. To some, the most important indicator for similarity was, however, geography. Transactional users appeared to prefer connecting and collaborating with other users locally rather than globally. This was because the work with their ventures was predominantly local, because Fellows, staff and curators would be able to help each other more readily with physical resources and because Fellows already knew about country-specific institutions and challenges. However, AshokaHub did not allow the creation of such smaller communities or groups in Phase 2. Transactional users believed that such group functionality would help them make AshokaHub easier to navigate and “reduce complexity” (Ashoka Fellow, Germany).

In addition, as in Phase 1, transactional users thought that connecting and collaborating with external people and organisations would be beneficial as it promised more likely and direct access to support and necessary resources. Yet, since AshokaHub did not allow such external collaboration, transactional users perceived a constraint that was not resolved in Phase 2.

Overall, transactional users thus saw AshokaHub only as a moderately useful means of connecting Fellows with each other and with Ashoka staff. Transactional users continuously mentioned notions such as “connectivity” (Ashoka Fellow, Canada) or “keeping in touch with other Ashoka Fellows globally” (Ashoka Fellow, UK) or likened it to “a ‘yellow pages’ of Ashoka Fellows” (Ashoka Fellow, UK). For transactional users, AshokaHub therefore remained a place where Fellows could connect over certain collaboration objects or respective interests and keep in touch. They did not, however, perceive it as a place to do anything beyond connecting, such as discussing issues or collaborating on joint projects.

Only social exchange interests

The analysis of phase 1 already identified a certain mindset among transactional users who applied an investment-and-return logic or conducted a “cost–benefit analysis” (Ashoka Fellow, USA) when deciding about their contributions to AshokaHub. For phase 2, the data suggest that such social exchange interests were the only meaningful motivations for transactional users. What emerged from the data was the notion of a tangible benefit that transactional user expected from their engagement with and contributions to AshokaHub. For them, such engagement was not governed by the “romantic belief” (Ashoka Fellow, UK) that social entrepreneurs should all work together and save the world this way. Instead, one Fellow, for instance, admitted that

social entrepreneurs were “all selfishly trying to protect our own world” (Ashoka Fellow, USA). At the very least, engagement with and contribution to AshokaHub should thus “immediately benefit my work” (Ashoka Fellow, Germany), “give [them] the most benefit” (Ashoka Fellow, UK) or “further [their] cause” (Ashoka Fellow, USA). As a result, the main interests that transactional users mentioned were twofold. On the one hand, they related to learning something or obtaining other resources such as trustees, interns or developers that would benefit Fellows’ ventures. On the other hand, they related to building Fellows’ reputations among other AshokaHub users.

Only self-oriented perceived affordances

The action possibilities or affordances that transactional users perceived in Phase 2 were derived from transactional users’ frames, i.e. their views on the nature of the AshokaHub platform, constraints and interests for using AshokaHub. In phase 2, transactional users only perceived passive, connectivity-related affordances: ‘meeting other Fellows’, which refers to finding, connecting with and getting to know other Fellows and ‘obtaining resources and knowledge for own social venture’, which relates to obtaining information, knowledge and other resources for transactional users’ own ventures.

This means that the number of perceived affordances was reduced significantly compared to phase 1. Three affordances that transactional users perceived in Phase 1 did not emerge from the data analysis in Phase 2. Firstly, transactional users did not mention and therefore no longer appeared to perceive ‘discussing and sharing knowledge with other Fellows’. In Phase 1, this affordance related to actively contributing knowledge, which may be included in posts, documents or other types of content, as well as discussing certain topics on the platform with others. Secondly, transactional users did not mention and therefore no longer appeared to perceive ‘collaborating on venture activities with other Fellows’ as relevant. In Phase 1, this affordance related to collaborating on a more operational level with other Fellows to increase impact, obtain economies of scale and create synergies and collaborating on a more strategic level with other Fellows and solving problems together that applied to a Fellow’s venture. Finally, transactional users did not mention and therefore no longer appeared to perceive ‘driving open source innovation for social issues’ as relevant. In contrast to the affordances of sharing and obtaining knowledge and resources, this affordance referred to Fellows jointly identifying a global issue such as climate change and then working on a solution in an open and global manner on AshokaHub.

While some affordances disappeared, two new affordances emerged in Phase 2: ‘actively exploring’ and ‘showcasing own work’. ‘Actively exploring’ related to activities where Fellows would browse AshokaHub and look at other users’ profile pages, collaboration objects and comments to learn more about them and about AshokaHub. In contrast to obtaining resources, this affordance was more explorative in nature. ‘Showcasing own work’ related to activities on AshokaHub whereby Fellows would try to promote their own work and the work of their ventures to other AshokaHub users in order to gradually build a reputation for themselves or obtain resources or other types of support. Such activities could be targeted, as in Fellows commenting on a specific offer by presenting their work, or more general, as in Fellows continuously updating their profile pages with content that showed the work and successes of their ventures.

Growing impact of perceived inhibitors

As in Phase 1, transactional users often talked about affordances as things that they knew they could do on AshokaHub. However, they also perceived certain inhibitors that prevented them from actualising these perceived affordances. Transactional users saw the same inhibitors in phase 2, namely lack of time and complexity of using AshokaHub compared to other platforms, but the latter became more pronounced.

In Phase 2, transactional users appeared to largely still be hopeful regarding the potential of AshokaHub. They did see action possibilities but already their time and capacity constraints were preventing them from engaging more on AshokaHub. Moreover, it is evident that, as noted in Phase 1, inhibitors appeared to be interrelated in the sense that if transactional users had had more time, AshokaHub’s complexity of use might not have been such a strong inhibitor.

The notion of complexity of use, however, seemed to have a growing impact. Transactional users appeared to have a very low tolerance for usability issues. One Fellow, for example, observed that she did not want to use AshokaHub anymore simply because it did not remember her password. Moreover, the perception of this inhibitor tended to be dependent on transactional users’ experience with other OCs such as Facebook or Twitter. Complexity of use was thus in a sense ‘relative’ because it appeared that the further away the functionality of AshokaHub was from Fellows’ other OCs, the more complex it was considered. As one Fellow notes, “you might want to have it exactly like Facebook because you already know Facebook and because you’ve already engaged with it. But that doesn’t mean that Facebook is actually user-friendly” (Ashoka Fellow, Germany). An example is the use of the ‘need’ and ‘offer’ collaboration objects that appeared to be particularly confusing for transactional users.

Irregular and inconsistent actualisation of affordances

Actualised affordances is a category that emerged for the first time in Phase 2 because this was the first phase where users could actually put their perceived affordances into action. The data emerging around this theme give two insights.

The first insight suggests that despite their perception of affordances in Phase 2, transactional users did not appear to regularly and continuously actualise any of them. This supports the findings of the analysis of netnographic and platform activity data, which indicated that transactional users were much less active than community builder users or curators. Transactional users attempted to actualise their perceived affordances, but this actualisation was often only an attempt. The data suggest that the mentioned inhibitors came together to prevent the continuous actualisation of these affordances. In one example, regarding the affordance of ‘meeting other Fellows’, a transactional user did not understand what it meant when other Fellows followed him and did not react at all. This potential opportunity to meet other Fellows was thus ignored and the affordance was not actualised. Moreover, the data suggest that the limited perception of relevant activity by other users on AshokaHub, such as replying to contributions, combined with the mentioned inhibitors prevented the actualisation of these affordances. This theme is discussed in more detail in the following section on platform-level findings.

The second insight relates to the fact that one affordance could be actualised in many different ways. For instance, there were different ways of actualising the ‘obtaining resources and knowledge (for own social venture)’ affordance. While some tried to obtain knowledge and resources by simply going through existing offers or reading the weekly AshokaHub digest, others created specific need or offer collaboration objects to explicitly ask for knowledge or resources such as “web developers” (Ashoka Fellow, UK). Even the seemingly simple affordances ‘actively exploring’ and ‘showcasing own work’ were actualised in different ways. Transactional users tended to explore AshokaHub actively by using the overall activity feed and its filter functionality or the search functionality, by following other users, collaboration objects and tags or by combining these basic platform features. Transactional users finally showcased their own work by regularly updating their profile pages with different content, links and success stories or they created collaboration objects such as offers or comments in which they offered their ventures’ services to other AshokaHub users. Alternatively, they combined these basic features once again to actualise the affordance.

Because of the small ‘size’ and ‘independence’ of basic features such as commenting, following or creating collaboration objects, their inherent dependence on text, which can take any form

and represent any content, and the ability to combine and concatenate these text-infused instances of basic features over time, there appeared to be an unlimited number of potential actualisations for any affordance. Moreover, the data suggest that, as in the case of the first insight regarding inhibitors for actualisation, the way in which affordances were actualised was influenced by the perception of relevant activity by other users. This theme is explored in more detail in the next section on platform-level findings.

High-level category	Category	Concept	Illustrative quotes
Frames	Deteriorating framing of AshokaHub	Negative perceptions of AshokaHub	<i>If AshokaHub was pulled down for a week for maintenance what would not happen? And my feeling is: not a lot would not happen. It certainly wouldn't have any effects on what I did. And for me that's always the big measure of how valuable something is. (Ashoka Fellow, UK)</i>
		AshokaHub not reflecting 'constellation of communities' structure	<i>I just think the idea that one big mega network of everybody just gives you a richer ecosystem of opportunities is wrong – it gives you a richer ecosystem but then it looks like a very, very busy or empty or difficult to navigate space. I'd rather take my canoe into a nice, small lake than into the Atlantic Ocean. And the AshokaHub is the Atlantic Ocean. (Ashoka Fellow, UK)</i> <i>Maybe if AshokaHub was broken down into smaller units and maybe smaller units that were connected, but if it was AshokaHub UK and I knew that if I put stuff in there it was gonna be picked up by people in the UK, then I actually again would be more motivated to use it because there's a much greater chance I could get a train down to London to meet somebody who would be able to help or I could help. (Ashoka Fellow, UK)</i> <i>I would love to see maybe groups or something like that where people who are on the Hub, part of the Hub can connect with each other, provide information, do some form of knowledge exchange and would really focus on shared interest. (Ashoka Fellow, Canada)</i>
	Only social exchange interests	No ability to collaborate with external organisations	<i>I mean, it's closed, right? It's hidden from the world. [...] If I need help, I feel that I have more benefit reaching out to the bigger world for help because there's more people in the bigger world. And there's only 0.0000001% of the world on the Hub. (Ashoka Fellow, UK)</i>
		AshokaHub only as a connector	<i>I experience it as a moderately good attempt to try to connect the Fellows. (Ashoka Fellow, USA)</i>
			<i>In the case of Ashoka, we would have to feel like we need to connect with each other because we are gonna get our jobs done better and are going to learn something, because we are going to be more effective. (Ashoka Fellow, USA)</i>
Affordance perception	Only self-oriented perceived affordances	Maintained action possibility of meeting other Fellows	<i>I see it from the outside as a communication tool for the development of relationships. (Ashoka Fellow, Canada)</i>
		Maintained action possibility of obtaining resources and knowledge for own social venture	<i>It's a 'yellow pages' where you throw stuff that you need to get done. (Ashoka Fellow, UK)</i>

		<p>New action possibility of actively exploring</p> <p><i>What I would indeed be interested in, and I'm actually following a couple of Fellows with regard to this on AshokaHub, is what other Ashoka Fellows from my field of work are doing in other countries. I've also already done some research on what Ashoka Fellows there are in this field of work and have a look at their profile pages. (Ashoka Fellow, Germany)</i></p>
		<p>New action possibility of showcasing own work</p> <p><i>I very much believe that already at this stage it's relevant [...] to spread information that might then steer people towards you. (Ashoka Fellow, Germany)</i></p>
Affordance actualization	Growing impact of perceived inhibitors	<p>Lack of time</p> <p><i>Although I realise that this new network can be potentially very, very useful for us, it's simply a question of capacity. (Ashoka Fellow, Canada)</i></p>
		<p>Complexity of use compared to other OCs</p> <p><i>I don't even have enough time in the day to do things that work easily. It has to be frictionless or I don't use it. I am a user. I really try to get involved in things very early and the community and all that kind of stuff but this is just too clunky. (Ashoka Fellow, USA)</i></p> <p><i>I see it as a very useful tool. I'm just not quite sure for myself how best to use it at this point. (Ashoka Fellow, Canada)</i></p> <p><i>It's not easy to use. Every single time I leave it I had to re-login which means I need to type up my password because it had to be a complicated one. Save my password like Facebook, for example! I don't have to put my password every time so I go there a lot. On AshokaHub, a lot of times what happens to me is that I find something interesting on that little digest list, I click on it, it says, 'you can't see this because you are not logged in.' Then I had to go look for my password and another email comes in which is much more important than looking at something that is interesting and maybe not relevant so I don't go. I think the technology is good but not great. It is cumbersome. It doesn't flow yet but someday it will. (Ashoka Fellow, USA)</i></p> <p><i>To be honest, I didn't really understand the whole system of offers and needs because it wasn't part of the introductory video either. So, I didn't really understand what I was supposed to do there and what exactly it all meant. [...] Another thing that would clearly help is knowing what desirable behaviour looks like on AshokaHub, what the creators of AshokaHub would like us to do and how we should collaborate on this platform. (Ashoka Fellow, Germany)</i></p>
	Irregular and inconsistent actualisation of affordances	<p><i>To show you how little I've used it, I don't even know what the profile screen looks like. (Ashoka Fellow, UK)</i></p> <p><i>Apart from logging in and trying to find out who was doing what or anything, that was it really. (Ashoka Fellow, UK)</i></p> <p><i>[W]hen I have relevant information that I want to share with this group, and so far it has only been job opportunities, then I do it and use it as a channel to get the information to a group of relevant people...and I haven't gone further than that. (Ashoka Fellow, Germany)</i></p> <p><i>Well, it's only been recently that I've used it and it was for two needs. (Ashoka Fellow, UK)</i></p> <p><i>I believe a year ago we entered information about a project we are working on, called [redacted]. It's a media project. [...] We got almost no response from the effort we made. (Ashoka Fellow, USA)</i></p> <p><i>I used it only in two occasions. [...] The two things I did on the Hub was to post job opportunities at [sc. my venture] twice. (Ashoka Fellow, Germany)</i></p>

Table 15: Phase 2 - Community-level findings for transactional users

Community-level Findings for Phase 3

Frustrated framing of AshokaHub

As mentioned above, observations by transactional users had further deteriorated and were characterised by genuine disappointment and frustration by the end of phase 3. Their framing of AshokaHub had become very negative. One Fellow even questioned whether Ashoka should be “in the business of creating a platform” (Ashoka Fellow, USA), arguing that there were already sufficiently advanced OC platforms that could be bought and customised at relatively low cost. Conceding that a collaboration platform for Ashoka Fellows and other users was still needed, transactional users argued that AshokaHub was certainly a good idea “in principle” (Ashoka Fellow, USA) but that in its current form it was not effective in helping them collaborate and interact with ‘similar’ Fellows. As a result, one could argue that transactional users appeared to move away from framing AshokaHub as a connector and towards framing it as a source of ‘stale’ information that they may consume but did not engage with.

Interestingly, transactional users did not appear to have seen, let alone used, the new group and community functionalities that the AshokaHub team had developed, even though this new functionality had been officially, albeit not extensively, communicated to Fellows. Arguably, this functionality could have helped transactional users organise their own small communities of similar Fellows within AshokaHub, breaking down the overwhelmingly big community into manageable sections and ensuring the relevance of posted content. However, transactional users did not appear to have the motivation to try again. As such, the new functionality did not seem to have an effect on transactional users. This is particularly noteworthy because transactional users had explicitly raised the lack of group functionality as a constraint in Phase 2.

Only social exchange interests

This reframing appears logical when taking into consideration the main interests that transactional users demonstrated in the previous phases. These related to social exchange, meaning that Fellows expected to receive some return in terms of resources, learning or reputational gain from their engagement with and contribution to AshokaHub. The data analysis indicated that this was still the case in Phase 3. Transactional users tended to be driven by obtaining resources that could “directly impact the success of [their] individual endeavours or [their] organisational endeavours” (Ashoka Fellow, USA). As in previous phases, transactional

users talked about synergy and value and it appeared that AshokaHub did not contribute either in Phase 3.

Only self-oriented perceived affordances and passive actualisation

As a result of transactional users' reframing and interests, these Fellows only perceived one affordance on AshokaHub in Phase 3: obtaining resources and knowledge for their own social ventures. If they actualised this affordance at all, they did so mainly by waiting for the Ashoka digest newsletter and then contacting the creator of the collaboration object directly or contacting whichever website or person was named in the collaboration object itself. Most of the time, they tended to effectively bypass AshokaHub. All other affordances, however, appeared to have disappeared.

High-level category	Category	Concept	Illustrative quotes
Frames	Frustrated framing of AshokaHub	Very negative perceptions of AshokaHub	<i>If it went away tomorrow, it would do absolutely nothing.</i> (Ashoka Fellow, USA)
		No impact of new 'constellation of communities' group features	<i>Just to create a group for the sake of creating a group? I mean LinkedIn does that. We joined a group because there was a group formed to help the creation and filtering of potential board of director members. It was so unwieldy that we resigned from it, because it's just a waste of time.</i> (Ashoka Fellow, USA)
		AshokaHub only as a source of 'stale' information	<i>When I first started using the Hub, it was really a connector for me to new ideas, regarding fundraising, regarding coalition partnerships, and developments within the Ashoka community. It's got how shall I say? It's got old and stale.</i> (Ashoka Fellow, USA)
	Only social exchange interests		<i>I don't look at it as an altruistic tool to enhance the organization.</i> (Ashoka Fellow, USA)
Affordance perception	Only self-oriented perceived affordances		<i>I think that the potential for the Hub is to keep members, keep me, updated on developments that can directly impact the success of our individual endeavours or our organizational endeavours.</i> (Ashoka Fellow, USA)
Affordance actualization	Only passive actualisation		<i>I use the platform then to say I have a need. [...] I didn't get any feedback at all on there.</i> (Ashoka Fellow, USA)

Table 16: Phase 3 - Community-level findings for transactional users

Platform-level Findings in Phase 2

The findings have so far highlighted the perceptions and observations of transactional users regarding the context of AshokaHub as well as their frames and affordances. This final section focuses on transactional users' perceptions of activity on AshokaHub.

Perceived limited relevance of traces of activity

Overall, transactional users felt that there was little relevant activity on AshokaHub. The data suggest that there were two facets to this perception. The first refers to perceiving relevant users as being active. And transactional users perceived very few relevant users as being active on AshokaHub. Relevant users were often 'similar' to a transactional user in terms of their interests or field of work. Relevant users also often had something of value to offer, such as knowledge or other resources. This is why transactional users were fairly sought after on AshokaHub.

The second refers to perceiving relevant actions, and transactional users perceived very few relevant actions on AshokaHub. Relevance tended to be a very subjective notion that revolved around three themes. Firstly, it related to the quality and usefulness of posted content. Relevant content appeared to refer to textual content and links in all kinds of collaboration objects and comments. Again, relevance was subjective, but transactional users tended to consider this content as relevant if it could potentially help them in their venture, such as best practices or funding sources. For some transactional users, relevance in terms of activity and content also referred to the posting language. Everything on AshokaHub, including the introductory videos, platform texts and vast majority of posted content, was in English. Surprisingly, even some transactional users considered this English content to be significantly less relevant because they might still "struggle with their English" (Ashoka Fellow, Germany). Secondly, it related to other users' timely responses to a Fellow's activity on AshokaHub. This could include replies to created collaboration objects, comments or messages. Finally, it related to other users' activity that gave a transactional user a 'feel' for the overall behaviour, rules and ethos of the community. For instance, this could relate to a transactional user seeing collaborative behaviour between Fellows who were working on a joint project on AshokaHub, even if it was not in the transactional user's field of work. It could also relate to the way in which curators nurtured the community and supported other users or something more implicit, such as the constructive and supportive or destructive and negative tone that others tended to use on AshokaHub.

For many transactional users, there were simply not enough relevant users or relevant activity or content on AshokaHub. Transactional users used the term 'critical mass' to describe a

situation where they expected to see a certain number of active relevant users or relevant activity or content on AshokaHub, and they felt that this number had not been reached. This ‘critical mass’ threshold thus appeared to refer to one of the three types of perceived activity or a combination thereof. The fact that AshokaHub had not reached this threshold reduced transactional users’ willingness to engage with the platform.

This perception of whether the ‘critical mass’ threshold had been reached or not was not based, however, on a comprehensive assessment of all activity on AshokaHub. After all, as discussed above, transactional users did not spend enough time on AshokaHub to browse through all of its content. Rather, this perception was strongly influenced by the AshokaHub digest newsletter. Being the main ‘door’ into AshokaHub for transactional users, the newsletter had a significant influence on what transactional users thought was actually happening on the platform. Given its fairly simplistic algorithm, however, it was not able to give a comprehensive summary of activity on AshokaHub. Firstly, it only showed up to seven items, making users believe that there was not any more relevant activity on AshokaHub. Secondly, the relevance of the listed items was likely to be low because it required users to choose tags on AshokaHub to customise the content of the newsletter, which most did not know about or do. Thirdly, the newsletter did not actually show the full activity, such as comments and contents, but only the name and partial description of the associated collaboration object, creating a rather static impression for the recipient. Finally, the newsletter did not contain any information about success stories or the story of AshokaHub and its users. Therefore, it actually ‘felt’ like a machine-generated email and conveyed the image of AshokaHub as a bulletin board or directory rather than a community of real people. As a result, the limited ability of the newsletter to present a comprehensive overview of AshokaHub activity is likely to have influenced the perception of low relevance discussed above.

Perception of limited activity negatively affecting users

The perception of relevant users being active and relevant activity – or the lack thereof – thus appeared to influence transactional users’ perceptions and behaviour on AshokaHub. The data suggest that such perceptions influenced transactional users’ behaviour on three levels. Firstly, such perceptions appeared to influence transactional users’ frames. Often, as shown in the above example, transactional users did not see their individual ‘critical mass’ thresholds as being met, which contributed to the negative frames discussed earlier. In some cases, this was enough to cause transactional users to drop out of AshokaHub altogether.

Secondly, the perception of relevant users being active and relevant activity – or the lack thereof – appeared to influence transactional users’ affordance perceptions. In the above case, the transactional user did not perceive the ‘showcasing own work’ affordance because of his perception of a lack of other relevant users’ activities. Likewise, other Fellows did not perceive the affordance ‘discussing and sharing knowledge with other Fellows’ because the kinds of users that they perceived as active were in a different field of work. In another, more ‘positive’ case, a transactional user observed that, “even though it’s definitely limited currently still in terms of scope and depth of information” (Ashoka Fellow, Germany), there was enough existing content to allow users to obtain relevant information. Here, the perception of relevant content influenced the perception of the ‘obtaining resources and knowledge (for own social venture)’ affordance.

Finally, the perception of relevant activity appeared to influence transactional users’ affordance actualisation. The data suggest that the perception of relevant activity could influence how and whether affordances were actualised. In terms of the ‘how’ of affordance actualisation, for instance in the above example the transactional user indicated that she had not seen enough activity from other users to have learnt how to best apply AshokaHub’s basic features to actualise an affordance. In terms of the ‘whether’ of affordance actualisation, users who experienced the aforementioned inhibitors and who also did not learn how to best use AshokaHub by emulating others might indeed stop using AshokaHub altogether. In this sense, as indicated in the previous section, inhibitors and this perception of relevant activity appeared to be interrelated. Moreover, even if a transactional user perceived an affordance such as ‘discussing and sharing knowledge with other Fellows’, she often required a trigger for activity, such as another user replying to her comment or commenting on her collaboration object. In this case, therefore, a transactional user could only actualise her affordance if there had been relevant activity by other users.

High-level category	Category	Concept	Illustrative quotes
Platform influence	Perceived limited relevance of traces of activity	Limited number of relevant active users perceived	<i>It's my perception that the people that I'm interested in have never logged on to AshokaHub – especially all the Americans. (Ashoka Fellow, Germany)</i>
		Limited number of relevant actions perceived	<i>The two 'asks' that I've put up, there hasn't been any obvious benefit from that. So, I've not had any solid support or solid evidence from anybody. (Ashoka Fellow, UK)</i> <i>I do remember that I tried to be responsive for months and there was nothing that came up. (Ashoka Fellow, USA)</i>

		<i>I don't think in the sphere that I work in, which is health, there is enough critical mass in AshokaHub for me to give energy to build the social change I want to see. (Ashoka Fellow, USA)</i>
	Perception of activity shaped by AshokaHub newsletter	<i>When I read the newsletter, I do read all of the content including what they offer and so on but I feel that, no, it doesn't fit me that well. (Ashoka Fellow, Germany)</i>
Perception of limited activity negatively affecting transactional users	Negative effects on transactional users' framing	<i>You know, there is really no reason to go there. That is the basic issue. There is no reason to go there because there aren't enough Fellows there. (Ashoka Fellow, USA)</i>
	Negative effects on transactional users' perception of action possibilities	<i>I can't remember the last time I touched my profile on AshokaHub. And two people a week might look at it, so I don't care. But if there's a public profile which is visible, outwardly visible to a lot of people, suddenly my motivations for keeping that up-to-date are different. And I would be far more inclined to keep a public-facing page because it's a promotional tool, an awareness-raising tool. (Ashoka Fellow, UK)</i>
	Negative effects on transactional users' actualisations of action possibilities	<i>I mean, as I said, a new video would help me, one that uses the current version of AshokaHub and shows best practice examples of how to use this platform well, how others are using it because you don't see that. (Ashoka Fellow, Germany)</i>

Table 17: Phase 2 - Platform-level findings for transactional users

Platform-level Findings in Phase 3

This final findings section illustrates transactional users' perceptions of activity on AshokaHub in phase 3. In terms of the perceived relevance of traces of activity, transactional users maintained the negative view from Phase 2. They perceived only a limited number of relevant users being active and relevant activity on AshokaHub. Some even argued that there was an overwhelming amount of irrelevant activity and content. One Fellow described AshokaHub as "old and stale" (Ashoka Fellow, USA). Given their use of the AshokaHub digest newsletter as their main 'channel' into AshokaHub, it is no surprise that they also felt that the content of the digest was largely irrelevant. This was critical, however, as transactional users were overwhelmed with "six or seven electronic newsletters a day" (Ashoka Fellow, USA) and thus quickly lost sight of AshokaHub as a relevant place to spend their time.

This negative perception of irrelevant active users and irrelevant activity arguably had a negative influence on transactional users' affordance perceptions and frames, as in Phase 2. The former relates to transactional users 'losing' perceived affordances. In one example, a transactional user had, over some time, not been able to enter discussion with another Fellow he was interested in because she never replied to his comments and messages. He then concluded that "the intercommunication aspect of the Hub [was] weak" (Ashoka Fellow, USA), effectively dismissing the affordance of discussing and sharing knowledge with other Fellows for good. The latter, i.e. the negative influence on transactional users' frames, relates to a

fundamental, and in this case negative, shift in transactional users' framings and interests. For transactional users, this shift often rendered AshokaHub obsolete, causing them to permanently drop out. In one example, a transactional user observed that the wealth of irrelevant content on AshokaHub was his "major problem" with AshokaHub, effectively making the platform only worthwhile "in principle" (Ashoka Fellow, USA).

Chapter Summary

This section aimed to reveal why transactional users gradually became less active on AshokaHub – a development found in the analysis of netnographic and platform data. Transactional users were willing to invest time and resources in the platform if they thought they would get a return on their investment. Seeing no significant leadership and guidance from the AshokaHub team on how to use the platform effectively, transactional users applied their frames from other OCs to AshokaHub and attempted to actualise these affordances. These attempts highlighted the relative complexity of use of AshokaHub. These negative experiences, paired with the perception of a limited number of relevant active users and relevant activity and content, slowly made subjective frames more negative and caused affordances to disappear. This disappointing experience of AshokaHub was juxtaposed with their experience outside of AshokaHub, where they had access to significant resources, existing, functioning local Ashoka communities, direct access to supportive local staff and other vibrant OCs. With their investment-and-return mindset, transactional users decided that their limited time was not well spent on AshokaHub. By the end of phase 2, their predominant trajectory led them away from AshokaHub. Despite changes in the platform's design in phase 3, this development could not be halted. After the re-launch, transactional users had essentially stopped contributing to AshokaHub. With AshokaHub still a low priority for their local Ashoka offices and with their only perception of AshokaHub activity being via a skewed weekly digest email, they appeared locked into negative perceptions of the platform and had lost almost all affordances as well. Perceptions became even more negative, affordances were lost and transactional users essentially became passive users of AshokaHub at best. Figure 15 summarises the findings of this chapter.

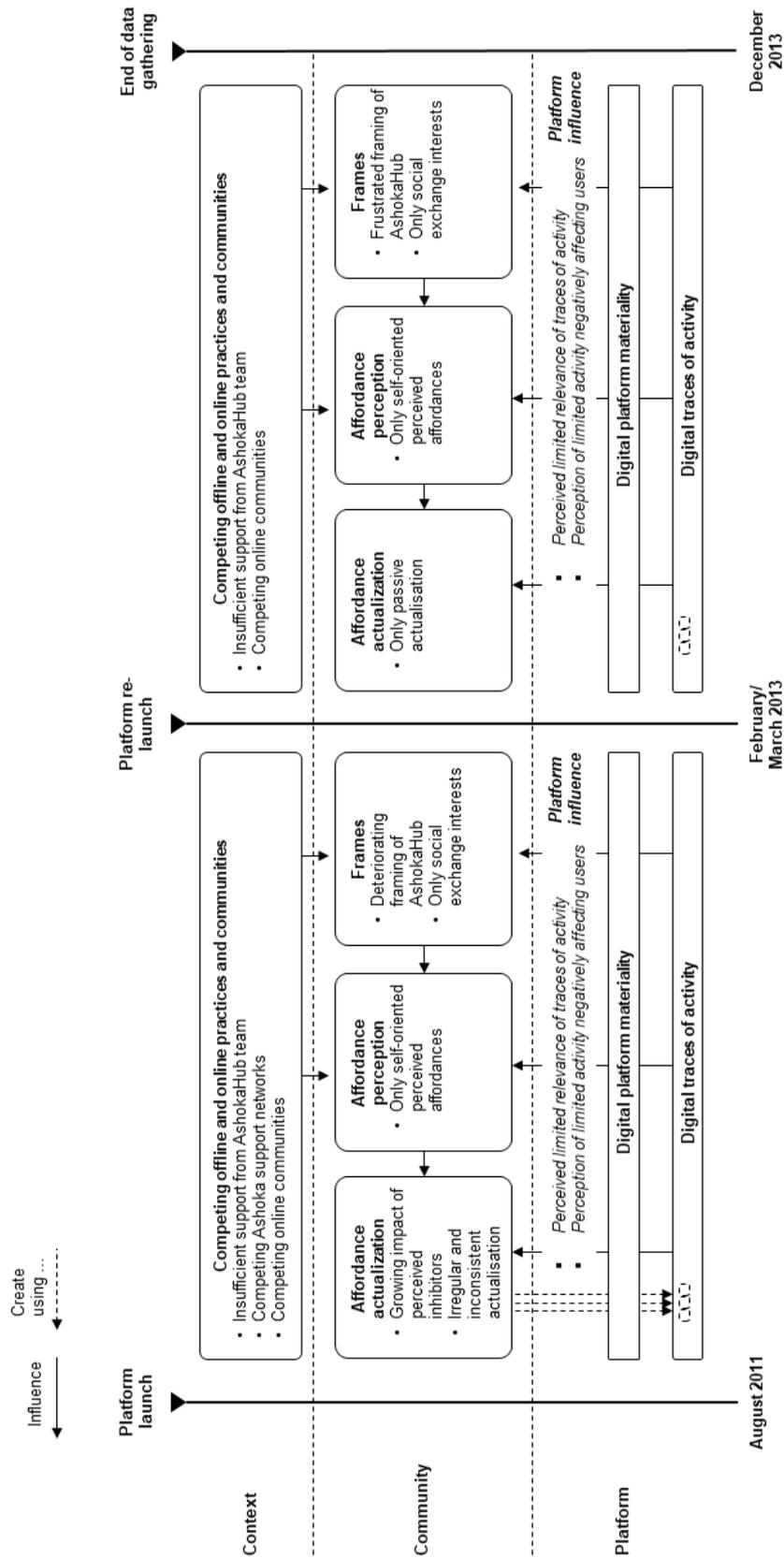


Figure 15. Evolution of Transactional Users after Launch

CHAPTER 8: EVOLUTION OF COMMUNITY BUILDER USERS – POST-LAUNCH

The analyses of netnographic and platform data revealed that, in contrast to transactional users, community builder users stuck with AshokaHub and gradually became more engaged with it. Subsequent interviews with these Fellows therefore aimed to understand why this had happened. This section analyses the observations made by community builder users in these interviews.

Context-level Findings in Phase 2

In Phase 1, community builder users already appeared to feel slightly more positive towards AshokaHub than transactional users. In Phase 2, having started to use AshokaHub, this positive view was largely sustained.

Sufficient support from Ashoka

In contrast to transactional users, community builder users appeared to take a positive view of curators' work on AshokaHub. Community builder users tended to appreciate curators' attempts to connect them with new opportunities, ideas and people and some had already had successful experiences thanks to the involvement of curators. Although not all community builder users were completely happy with the curators' work, they provided constructive feedback on what they thought would help increase engagement with AshokaHub. Some suggested that curators provide an emergency helpline that Fellows could contact if they were not sure how to use the platform. Others suggested that curators run small projects on AshokaHub for issues that needed to be solved in their respective countries and then bring in and engage groups of Fellows to work on these projects. Some also suggested that curators do regular health checks on the community and make sure that Fellows adhered to certain basic rules such as keeping their profile pages up to date. Overall, community builder users wanted curators to engage users in a more proactive and structured way.

Transactional users were also critical of local Ashoka offices in terms of their limited support for AshokaHub. While community builder users shared some of the transactional users' critical views, they again tended to be more constructive and positive overall. Some community builder users felt that local Ashoka staff were supporting getting Fellows on board with AshokaHub. Community builder users tended to be introduced or onboarded onto AshokaHub by local Ashoka staff – either in person, at local gatherings or via email. This activity appeared to have a positive effect on community builder users' perceptions of the support behind AshokaHub. In

some, although not all, local Ashoka offices there was even a concerted effort to follow up with new Fellows and keep them motivated on AshokaHub.

Competing Ashoka support networks as potential issue

This more positive attitude towards AshokaHub even appeared to extend to community builder users' perceptions of existing collaboration practices with local Ashoka staff. Transactional users had been very protective of this highly effective direct contact with Ashoka staff. By contrast, those community builder users with direct contact with local Ashoka staff tended to understand that by maintaining this contact they could potentially harm the development of AshokaHub. Not all community builder users had this direct contact, because their local offices in developing countries lacked the capacity or resources. In such resource-deprived settings, statements like the one above therefore seem even more powerful. While this Fellow's direct contact was very valuable to her, she started to question her behaviour because she fundamentally believed in the value of AshokaHub.

Competing online communities not necessarily superior

Transactional users usually belonged to several competing OCs, with which they were already heavily engaged. While some community builder users were engaged in other OCs, a significant number appeared to be less positive about these existing OCs. Some community builder users already communicated and collaborated with their non-Ashoka contacts and other Fellows via email or public OCs such as Facebook. They thus perceived AshokaHub as just one of many OCs. However, a significant number of community builder users observed that they did not like or use big public OCs such as Facebook or LinkedIn. In fact, they tended to prefer AshokaHub because it appeared more professional and connected them with other Fellows, particularly transactional users, and Ashoka staff around the world.

High-level category	Category	Concept	Illustrative quotes
Competing offline and online practices and communities	Sufficient support from Ashoka	Sufficient support from curators	<i>Any time you open the Hub you are introduced to new opportunities happening around the world. Also the staff always introduce you to new ideas and other people around the world. Yes, because I remember some time back I was introduced to the Japanese embassy field officer by the Ashoka office. The lady travelled all the way to Gambia to visit me, she went to the community to see what I was doing there. I think that is very laudable. (Ashoka Fellow, the Gambia)</i>
		Sufficient support from local offices	<i>I was introduced to the Hub by [X] and [Y]. [X] is the regional staff member in Mali and [Y] is at Dakar office. These are the guys who introduced me to the Hub. [...] Two weeks back, I received a follow-up by [X] telling me that 'I have seen what you are doing so keep it up'. (Ashoka Fellow, the Gambia)</i>
	Competing Ashoka support networks as potential issue		<i>I use the Director of Central America, I use the Director's email and through him, I look for new candidates. So I have communication but through the office. Like when I want to place someone or I see something interesting, or when I want to ask about a Fellow from Argentina, I do it by sending an email to the office and not through AshokaHub... maybe it's my fault, right? (Ashoka Fellow, Mexico)</i>
Competing online communities not necessarily superior			<i>Look, we are inundated with different websites, different platforms, different things that allow us to do loads of work. (Ashoka Fellow, South Africa)</i> <i>I find the AshokaHub more professional and more satisfying to me to spend time on and my resources than actually to go to Facebook. (Ashoka Fellow, Uganda)</i>

Table 18: Phase 2 - Context-level findings for community builder users

Context-level Findings in Phase 3

Sufficient support from Ashoka

Even though community builder users were a bit critical of the support Ashoka was giving AshokaHub, they appeared to be content overall and to care more about AshokaHub and wanted to share feedback with the team and ask them questions about. In contrast to transactional users, most of community builder users thought that, overall, the curators were doing a good job. Their comments tended to be more constructive, offering ideas on how curation could improve by taking a more structured, proactive approach. For instance, one Fellow suggested a “community manager” (Ashoka Fellow, Peru) who could make sure that only content that was relevant for a certain local or topic-specific community was posted. Another Fellow suggested a type of “moderated discussion” (Ashoka Fellow, India), in which a moderator would bring together interested Fellows and drive the discussion forward whenever Fellows contributed less. This variety of ideas appeared to suggest a feeling of ownership among community builder users that motivated them to help make AshokaHub better.

Limited local Ashoka support networks

Community builder users’ perceptions of existing Ashoka communities and collaboration practices may help explain their positive perceptions of curators’ work on AshokaHub and motivation to make the platform even better. In contrast to transactional users, community builder users tended to experience a lack of local Ashoka communities, which ran parallel to their general exposure to less mature infrastructure and fewer resources. Community builder users appeared not to meet regularly offline and even online attempts using group emails, LinkedIn and Facebook groups appeared to be “non-functional” (Ashoka Fellow, India). At the same time, community builder users tended to believe that a global Ashoka community already existed and felt very positively about it. AshokaHub thus seemingly became an opportunity to replace non-existent or non-functioning local communities with a functioning global community of Fellows.

AshokaHub as useful part of online community landscape

Finally, regarding their OC landscapes, community builder users again felt more positively than transactional users about integrating AshokaHub into their existing OC landscape. Like

transactional users, community builder users often had other non-Ashoka and private Fellow-to-Fellow collaboration arrangements in place using other technologies and OCs such as email, Twitter, Facebook or LinkedIn. As a result, many of them were “used to collaborating in social networks” (Ashoka Fellow, Peru) and saw AshokaHub as one of several OCs that they were engaged in. Like transactional users, community builder users thus argued that AshokaHub should be “a good copy of what Facebook or LinkedIn or Pinterest are doing right. Their best characteristics should be here also” (Ashoka Fellow, Peru). In this context, they pointed out superior features such as the higher visibility of other users’ activities on Facebook but also the superior amount of activity on these other OCs.

In contrast to transactional users, however, community builder users did not see this perceived superiority of other OCs in terms of their functionality or level of activity as a reason to drop out of AshokaHub. Instead, they appeared to find a ‘place’ for AshokaHub in their existing OC landscape. In the above quote, for instance, the Fellow suggested that AshokaHub was a space for connecting and collaborating with similar social entrepreneurs while other OCs were used to interact with his target population. In order to embed AshokaHub as effectively and efficiently as possible into this existing OC landscape, some community builder users even suggested integrating AshokaHub with other OCs on a technical level. For instance, this could mean that content could be shared between other OCs and AshokaHub so that a Fellow could, for example, pull his Facebook posts into AshokaHub, thus avoiding double-posting and increasing activity on the platform

High-level category	Category	Concept	Illustrative quotes
Competing offline and online practices and communities	Sufficient support from Ashoka	Constructive feedback regarding support	<i>I cannot identify a community manager (Ashoka Fellow, Peru) There is nowhere to email tech support. (Ashoka Fellow, Central America).</i>
		Curators doing a good job	<i>I'm interested in lots of material in there, especially material that the staff members [post]. [...] That's very, very nice work they are doing. (Ashoka Fellow, Egypt)</i>
	Limited local Ashoka support networks		<i>I don't think that we collaborate sufficiently. [...] In South Africa, as a whole, again, we very seldom see people. (Ashoka Fellow, South Africa)</i>
			<i>I think that the feelings that Ashoka Fellows have towards the community of Ashoka are very positive. (Ashoka Fellow, Peru)</i>
AshokaHub as useful part of online community landscape		<i>I think it's [sc. AshokaHub is] a different space. I'm using Twitter, 'Delink', Facebook, but they're for my target population. I use them to communicate directly with the 'locals'. That's my daily work, let's say. That's where I interact with the people I'm targeting. By contrast, AshokaHub has the orientation of offering me information or relationships with the group of people that are working in a space similar to mine. (Ashoka Fellow, Chile)</i>	

Table 19: Phase 3 - Context-level findings for community builder users

Community-level Findings in Phase 2

Positive and diverse framing of AshokaHub

While transactional users still saw AshokaHub as simply a connector and were fairly critical, community builder users framed AshokaHub in more diverse and positive ways. Like transactional users, community builder users saw AshokaHub as a connector of Fellows and Ashoka staff. In addition, however, some of them also framed AshokaHub in three other ways. Firstly, some framed AshokaHub as a bulletin board where opportunities were posted that Fellows could take up and use for their ventures. Secondly, some framed AshokaHub as a source of information about other Fellows, their work and more general issues in the social entrepreneurship space. Finally, some framed AshokaHub as an avenue for information sharing where Fellows could exchange ideas and share experiences with other Fellows in order to have a positive impact on the world.

Compared to transactional users, community builder users' frames regarding the nature of the AshokaHub platform were not only more diverse but also hinted at more active behaviour on AshokaHub. Community builder users did not feel that they would simply connect with other

Fellows and then leave the platform. Rather, they tended to see it as a place where actual collaboration and exchange with a defined purpose could take place. In fact, some community builder users argued that AshokaHub should become an “effective place oriented to create the systemic change with the interaction of the Fellows and the Ashoka team” (Ashoka Fellow, Mexico) and “more of a community of practice” (Ashoka Fellow, South Africa). In this way, AshokaHub should thus not only help individual Fellows’ ventures but also help Fellows jointly develop solutions to global issues.

Overall, these frames revealed much more positive perceptions than was the case for transactional users. Community builder users appeared to embrace and indeed like AshokaHub. They called it a “great place” (Ashoka Fellow, Mexico) and a “powerful tool” (Ashoka Fellow, Uganda). What is more, AshokaHub was so important to a number of these Fellows that they were willing to invest significant effort in accessing it. One Fellow from Uganda travelled to an Internet café every day just to make sure she did not lose out on collaboration objects posted on AshokaHub. Another Fellow arranged a meeting with his local Ashoka staff to make sure he was reconnected with AshokaHub when he had issues. Yet another brought in a member of her team to be responsible for regularly checking and collaborating on AshokaHub. Finally, one Fellow even updated and categorised the facts about his venture because he “should be prepared” (Ashoka Fellow, India) for when other Fellows needed his help and started asking questions about his venture and ideas.

Of course, community builder users also appreciated that AshokaHub was not yet perfect, especially in terms of the number of active users and the amount of activity and content. However, this did not seem to bother them. The findings indicate that these positive perceptions may reflect a deep trust in Ashoka and other Ashoka Fellows as well as Fellows’ experiences of hardship and resource constraints in their local contexts. Infrastructure issues, such as electricity outages, limited local Ashoka office support, fragmented or a lack of OCs and an almost permanent lack of resources appeared to have made community builder users more humble in their expectations, more frugal and grateful for what AshokaHub already offered and, at the same time, more willing to actively make AshokaHub work.

Despite these positive perceptions, community builder users did, however, agree with transactional users on the overall structure of AshokaHub. Community builder users saw the global Ashoka Fellow community not as one monolithic entity but rather as a constellation of communities, each revolving around certain countries, regions or topics. Fellows wanted to find and collaborate with ‘similar’ people, “not everybody” (Ashoka Fellow, India). They argued that AshokaHub did not yet reflect this ‘constellation structure’ of the Ashoka community. If it had, and if they could have helped run ‘their own’ “local branches” (Ashoka Fellow, South

Africa) of AshokaHub, it would have not only made their engagement with AshokaHub more efficient and valuable but also increased their sense of ownership.

Transactional users perceived constraints regarding the inability to create groups and collaborate with external people and organisations. By contrast, given their more diverse frames regarding the nature of the OC platform, community builder users identified diverse constraints. Firstly, some community builder users perceived the inability to access AshokaHub via their mobile phones. As busy entrepreneurs that were always on the move, community builder users felt that AshokaHub was so important to them that they wanted to be able to access it on the go. Secondly, some community builder users perceived the inability to co-create conversations and discussions on AshokaHub. As discussed above, some community builder users wanted to see AshokaHub as a more collaborative community. They were thus looking for interactive functionality for discussions, such as discussion threads or chat. They felt that the collaboration objects and comments were not enough to make this kind of collaboration happen. Finally, some community builder users perceived the inability to easily share different types of content. They were looking for ways of sharing YouTube videos and other media that would make their discussions and collaboration with other Fellows richer and more effective. In contrast to transactional users' perceptions of constraints, community builder users tended to perceive constraints that were not critical and would not necessarily lead them to leave AshokaHub. Rather, these constraints often related to functionality that, if introduced, would simply further increase the attractiveness of AshokaHub.

This supports a further finding: that a significant number of community builder users did not perceive any constraints related to the functionality of the AshokaHub platform. These community builder users were happy with AshokaHub's existing functionality and did not feel that they had goals that could not be achieved because of deficient or lacking functionality.

Interests beyond social exchange

Transactional users tended to apply an investment-and-return logic to their contributions to AshokaHub. Contributing to AshokaHub in order to get something valuable back was also a motivation, albeit not the only one, for community builder users. Community builder users wanted to get something out of AshokaHub. Like transactional users, they wanted to learn something new, obtain resources and build their reputation among Fellows. Some, as the quote above suggests, even applied the same investment-and-return logic as transactional users. Some were not satisfied with their 'return'; they wanted AshokaHub to be "effective" and were looking for "results" (Ashoka Fellow, Mexico) from their time investments. However, even

within this social exchange mindset, community builder users were not simply focused on their own venture. Rather, some of them reversed this logic and argued that if they wanted value from AshokaHub, then surely that was what they should provide for other users too. They therefore stated that they would only contribute “relevant information” (Ashoka Fellow, Mexico) that would be of interest and value to a significant number of other Fellows instead of just pushing anything and everything onto the platform.

In contrast to transactional users, however, community builder users also appeared to have another motivation that was independent of any returns on their engagement with AshokaHub: their identification with Ashoka and other Fellows. Community builder users had a tendency to feel very positive about Ashoka and other Fellows, their “Ashoka family” (Ashoka Fellow, Uganda), and thus identified with them. This identification often drove engagement with other Ashoka Fellows both off and on AshokaHub. This interest in engaging with AshokaHub and motivation for doing so differed from the social exchange interests discussed above because they did not require an immediate return. Rather, community builder users appeared to be happy to support other Ashoka Fellows by engaging with and contributing to the platform. This arguably made their contribution behaviour more robust against the perception of limited activity on AshokaHub and thus helps us understand why community builder users sustained their engagement with AshokaHub for longer than transactional users.

Balanced perceived affordances

Drawing on these frames, community builder users perceived a more balanced and broader set of affordances than transactional users. They perceived five affordances: ‘meeting other Fellows’, ‘discussing and sharing knowledge with other Fellows’, ‘obtaining resources and knowledge for own social venture’, ‘actively exploring’, and ‘showcasing own work’. As was the case for transactional users, community builder users no longer perceived two affordances: ‘collaborating on venture activities with other Fellows’ and ‘driving open source innovation for social issues’. Also, like transactional users, community builder users still perceived the affordances of ‘meeting other Fellows’ and ‘obtaining resources and knowledge for own social venture’.

In contrast to transactional users, however, community builder users kept perceiving the affordance of ‘discussing and sharing knowledge with other Fellows’. This indicates their tendency, in contrast to transactional users, to contribute content to the community and actively seek and drive interactions rather than passively waiting for them. This proactive stance also shows in community builder users’ new perception of the affordances of ‘actively exploring’,

and ‘showcasing own work’. When actualised, such proactive and innovative use of the OC could thus spark more interactions between users (e.g. when active exploration led to connecting two like-minded Fellows) or the sense of a richer community with more meaningful content (e.g. when Fellows showcased their work in detail).

Significant perceived inhibitors

Like transactional users, community builder users perceived affordances but also observed inhibitors that prevented them from continuously actualising them. Community builder users identified the same two inhibitors as transactional users and one additional inhibitor. Community builder users saw the lack of time and the complexity of using AshokaHub compared to other platforms as inhibitors. Again, these inhibitors appeared to be interrelated. Complexity might not have been such an issue if Fellows had had more time. In reality, however, struggling with complexity “exceeded [the] capacity” (Ashoka Fellow, Mexico) of some community builder users. In line with previous findings about community builder users, the data again indicate a degree of humility on the part of community builder users, who did not automatically blame AshokaHub but rather saw their own “lack of proficiency” (Ashoka Fellow, Mexico) as the cause of the inhibitors. These Fellows appeared to be willing to work hard to make AshokaHub work for them. They were even willing to overcome the disruptive infrastructure that was pertinent to their respective countries. For example, some community builder users faced power outages and Internet connectivity issues, which often made it impossible for them to actualise the affordances they perceived. However, as discussed earlier in this section, these community builder users did not see these issues as insurmountable barriers but rather put a lot of effort into overcoming them.

Continuous but inconsistent actualisation of affordances

There was only limited evidence, if any, for transactional users actualising their perceived affordances. By contrast, community builder users appeared to continuously actualise their perceived affordances. Again, the findings suggest that different affordances were actualised in different ways using the basic features of AshokaHub. For ‘meeting other Fellows’, some community builder users were proactive, looking for similar Fellows and contacting them, as in the above quote, while others were fairly passive, posting interesting collaboration objects and following other Fellows in order to be followed in return and eventually contacted by other Fellows. For ‘discussing and sharing knowledge with other Fellows’, some community builder

users created offers collaboration objects, explicitly offering their expertise and help to other Fellows or proposing to discuss a certain topic or idea, while others contributed to existing collaboration objects via comments. For ‘obtaining resources and knowledge (for own social venture)’, some community builder users created needs explicitly asking for resources, knowledge or help in some other form, while others responded to offers via comments. For ‘actively exploring’, community builder users used the search function or main activity feed regularly to find interesting users or collaboration objects and learn how others used AshokaHub. One Fellow even claimed that he “studied” (Ashoka Fellow, India) AshokaHub thoroughly. Some of them also used the following functionality to keep track of the users, collaboration objects and tags that they found during their exploration activities. Finally, for ‘showcasing own work’, community builder users updated their profile pages fully. Some then promoted themselves even more actively by creating collaboration objects or comments that described their ventures and expertise.

High-level category	Category	Concept	Illustrative quotes
Frames	Positive and diverse framing of AshokaHub	Diverse perceptions of nature of AshokaHub	<p><i>The way I categorize it right now is that the Hub is a place that, for the first time now, has all the Fellows that I have the option to connect to or know. (Ashoka Fellow, India)</i></p> <p><i>It's a great place like it's a very fruitful and resourceful space where you can find many opportunities. (Ashoka Fellow, Mexico)</i></p> <p><i>I find the Hub very interactive and educative because any time I open I generate lots of information. They may not be of my interest area but they also improve my knowledge about what is happening with other Fellows in various parts of the world who are following me. (Ashoka Fellow, the Gambia)</i></p> <p><i>I think it is a very critical forum for change makers to exchange their ideas, find opportunities, and share experiences for true, distinct transformation in the world. (Ashoka Fellow, Uganda)</i></p>
		Positive perceptions of AshokaHub	<p><i>Well, when I found out about the platform I was very happy. (Ashoka Fellow, Mexico)</i></p> <p><i>I love AshokaHub. (Ashoka Fellow, South Africa)</i></p> <p><i>I have a bit of challenges with sometimes the power in my office, the Internet connectivity, so those are some of my challenges. [...] It is so sad that I can't use my capacity to be able to utilise the Hub effectively. [...] I have to go outside to the Internet cafe to try and make sure I don't lose out on the event. (Ashoka Fellow, Uganda)</i></p> <p><i>I mean even this what has happened is brilliant. AshokaHub is brilliant. [...] It will grow, it will evolve. So, I don't want to be greedy and will utilise properly what is available. (Ashoka Fellow, India)</i></p>
	AshokaHub not reflecting 'constellation of communities' structure	<p><i>I think you have to change the way it's done. You have to change the fact that a bunch of techies like yourself are running it. [...] I mean hand it over. Give it to the local Fellows in South Africa. Give it to the technologically savvy Ashoka Fellows and say 'you run the South African branch of this thing. Set it up!' Set up in Brazil. Set up another in India. Set up these working local branches in a process, and then try and combine it further up the line. Give them a backbone in which they can actually control their own system. (Ashoka Fellow, South Africa)</i></p> <p><i>We may be on different communities as Ashoka Fellows and the Hub. We may be on different communities in terms of intervention. You see that in most cases, certain things that will be forwarded in the Hub would not be the same interest area with those guys. Sometimes you find your [in]box full of people following you but in a different intervention area. (Ashoka Fellow, the Gambia)</i></p>	
	Less perception of critical constraints	<p><i>Bring it on the phone also. Because nowadays we are moving about and we all got at least some sort of smartphone. Then, it will really speed up. (Ashoka Fellow, India)</i></p> <p><i>It's static, and it doesn't allow for the co-creation of a conversation of a community of practice or of that kind of work. (Ashoka Fellow, South Africa)</i></p> <p><i>We should be able to share easily whatever we want to share. (Ashoka Fellow, India)</i></p> <p><i>I don't see anything that needs to be changed in the platform. (Ashoka Fellow, Uganda)</i></p>	
	Interests beyond social exchange	Social exchange interests	<p><i>I am spending 40 dollars of my time per week on AshokaHub. And I'm not getting 40 dollars worth of anything back, I might add. (Ashoka Fellow, South Africa)</i></p>
Identification with Ashoka and other Fellows as key interest		<p><i>I love Ashoka! I am very impressed with the concept, with the work, with the Fellows, with the people that work in the Ashoka team. I'm a big fan so I do everything to collaborate and also I love meeting the Ashoka Fellows. I have done great collaborations with other Ashoka Fellows. (Ashoka Fellow, Mexico)</i></p>	

Affordance perception	Balanced perceived affordances	Maintained action possibility of meeting other Fellows	<i>I need collaborators. I'm very lonely. [...] For me, AshokaHub is an opportunity to connect with people whom I can filter out. (Ashoka Fellow, India)</i>
		Maintained action possibility of discussing and sharing knowledge with other Fellows	<i>I've got something to share. I've got something very big to share. (Ashoka Fellow, India)</i>
		Maintained action possibility of obtaining resources and knowledge for own social venture	<i>I am able to learn new ideas, new strategies on how to go about on the same thing. [...] I re-evaluate my strategies and redirect my work. (Ashoka Fellow, Uganda)</i>
		New action possibility of actively exploring	<i>I keep looking into what other Fellows are doing and keep adding them into my follow list. (Ashoka Fellow, India)</i>
		New action possibility of showcasing own work	<i>What I did is to showcase my new initiatives in the Hub. (Ashoka Fellow, the Gambia)</i>
Affordance actualization	Significant perceived inhibitors	Lack of time	<i>You don't have the time to investigate and spend many hours there. (Ashoka Fellow, Mexico)</i>
		Complexity of use compared to other OCs	<i>I find the usage of the Hub sometimes a little bit difficult so if my capacity could be improved on it that will help me a lot. (Ashoka Fellow, the Gambia)</i> <i>I would like to use more the AshokaHub. I just don't know, like how would you recommend for us to use it? [...] What is the best use we can give to it? (Ashoka Fellow, Mexico)</i>
		Disruptive infrastructure	<i>The place where I am also there is a problem of the Internet. [...] So, it's very painful for me to function. I can't even see any videos, it's too slow. That's why I have not functioned on AshokaHub. (Ashoka Fellow, India)</i>
	Continuous but inconsistent actualisation of affordances		<i>I am just looking at also individuals who are willing to offer some of their expertise to help me develop what is in my idea. I am also excited to report that, because I had that goal in my mind the very first month I said I became busy on Ashoka, I was able to link up with a consultant from the USA who is an Ashoka member and she came and helped me to do a survey on [...] poverty and maternal help and land rights of women. (Ashoka Fellow, Uganda)</i> <i>I started making some offers, I have made one or two I think. [...] I am also planning a third offer. (Ashoka Fellow, South Africa)</i> <i>I had very good information from [X] in India who was following me and he has sent me very good information on how do I go about reducing the effect of soil infertility. (Ashoka Fellow, the Gambia)</i> <i>For me, each time I wake up in the morning, at least every day I go to the AshokaHub, just to find out what is new, what funding opportunities is there. (Ashoka Fellow, Uganda)</i> <i>What I did is to showcase my new initiatives in the Hub. (Ashoka Fellow, the Gambia)</i>

Table 20: Phase 2 - Community-level findings for community builder users

Community-level Findings in Phase 3

Continued positive and diverse framing of AshokaHub

In contrast to transactional users, community builder users tended to frame AshokaHub in a much more positive and diverse way. Firstly, as in Phase 2, community builder users' perceptions of AshokaHub were overwhelmingly positive. They called it "very laudable" (Ashoka Fellow, the Gambia) and a "huge step forward" (Ashoka Fellow, South Africa). While few community builder users remarked, as in Phase 2, that AshokaHub was "a very wonderful idea" (Ashoka Fellow, Nigeria) but was a bit "overwhelming" (Ashoka Fellow, Egypt) and not quite working yet, the majority were positive both about the functionality of AshokaHub and the activity and content they perceived on it. As in Phase 2, community builder users felt that being able to use AshokaHub was worth the effort and were passionately reluctant to leave the platform. As one Fellow put it, "Not at all. I'm not ready to quit yet!" (Ashoka Fellow, Nigeria). This commitment to AshokaHub was also reflected in how often and regularly community builder users claimed to use AshokaHub. Overall, they were regular visitors with frequencies ranging from "always" (Ashoka Fellow, the Gambia) to "daily" (Ashoka Fellow, Egypt) to "at least once a week, maybe twice a week" (Ashoka Fellow, Egypt) to "a minimum [of] a couple of times in the month" (Ashoka Fellow, Peru). These Fellows also expressed their intention to keep using AshokaHub in this way. Finally, community builder users appeared satisfied with the progress AshokaHub had made since its launch and re-launch and were thus hopeful about its future.

This sense of AshokaHub's progress may also be linked to some community builder users' growing appreciation of the new functionality that had been available since the re-launch. While some community builder users, like transactional users, claimed that they did not know about or did not understand the changes, others commented positively on the platform changes. In particular, the new group and community features were considered useful, and community builder users were already taking part in some of the newly created groups on, for instance, rural development, health and education.

As in Phase 2, community builder users saw AshokaHub as a connector and source of information. In addition, however, two new framings emerged in this phase, which appeared to be extensions of framings from Phase 2. Firstly, some of these Fellows perceived AshokaHub as a place for sharing information and ideas. AshokaHub was not only an 'avenue for information sharing' as in Phase 2 but had become by Phase 3 a "space where such ideas are generated" (Ashoka Fellow, Chile). The theme of ideas shared and generated became salient in

Phase 3; this may be associated with the introduction of the idea collaboration object. Secondly, some Fellows saw AshokaHub as a community. This suggests a fairly significant shift in framing from a bulletin board to a place where actual interaction and collaboration happens and relationships are formed.

Despite these largely positive perceptions about the old and new functionalities, which according to one Fellow were “very easy to use” (Ashoka Fellow, Egypt), community builder users still perceived constraints. Firstly, community builder users, like transactional users, wanted to be able to connect, communicate and collaborate with external individuals and organisations, such as “philanthropists” or “impact investors” (Ashoka Fellow, Nigeria). In contrast to transactional users, however, community builder users appeared to put a lot of emphasis on preserving the internal Ashoka community for Fellows and staff and thus to redesign AshokaHub’s boundaries only conservatively. They wanted to protect “the intimacy of being inside the Ashoka community” (Ashoka Fellow, Peru). Secondly, some community builder users wanted to integrate AshokaHub with other OCs and technologies such as email. As discussed earlier in this section, community builder users were starting to use AshokaHub alongside their existing OCs and technologies and now wanted to embed it even more deeply in their OC landscapes in order to make it more effective and efficient. This included, for instance, being able to respond to comments on AshokaHub via email or share content from within AshokaHub in other OCs such as Facebook. As in Phase 2, however, none of these constraints appeared to be deal-breakers; instead, they were genuine attempts at making AshokaHub better for Fellows to use.

More diverse interests

As in Phase 2, community builder users appeared to have more diverse interests in AshokaHub than transactional users. Most importantly, these interests were not exclusively social exchange-driven, making community builder users’ engagement with AshokaHub more robust against the perception of limited activity on the platform. Community builder users were still motivated by social exchange-related interests such as obtaining resources, learning or gaining reputation. Moreover, they still identified with Ashoka, which some considered a “great association” (Ashoka Fellow, Egypt) and with the Fellow community, which they felt “proud” (Ashoka Fellow, Egypt) to be part of. The social entrepreneurship sector was considered “quite a lonely space” (Ashoka Fellow, South Africa) and Fellows thus identified with others who were facing similar challenges. In addition, however, two more interests emerged from the data.

Firstly, some community builder users engaged with and contributed to the platform for altruistic reasons: because they wanted to help. They mentioned that they wanted to specifically help other Fellows, for instance, by giving them advice or sharing their own experiences with a problem, and did not indicate that they wanted something in return. Sometimes, this interest appeared to be ‘mixed in’ with social exchange-related interests, where Fellows argued that they generally expected to receive replies to their contributions but appreciated that this would not always be the case.

Finally, some community builder users engaged with and contributed to AshokaHub because they were passionate about AshokaHub itself. They admired the idea behind AshokaHub and wanted to do what they could to help it succeed. In one country they even “created a manual, a handbook for Ashoka Fellows” (AshokaHub curator, Mexico), which outlined, especially for the benefit of older and non-English-speaking Fellows, how AshokaHub worked and what it was for.

It is worth noting that, again, community builder users appeared to have different interests at the same time. While all of them expressed social exchange-related interests, they all also mentioned one or more other interests such as social identification. Moreover, the three interests above relied to just a limited extent on perceived activity on AshokaHub. These interests thus helped drive community builder users onto AshokaHub despite the rather slow adoption and limited activity.

Balanced perceived affordances

The data suggest that in Phase 3, community builder users perceived and actualised the same affordances as in Phase 2 as well as one additional affordance: ‘using AshokaHub to encourage others to use it too’. A significant number of community builder users spent some of their time on AshokaHub encouraging other Fellows to use it too. There also appeared to be different ways of actualising this affordance. Some Fellows tried explicitly to create activity and content on AshokaHub so that other Fellows would see that something interesting was going on. For instance, they would create collaboration objects or comment on other Fellows’ and curators’ collaboration objects. Of course, they would only do this if they were genuinely interested in the content they were sharing or commenting on; they certainly did not want to ‘fake’ activity. Other Fellows shared content from AshokaHub with non-user Fellows, making sure to point out that this content was available on AshokaHub and often providing a link to this content in their message. Similarly, some Fellows came across questions in discussions with non-users outside of AshokaHub and then used AshokaHub to answer the question, providing their

discussion partners with links to content or people available on the platform. Yet other Fellows appeared to explicitly invite non-users onto AshokaHub, sometimes even running them through the process of registering and logging on to make sure they knew what to do.

Less significant perceived inhibitors and continuous actualisation of affordances

The data analysis revealed that lack of time and disruptive remained important inhibitors for community builder users in Phase 3. The infrastructure inhibitor here also referred to cases where the political situation in a country prevented a Fellow from fully using AshokaHub. While complexity of use compared to other platforms was still mentioned from time to time, it did not appear to be at all as critical as for transactional users. This is in line with the previous findings on how AshokaHub compared to other OCs such as Facebook.

In light of such inhibitors being perceived as less significant, users appeared more willing to actualise their perceived affordances in a continuous and regular manner. Using AshokaHub appeared to have become somewhat of a routine for these users, whether it related to reading posts or following up with other users.

High-level category	Category	Concept	Illustrative quotes
Frames	Continued positive and diverse framing of AshokaHub	Diverse perceptions of nature of AshokaHub	<p><i>AshokaHub has the orientation of offering me information or relationships with the group of people that are working in a space similar to mine. It's the place where I go to find projects. I can't do that in the same space where I interact with my target population. One needs to go out to look for projects or ideas – in a space where such ideas are generated. That's the role, let's say. (Ashoka Fellow, Chile)</i></p> <p><i>As of now, it's essentially a space where one can find and learn about things. It's like a shop window, a 'wall'. It's essentially a big 'wall' where one can put one's offers or receive offers. That's what it's currently doing for me. (Ashoka Fellow, Chile)</i></p> <p><i>I describe it as a Fellow community in which you can get an update, updated information about the Fellows and then connect with Fellows, see what the Fellow is updating on his or her work on the Hub. That's how I explain that. You know, it's a place where you can see what is the latest that I'm doing, that I'm talking about. (Ashoka Fellow, India)</i></p> <p><i>AshokaHub for me is a great platform in which I meet Fellows like me, interested in mankind, and save the weak people and the needy persons all over the world. AshokaHub charged me with hope and enthusiasm to continue in my message and believe more of myself and every social entrepreneur all over the world. (Ashoka Fellow, Egypt)</i></p>
		Positive perceptions of AshokaHub	<p><i>It is a very laudable medium of communication and linking the Fellows together. (Ashoka Fellow, Gambia)</i></p> <p><i>I think it's a huge step forward. I think it will get there. (Ashoka Fellow, South Africa)</i></p> <p><i>I am new in Ashoka, and I admired a lot the idea itself. It's very good to collect all the social entrepreneurs all over the world in a good platform online like AshokaHub. (Ashoka Fellow, Egypt)</i></p> <p><i>It has come up really well, and it is improving. (Ashoka Fellow, India)</i></p>

AshokaHub reflecting 'constellation of communities' structure more than before	<p><i>I'm looking at the communities right now...I am participating but in reality...so for example, here I'm seeing the community "Ashoka" and it says I'm already participating, I'm linked to it. But I don't really understand what that means. (Ashoka Fellow, Chile)</i></p> <p><i>I am not aware of any changes. Which have been the changes? [...] Yeah, I have not noticed the communities. (Ashoka Fellow, Peru)</i></p> <p><i>I'm in few groups. Rural development, health, education, so these are a few groups in which I am. [...] Interesting discussion happening on those groups. (Ashoka Fellow, India)</i></p> <p><i>About the communities: I think it's a good tool. I like it a lot. (Ashoka Fellow, India)</i></p>
Still perceptions of constraints but less severe	<p><i>All of the features, I think, are very easy to use. (Ashoka Fellow, Egypt)</i></p> <p><i>Ashoka is about social entrepreneurs. So we can have philanthropists, yes, impact investors, yes, who might want to look at somebody's idea and say, 'okay, I want to invest in this or something, who might become mentors, who might be there to just offer like one or two forms of advice from time to time or who might just come into a kind of discussion and then just give a suggestion or just give advice, yes. That would be nice. (Ashoka Fellow, Nigeria)</i></p> <p><i>The only missing potential members in the AshokaHub will be the funding agencies. These are the gaps that to my filling need to be incorporated. [...] The only missing feature in the AshokaHub is the donor community. (Ashoka Fellow, Gambia)</i></p> <p><i>I think all of them [sc. additional external partners] can make this a stronger community. Yeah. But I would be careful before opening the access to anyone additional, right? So that the community does not change the intimacy of being inside the Ashoka community. (Ashoka Fellow, Peru)</i></p> <p><i>So, if, for example, you see a Facebook update, they keep coming into your mail box and then, I'm not logged on to Facebook all time, but if there is an update about the group that comes to my mail box, I click it, that particular update only, then I go online and put my comment on it. [...] Then it is easy for me to follow up on the communication that is happening and go online and put it up. (Ashoka Fellow, India)</i></p>
More diverse interests	<p>Social exchange interests</p> <p><i>I know that there is a universe of over 3,000 people, and if I know that maybe 50% of them have seen what I have posted then, even though I have no comments on what I have posted, I know that my message is reaching out, because maybe I want to build a reputation then people are receiving the message. (Ashoka Fellow, Peru)</i></p> <p><i>I'll be frank with you. Offer is not the primary reason I come to AshokaHub. I come to Ashoka Hub to learn, you understand? To learn. Then second is to network, then when people post those needs, that just really confirms to me that I'm not alone. We all have needs. You understand? (Ashoka Fellow, Nigeria)</i></p>
Identification with Ashoka and other Fellows	<p><i>I engage on AshokaHub because I think it's very important to see others and to know others and to work via or through a big platform which supports the idea. Every one of us needs support, moral support, and when you see others that have the same interests, they have the same dedication and desire to make mankind more happy and less poor, when you try to do something good in life and see that there are others, like a small club of social entrepreneurs, it helps. [...] Your existence between people like you from the same side, from the same passion, it gives you enthusiasm. It gives you hope to continue. (Ashoka Fellow, Egypt)</i></p>
Altruism	<p><i>I want to help. (Ashoka Fellow, Nigeria)</i></p> <p><i>I expect people to answer, but I understand that not every time people are going to answer. (Ashoka Fellow, Peru)</i></p>
Passion for AshokaHub	<p><i>If every Fellow is connected to this, then we can have a very powerful tool. I know that that's not happened yet, and I am trying to help from what I can do, right? (Ashoka Fellow, Peru)</i></p>

Affordance perception	Balanced perceived affordances	Maintained action possibilities from Phase 2	<p><i>I had been going in more often to monitor what happens in my groups. [...] I also go in, since I have my groups so I go in to the Ashoka Mexico and Central America group and see what's up. Like what things have been going on? (Ashoka Fellow, Central America)</i></p> <p><i>My reason for interaction in the AshokaHub is basically very simple as any other Fellow. It is the medium of communication between Fellows and showing or informing each member what one is doing. It also serve as a platform of sharing information. (Ashoka Fellow, the Gambia)</i></p> <p><i>One of the ways is this joy of connecting with people that align on the same work. (Ashoka Fellow, Nigeria)</i></p> <p><i>I think that for me it's collaborating with the information that I have that might be useful for someone else or fostering the participation in the community with things that might be also a win for me or for my organization. It's not only, because I want to collaborate. That's one part, but at the same time, because it's useful or generates value for what we're doing. It's double the revenue for us, right? (Ashoka Fellow, Peru)</i></p>
		New action possibility of using AshokaHub to encourage others to use it too	<p><i>And the other thing that I'm using it for is...there are Ashoka Fellows that don't have access to this information and I send them offers. So, I tell them, 'Look, this is being offered on AshokaHub'. (Ashoka Fellow, Chile)</i></p>
Affordance actualization	Less significant perceived inhibitors	Lack of time	<p><i>The reason why I can't use it more is probably that I don't have the time. That's one of the biggest problems that one has. (Ashoka Fellow, Chile)</i></p> <p><i>I want to use the Hub a lot. I try. [...] But the problem has been that not enough time. So, just not enough time, so even my social networking on Facebook is almost zero now. (Ashoka Fellow, India)</i></p>
		Disruptive infrastructure	<p><i>I have to admit that I didn't use as much as I dreamed of using because the last period I had many things to do. You know, the political situation in Egypt was terrible and still is terrible. (Ashoka Fellow, Egypt)</i></p>
	Continuous actualisation of affordances		<p><i>I usually open Ashoka Hub to see what's new, who are the new colleagues, the new Fellows, and what are their ideas. I also look at activities of others and needs of others. Also about opportunities. This is very good part of Ashoka Hub. Opportunities give us a wide range of opportunities to look at to think about it. (Ashoka Fellow, Egypt)</i></p> <p><i>What I've tried to do every time is I try to put up the notice of our event, our online show broadcast, so we get people. I try to do English and Spanish, so we get people on the show to call in, to chat in since it's about entrepreneurs, and it's about solutions, and it's about global issues. (Ashoka Fellow, Central America)</i></p> <p><i>Whenever I read something that interests me, I make a comment. For instance the legal manager from Ashoka had something related to a venture capital firm that was trying to do something related to volunteering, and since that is my field I offered my time to do something with them. (Ashoka Fellow, Peru)</i></p> <p><i>My activities on the Hub have been on following up with some new Fellows, some new Ashoka staff that are online, so I went up and followed up with some of them. (Ashoka Fellow, India)</i></p> <p><i>Well certainly, every week I do read all the posts with regards to those categories that I've selected, so I do that. (Ashoka Fellow, South Africa)</i></p>

Table 21: Phase 3 - Community-level findings for community builder users

Platform-level Findings in Phase 2

Constructive perceptions of limited relevance of traces of activity

Like transactional users, community builder users felt that there were different types of relevant traces of activity on AshokaHub: those related to relevant users being active and relevant activity. Most also agreed that at the time there was only a limited number of such traces visible both on AshokaHub itself and in the AshokaHub newsletter. Overall, however, community builder users perceived the traces of activity on AshokaHub more positively. Transactional users often argued that the critical mass of relevant activity had not been reached. By contrast, while community builder users observed that relevant activity on AshokaHub was limited, they did not argue that there was too little of it. This could be explained by their different sets of interests, which included identification with other Fellows; this made them less heavily dependent on ‘returns’ in the form of relevant activity and content.

Perception of limited activity with mixed effects on community builder users

The perception of relevant users being active and relevant activity also influenced community builder users’ behaviour on AshokaHub on three levels. It appeared that similar influencing mechanisms were in place for transactional users and community builder users. However, because of the two groups’ different characteristics and perceptions, these mechanisms played out differently.

Firstly, such perceptions appeared to influence the frames of some community builder users. After some time engaging with and perceiving traces on AshokaHub, some community builder users appeared to have developed a perception of the overall AshokaHub population and its general behaviour. This perception could influence Fellows’ frames regarding the nature of the AshokaHub platform and interests on a fundamental level. In one case, for example, the effect was negative. The Fellow in question had reached the conclusion that there was a mismatch between the total active population on AshokaHub and his own expectations of collaboration partners. As a result, he questioned his otherwise positive perceptions of the platform.

Secondly, the perception of relevant users being active and relevant activity (or the lack thereof) appeared to influence the affordance perceptions of some community builder users. Influencing the affordance perception could mean that affordances were added, changed in nature or disappeared. For Fellow, for example, described the disappearance of an affordance; it indicates that at that time the Fellow was questioning the affordances ‘obtaining resources and knowledge

(for own social venture)’ and ‘actively exploring’ based on her disappointing experiences of irrelevant content on AshokaHub.

Finally, the perception of relevant activity appeared to influence the affordance actualisation of some community builder users. As for transactional users, the findings suggest that the perception of relevant activity (or the lack thereof) appeared to influence the ‘how’ of affordance actualisation, in that some community builder users explored AshokaHub to find out how other users were doing certain things, such as showcasing their ventures on their profile pages or choosing and crafting a collaboration object, and then applied this when actualising the related affordance themselves. The perception of relevant activity also appeared to influence the ‘whether’ of affordance actualisation. Some community builder users were waiting for the right content or comments on their own actions to respond to. When these did not appear, these Fellows remained inactive and did not actualise their respective affordances.

High-level category	Category	Concept	Illustrative quotes	
Platform influence	Constructive perceptions of limited relevance of traces of activity	Limited number of relevant active users perceived	<i>Well, it is most of the people that I know that would be involved in this kind of work are not involved in the AshokaHub. (Ashoka Fellow, South Africa)</i>	
		Limited number of relevant actions perceived	<i>I get a little bit frustrated when I don't get answers. [...] I don't know, I think that's what I'm afraid of, to invest time and not see results. (Ashoka Fellow, Mexico)</i>	
		Constructive perception of activity	<i>There is some physical activity going on in the form of needs and updates and offers, which is of interest. (Ashoka Fellow, India)</i>	
	Perception of limited activity with mixed effects on community builder users	Perception of activity shaped by AshokaHub newsletter	Perception of activity shaped by AshokaHub newsletter	<i>So, I keep getting this email list in which [sc. there are] the needs and offers in the area of my interest I subscribed to. I don't find much in them to kind of log on to the Hub and respond back to them. (Ashoka Fellow, India)</i>
			Negative effects on users' framing	<i>Most people that are there, our similarity is very limited. We are more into action. So, my kind of work is very, very limited within Ashoka. Most people are working on advocacy or legal issues which is something that I don't work. (Ashoka Fellow, India)</i>
			Negative effects on users' perceptions of action possibilities	<i>When you look at opportunities, and for some reason you're left out because of some category, you get discouraged and you stop investigating more things, because you feel like many don't apply to you. (Ashoka Fellow, Mexico)</i>
			Mixed effects on users' actualisations of action possibilities	<i>I'm already creating my own profile from the profiles I pick from the Hub. (Ashoka Fellow, Uganda)</i> <i>I think that, like I said, the Ashoka staff post very interesting things and, for me, it's a reference when the Ashoka staff post something. (Ashoka Fellow, Mexico)</i> <i>I couldn't find to date nothing that I would interact with them through the Hub – on those offers that they have made. (Ashoka Fellow, India)</i>

Table 22: Phase 2 - Platform-level findings for community builder users

Platform-level Findings for Phase 3

Increasingly positive perceptions of relevance of traces of activity

As in the previous phase, community builder users appeared to perceive traces of activity through two channels: the AshokaHub digest newsletter and the filtering and search functionalities on AshokaHub. This is different from transactional users, who tended to use only the AshokaHub digest newsletter, which, as discussed, did not necessarily provide an accurate picture of all traces of activity on the platform. Arguably, community builder users thus had a more comprehensive view of active users and activity on AshokaHub than transactional users and were therefore less likely to dismiss all traces of activity as irrelevant.

Like transactional users, community builder users thought that there was a limited number of relevant users being active and limited relevant activity on AshokaHub. Community builder users did not see many other Fellows being active that they were interested in. They also felt that there was only limited relevant activity in terms of “interaction” (Ashoka Fellow, Chile) or filling out profile pages so other users could understand what the Fellow was working on. As with some transactional users, some community builder users also considered AshokaHub to be “big” and “overwhelming” (Ashoka Fellow, Egypt) because of the wealth of irrelevant activity and content that they had to filter through when they accessed the platform.

Nevertheless, and in stark contrast to transactional users, community builder users saw this limited activity in a positive light. Instead of complaining about the lack of activity, they tended to emphasise that there were indeed some relevant users and relevant activity and content to be found on AshokaHub. Some Fellows had found and connected with other Fellows who ended up supporting the Fellow in one way or another. In one case, a Fellow found and connected with a staff member from Spain who helped her connect with Spanish organisations in her field and even organised a small conference for her. Fellows also observed that other Fellows got back to them on their collaboration objects and comments, for instance, giving their opinion about a question, and that other Fellows followed their collaboration objects and got in touch with them. Finally, some Fellows, like one who claimed to be “interested in lots of material” (Ashoka Fellow, Egypt) found relevant content on AshokaHub.

What emerged from community builder users' observations was that these Fellows appeared to be frugal and positive about the future development of AshokaHub. Of course, they wanted more relevant users, activity and content, but they also appeared fairly content with what they had already. They observed that AshokaHub was picking up speed. They did not necessarily expect replies to all of their contributions but felt that AshokaHub was worth their time nonetheless. In contrast to transactional users, therefore, there was no sense of a critical mass of relevant users or activity not being reached. As such, community builder users also appeared much less likely to simply drop out of AshokaHub. In line with this overall positive perception, only few community builder users were critical of the AshokaHub digest newsletter, and some even observed that the content had become "much more concrete" (Ashoka Fellow, India).

Perception of activity with increasingly positive effects on community builder users

These perceptions of relevant active users and relevant activity on AshokaHub influenced community builder users' frames, affordance perceptions and actualisation. Overall, one could argue that in contrast to transactional users, these positive perceptions had a positive influence on community builder users. Regarding the influence on community builder users' frames, the data suggested that perceptions influenced the frames regarding the nature of the OC platform and interests. On the one hand, Fellows developed the nature of OC platform frames of AshokaHub over time that embodied their assumptions and feelings towards the platform. These framings were shaped by Fellows' perceptions of users, activity and content and, as discussed before, shaped affordance perceptions in turn. This worked in both directions. Fellows who perceived only limited users and activity on AshokaHub were likely to not "feel the community" and frame AshokaHub as a "cold" place (Ashoka Fellow, Peru) that was "not effective" (Ashoka Fellow, Egypt) for Fellows. In some cases, Fellows appeared to be close to framing AshokaHub as a place where they did not belong. One Fellow felt that her "opinion [did not] count" (Ashoka Fellow, Nigeria) because she did not get replies to some of her posts, while another Fellow interpreted the omnipresence of US-related "offers" the same way (Ashoka Fellow, the Gambia). Others who did perceive relevant users, activity and content were likely to frame AshokaHub as a connector or source of information, as discussed previously. In contrast to transactional users, however, no community builder user framed AshokaHub as obsolete. On the other hand, perceptions appeared to change or reinforce interests, depending on what kinds of interests they had. For some with strong social exchange-related interests, these interests decreased if, over time, they did not find relevant activity or content on

AshokaHub. For others, positive perceptions of relevant users and activity appeared to increase their motivation.

The perceptions of relevant active users and relevant activity on AshokaHub also influenced community builder users' affordance perceptions. In particular, they appeared to influence whether or not the affordance of "discussing and sharing knowledge with other Fellows" was perceived by community builder users. Affordance perceptions appeared to depend on a broader and longer perception of activity and content to ascertain whether AshokaHub actually offered this possibility for action. In one example, a Fellow started to perceive this affordance because he could see enough relevant activity because there were people following him and the Fellows he was interested in had completed their profile pages. In another example, a Fellow did not sustain this affordance because he did not see how many users actually participated. Since he did not see many comments on his collaboration objects and had, due to AshokaHub's functionality, no way of knowing who had viewed them, he felt that discussing and sharing knowledge with other Fellows was not yet possible on AshokaHub. In a final example, two Fellows perceived the same development on AshokaHub but reacted to it differently. One Fellow did not quite perceive the discussing and sharing affordance yet; he was unsure what kind of collaboration object and content to create on AshokaHub. He had observed over time that other Fellows' contributions throughout AshokaHub had been very specific to their particular area of interest and the only common denominator appeared to be funding. Lacking access to specific funding sources, he found it hard to contribute something that would help at least a significant number of Fellows. Another Fellow, however, had perceived the exact same development in terms of activity and content on AshokaHub but perceived an affordance because he did have access to funding information.

Finally, the perceptions of relevant active users and relevant activity on AshokaHub also influenced community builder users' affordance actualisation. In particular, community builder users seemed to be inspired by other users' activity to actualise their affordances in certain ways. Firstly, it appeared to influence whether community builder users actualised their affordances. This differed from affordance perception because it appeared to depend on specific activities by other users on AshokaHub that triggered an almost immediate actualisation by community builder users. Prime examples of this were replies by other users to collaboration objects, comments or private messages that Fellows then reacted to via comments, messages or following, effectively actualising an affordance such as 'discussing and sharing knowledge with other Fellows' or 'meeting other Fellows'. In other cases, it appeared that some activity by other users that was unrelated to the Fellow's earlier activity triggered the Fellow into action because,

for instance, it showed that something was now appropriate to post. Sometimes, this bursting into activity triggered a snowball effect in terms of other users' activity.

On the other hand, it appeared to influence how community builder users actualised their affordances. The breadth of basic features on AshokaHub, including collaboration objects, comments, messages, following and so forth, the fact that most of these features required Fellows to write some sort of text, which in itself could reflect many genres and structures, and the ability to combine certain basic features and text over time gave users a wide array of options regarding their affordance actualisation. Some community builder users thus used what they saw other users doing or creating and copied it or incorporated it into their own actualisations. For some, this meant getting inspiration from other Fellows' profile pages for their own page; for others, it meant emulating other users' contribution behaviours to increase engagement with their own collaboration objects.

High-level category	Category	Concept	Illustrative quotes
Platform influence	Increasingly positive perceptions of relevance of traces of activity	Limited number of relevant active users perceived	<i>I don't see any active presence of my country on AshokaHub (Ashoka Fellow, Nigeria)</i>
		Limited number of relevant actions perceived	<i>A lot of people listening and lurking, but there is not a lot of posting (Ashoka Fellow, Central America)</i> <i>Fellows only try to advertise themselves or their plan of action (Ashoka Fellow, the Gambia)</i> <i>We need more content, more on a daily basis (Ashoka Fellow, Peru)</i>
		Increasingly positive perception of activity	<i>A very, very great or successful thing I achieved through AshokaHub (Ashoka Fellow, Egypt)</i> <i>There is a little more momentum (Ashoka Fellow, India)</i> <i>Even though people don't get to comment often, it helps my work in other ways such as learning (Ashoka Fellow, Nigeria)</i>
	Perception of activity with increasingly positive effects on community builder users	Mixed effects on users' framing	<i>I'm less motivated to log on (Ashoka Fellow, Chile)</i> <i>I've got followers, man. [...] It's incentive for me to post stuff (Ashoka Fellow, Central America)</i> <i>Every one of us needs support, moral support, and when you see others that have the same interests, they have the same dedication and desire to make mankind more happy and less poor, when you try to do something good in life and see that there are others, like a small club of social entrepreneurs, it helps. (Ashoka Fellow, Egypt)</i>
Mixed effects on users' perception of discussing and sharing action possibility		<i>[I know I can share because] I can see enough people on the platform that can give some input (Ashoka Fellow, India)</i> <i>[I know I can share because] I saw many people contributing to the Hub and sharing funding information. I was privy to some of the funding information. I thought of sharing it with other people as well (Ashoka Fellow, India)</i> <i>[I don't think I can share because] I am completely blind as a user of how participative [...] this network is (Ashoka Fellow, Peru)</i>	

	<i>[I don't think I can share because] other than fundraising, which is everybody's concern, it is practically impossible to add value to what somebody else is doing (Ashoka Fellow, South Africa)</i>
Inspiration for users' affordance actualisations	<p><i>I think it's more to do with the Ashoka staff posting on AshokaHub about new funding opportunity. I saw that opportunity, and I then immediately logged into the Hub and then through that I posted some of the opportunities that I came across. So it was a process because of that. Then I saw some of the people following up those particular activities. Then I started searching. The trigger was from the Hub posts, which were coming in terms of new posts, which was a trigger, which made me search that. (Ashoka Fellow, India)</i></p> <p><i>If I see that someone else has posted something that has had a lot of use or a lot of 'likes', then I can learn from that. And I can see that maybe that person included a video or images. So next time I can do that to gather more attention, to connect better to the community. (Ashoka Fellow, Peru)</i></p>

Table 23: Phase 3 - Platform-level findings for community builder users

Chapter Summary

Community builder users were late adopters who slowly became more active on AshokaHub. Their predominant trajectory led them into AshokaHub because some of the key characteristics were different for them than for transactional users. Firstly, their interests were more diverse. While they too were interested in a return on their investment in AshokaHub, they also appeared to be driven by their identification with Ashoka and other Fellows. This made them more robust against the limited number of relevant active users and relevant activity and content which they perceived. They tended to be more tolerant and patient with their interests compared to transactional users. Moreover, they did not have the same resources and opportunities as transactional users: they had limited personal resources and their local offline communities and OCs were less vibrant. As such, being active on AshokaHub still appeared to be a good 'investment'. In phase 3, the trajectory of community builder users was even more strongly towards AshokaHub. With local offices and curators supporting AshokaHub more strongly and traces of activity created by other community builder users becoming more frequent, an increasing number of such Fellows became active themselves and even perceived more affordances. The changed platform structure, which now allowed for local or topic-specific communities to be created, gave these users the feeling of their own space on AshokaHub. Figure 16 summarises the findings of this chapter.

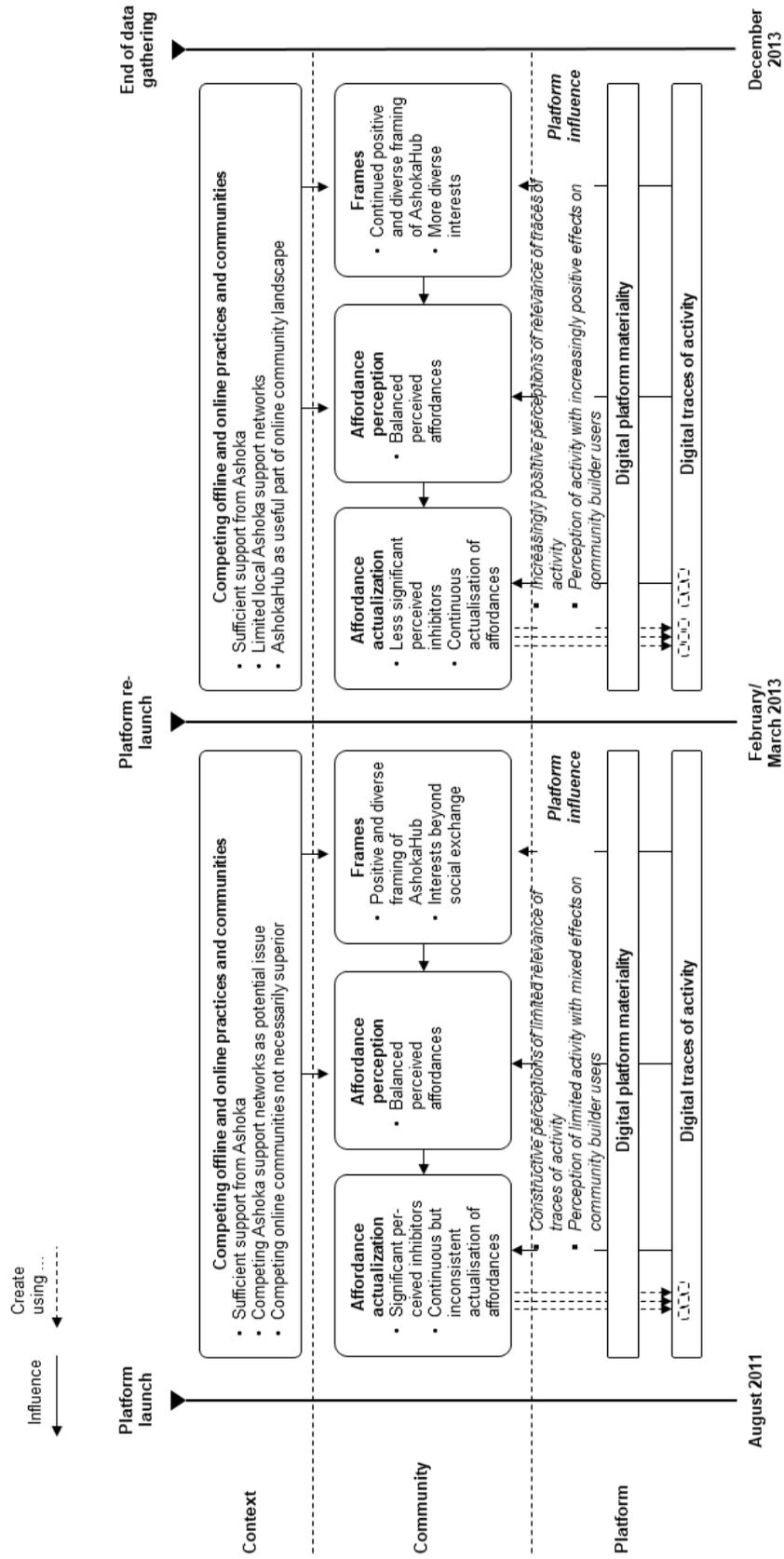


Figure 16. Evolution of Community Builder Users after Launch

CHAPTER 9: EVOLUTION OF CURATOR USERS – POST-LAUNCH

Local Ashoka staff who were active on AshokaHub are referred to as ‘curators’ in this study. This user group only emerged in Phase 2. However, in this phase these Ashoka staff members were not formally known as ‘curators’ within Ashoka and had not received dedicated training. Instead, these were ‘regular’ Ashoka staff members whose job it was to support their local Fellows. They used AshokaHub because they had been asked to support it by the AshokaHub team or were exploring whether AshokaHub would help them in their day-to-day jobs supporting their local Fellows.

The analyses of netnographic and platform data revealed that curators became the contribution ‘backbone’ of AshokaHub. Subsequent interviews with curators therefore aimed to understand why this had happened. This chapter analyses the observations made by curators in these interviews. It first looks at themes at the context level and then at themes at the community and platform levels.

Context-level Findings in Phase 2

No globally coordinated activity by curators

Ashoka was going through a slow process of culture change that had not yet been completed across all local Ashoka offices. While AshokaHub was a result of this shift in thinking of Ashoka globally, its adoption by Fellows was inhibited by existing local Ashoka communities and practices. Curators in developed countries in particular noticed this issue and felt that communication regarding AshokaHub should reflect this and help manage users’ expectations carefully. However, there was little consistent communication with users, and some curators feared that this communication void was being filled with Fellow’s exceedingly high expectations.

In light of the attempted global culture change for Ashoka and the launch of AshokaHub, this lack of continuous communication by the AshokaHub team appeared to have left local Ashoka offices uncertain about how to set their priorities and deal with AshokaHub. This uncertainty was compounded by the fact that there appeared to be no pervasively used global curation strategy. Different offices and curators thus appeared to apply different strategies for engaging ‘their’ local Fellows. As one curator put it, she used her “own approach” (AshokaHub curator, Indonesia). Without a clear, consistent and pervasively used strategy, curators were left to their

own devices and, often without training and support from their local offices, created very different experiences for their Fellows.

Competing Ashoka support networks maintained

As curators began to engage with and contribute to AshokaHub in different ways, local offices arguably impeded the adoption of AshokaHub in a number of ways. Although communication with Fellows was possible on AshokaHub, local curators often decided to use existing local group email because this way they could ensure that all of their Fellows received the message. Since not all Fellows were active on AshokaHub, curators and staff understandably wanted to avoid the “double task” (AshokaHub curator, Indonesia) of sending a message via email and AshokaHub. Moreover, local curators and staff kept creating the local newsletters that provided local Fellows with hand-picked, locally relevant, valuable information and opportunities. Those local Fellows that were mostly looking to receive such information therefore had little incentive to log on to AshokaHub. Finally, local curators and staff also tended to refuse to use AshokaHub internally, preferring instead to use “emails and Skype and other media” (AshokaHub curator, Indonesia).

High-level category	Category	Concept	Illustrative quotes
Competing offline and online practices and communities	No globally coordinated activity by curators	Lack of global strategy	<i>I think today we have no strategy probably.</i> (AshokaHub curator, USA)
		Inconsistent communication to Fellows	<i>We need to communicate about that platform differently so that expectations are set up a little bit more cautiously when Fellows log on the AshokaHub for the first time, for example.</i> (AshokaHub curator, USA)
	Competing Ashoka support networks maintained		<i>We need to avoid the double task</i> (AshokaHub curator, Indonesia) <i>I prefer using emails and Skype and other media</i> (AshokaHub curator, Indonesia)

Table 24: Phase 2 - Context-level findings for curators

Context-level Findings in Phase 3

No globally coordinated activity by curators

In Phase 3, as in phase 2, curators made observations about the lack of or inconsistent communication about the value of AshokaHub. Particularly curators from developed countries

appeared unsure about the vision and value of AshokaHub. They thus observed that it was important to answer these questions consistently and then communicate the answers to their Fellows in a “campaign of reframing Ashoka communication” (AshokaHub curator, Germany). This was particularly necessary, they argued, for the older generations of transactional users who had been used to Ashoka being a service provider and were then supposed to change their practices and also give up some of their current conveniences. AshokaHub communication therefore had to continuously tell the story of AshokaHub, reminding these Fellows of its value and telling them what part they could play in making it happen.

Competing Ashoka support networks maintained in developed countries

Interestingly, it was the curators from developing countries and not the curators from developed countries who appeared to actually drive the change and make significant changes to their behaviour. Developed country curators were worried about AshokaHub’s existing deficiencies, such as platform errors, the lack of native language support or the limited number of active users and relevant activity and content. They feared that these small deficiencies would deter their transactional users and also ASN members for good because of their very low frustration tolerance. Even if they claimed that they wanted to push AshokaHub more, it appeared that their local offices were opposed to such a move because they felt they could not “really introduce it until it’s perfect” (AshokaHub curator, USA). These local offices were thus waiting for these deficiencies to be solved before they committed to AshokaHub fully, not realising or not caring that they were thus perpetuating these exact issues.

This low prioritisation of AshokaHub also appeared in other areas for curators from developed countries. For instance, one curator saw “a bit of a competition or a bit of too many platforms overwhelming [the curator] in [her] everyday use” (AshokaHub curator, Germany), indicating that AshokaHub was not given a high priority at her workplace. Another curator complained that AshokaHub had not “really been pushed as a priority for [her] team” (AshokaHub curator, USA), that building a separate local OC on a different platform was being discussed by the team and that she had to work on a “huge directory” (AshokaHub curator, USA) of Fellows and useful external contacts for the local office despite her pointing out that AshokaHub already offered this. Moreover, all curators from developed countries confirmed that their local newsletters, which arguably competed with the AshokaHub digest newsletter and with AshokaHub in terms of its content, were still in operation. Finally, existing communication with local Fellows and staff using other technologies such as email or Google groups were also maintained, again arguably competing with AshokaHub.

This does not mean, however, that curators from developed countries boycotted AshokaHub; they appeared to do whatever they could to push AshokaHub and also appeared to appreciate the need to move the local community and corresponding communication onto AshokaHub. For instance, these curators included AshokaHub in the process for getting new Fellows on board so that these Fellows were immediately acquainted with the platform. Moreover, they tried to discuss AshokaHub at their local Fellow meetings, encouraged Fellows with needs or offers to post them on AshokaHub and integrated links to content on AshokaHub into their existing Fellow communication. Nevertheless, they appeared to be too constrained by their local offices' priorities to really drive transactional users onto AshokaHub and conceded that it would be a "slow process" (AshokaHub curator, Germany).

Competing Ashoka support networks adapted in developing countries

For curators from developing countries, the approach was different. It appeared that local offices' priorities were being aligned with AshokaHub and AshokaHub was made a cornerstone of local offices' engagement with Fellows. In the case of the East Africa office, for instance, AshokaHub was apparently used in orienting Fellows, in the local newsletter and as a virtual representation and history repository for local office opportunities and events. The Mexican local office also used the new community and group features to create a "local Mexican community" (AshokaHub curator, Mexico) to which they invited all of their Fellows and other members and used the new 'share' button on the platform to distribute content to their Fellows easily. Like their counterparts in developed countries, curators from developing countries also temporarily maintained their existing communities and practices for local Fellow and staff communication. However, they built upon them, even though it meant "double work" (AshokaHub curator, Mexico), to ensure a smooth transition and, in contrast to curators from developed countries, with the goal of making AshokaHub a core piece of their communication and collaboration with their Fellows.

High-level category	Category	Concept	Illustrative quotes
Competing offline and online practices and communities	No globally coordinated activity by curators	Uncertainty about value of AshokaHub	<i>What is Hub actually for? Like, when would we be happy, you know?</i> (AshokaHub curator, Germany)
		Inconsistent communication to Fellows	<i>We need a campaign of reframing Ashoka communication</i> (AshokaHub curator, Germany)
	Competing Ashoka support networks maintained in developed countries		<i>I, as a network curator here in Germany, was afraid that if I opened this up to Fellows now and encouraged them so much to get on the Hub and use it and then their user experience might be a frustrating one because, you know, they don't understand things or a couple of tags didn't work or those things, then I'm going to lose them forever probably because their frustration tolerance is really low.</i> (AshokaHub curator, Germany)
			<i>We can't really introduce it until it's perfect</i> (AshokaHub curator, USA)
	Competing Ashoka support networks adapted in developing countries	<i>We understood that if we wanted to see the full potential of this platform, it would have to be with the density of Fellows, you know, the critical mass of Fellows. So, we've always really pushed to make sure that it is a core offering that we provide as part of this onboarding of new Fellows. [...] We make sure all of our newsletters point back to the Hub and all of our offers are on the Hub [...] so that they're [sc.: our Fellows] feeling like it is a vibrant space.</i> (AshokaHub curator, East Africa)	

Table 25: Phase 3 - Context-level findings for curators

Community-level Findings in Phase 2

Positive and diverse but reserved framing of AshokaHub

Curators saw AshokaHub as a connector, an avenue for information sharing and a bulletin board. Curators' frames were thus very similar to those of community builder users. Their frames were also more diverse than those of transactional users and hinted at a more active stance in terms of their behaviour on AshokaHub. Curators tended to see the platform as a place where actual collaboration and exchange with a defined purpose could take place. Moreover, just like community builder users, some curators argued that AshokaHub should become a real community for collaboration. This community thinking also applied to curators themselves. Just like Fellows, some curators emphasised the need to be connected and collaborate with each other.

Overall, these frames were positive. However, they also emphasised that AshokaHub was not yet tailored to curators' needs. In particular, curators perceived two main constraints on AshokaHub. Firstly, just like some community builder users, some curators remarked on the

inability to co-create conversations and discussions on AshokaHub; they were looking for interactive functionality for discussions, which AshokaHub did not offer at that time. Secondly, curators perceived the inability to get transparency regarding the activity of ‘their’ Fellows; they felt that in order to do their curation job properly they needed a dashboard of sorts that would help them understand what their Fellows were doing and email notifications when one of ‘their’ Fellows was active on AshokaHub. In this way, they could intervene or support efficiently where necessary and would not have to be online all the time.

Only job-related interests

These frames regarding the nature of the OC platform and its constraints fit well with curators’ frames regarding their interests in contributing to AshokaHub. In Phase 2, curators tended to be motivated mainly by adhering to their job profiles. Curators were using AshokaHub as part of their job at Ashoka. Most of them were not full-time curators or officially called that. Rather, they were more generally in charge of their local offices’ Fellow groups and were exploring how AshokaHub could help them make their jobs more effective or efficient. Hence, if they found that AshokaHub did not, in fact, make their jobs easier or if their job profiles changed, this could reduce their engagement with the platform or even cause them to drop out.

Discussing and sharing knowledge with other Fellows as only perceived affordance and continuous actualisation of this only affordance

The data suggest that this set of frames led curators to perceive and actualise just one affordance: ‘discussing and sharing knowledge with other Fellows’. Perceiving and actualising this affordance was in line with curators’ interests because their job profiles required that they support their Fellows. At the same time, given that engaging with AshokaHub was not a priority for local offices, it is logical that curators did not go for active exploration or meeting other Fellows. Instead, they simply tried to support their Fellows by posting relevant content and communicating with them around these contents. To this end, curators mainly created need and offer collaboration objects, used the commenting functionality to communicate with Fellows about these collaboration objects and used the private message functionality for private conversations.

Complexity of use only slight inhibitor

Curators did not see strong inhibitors for their affordance actualisation. Lack of time, which was the predominant inhibitor for Fellows, did not seem to affect curators because they were working when spending time on AshokaHub. The only slight inhibitor that they saw was the complexity of AshokaHub use compared to other platforms or technologies. While arguing that AshokaHub was fundamentally easy to use, they only observed small things such as being able to reply to all participants of a conversation, which was possible with email but not with AshokaHub.

High-level category	Category	Concept	Illustrative quotes
Frames	Positive and diverse but reserved framing of AshokaHub	Diverse perceptions of nature of AshokaHub	<i>I think I see it as a medium to get people connected easily, so I think AshokaHub is a connector. (AshokaHub curator, Indonesia)</i> <i>Right now, honestly, it feels like a bulletin board. [...] It's not particularly dynamic. (AshokaHub curator, USA)</i> <i>AshokaHub should be the one space where social entrepreneurs connect with the ideas, the resources, and the people that can help them advance in their work [and it should therefore] serve the purpose of building community as well as pulling and aggregating resources (AshokaHub curator, USA)</i>
		Positive perceptions of AshokaHub	<i>There is huge value [and] potential (AshokaHub curator, USA)</i> <i>If I can be connected to the staff that are similar to me, it will help me a lot so I will see AshokaHub useful for my work (AshokaHub curator, Indonesia)</i>
		AshokaHub not yet tailored to curators' needs	<i>It should be a place where people can exchange ideas and information. (AshokaHub curator, Indonesia)</i> <i>I would like to easily be able to see all US activities and be able to interact with US Fellows at the click of a button. (AshokaHub curator, USA)</i>
	Only job-related interests	<i>I definitely see that Ashoka staff are more active than Fellows. I don't necessarily think it's a bad thing because it's our job to be active on it. (AshokaHub curator, USA)</i>	
Affordance perception	Discussing and sharing knowledge as only perceived affordance		<i>I think that it is similar to Facebook. We can easily get connected with people in Ashoka and also exchange the information and ideas. (AshokaHub curator, Indonesia)</i>
Affordance actualization	Continuous actualisation of only affordance		<i>We would create a lot of offers and needs in a couple of weeks on Hub or also link to other offers and needs that were already there. (AshokaHub curator, USA)</i> <i>I was just posting Needs and Offers and trying to catch as early as possible anytime a US Fellow was posting, so that we can respond quickly and ensure there is value in using the platform. (AshokaHub curator, USA)</i>
	Complexity of use only slight inhibitor		<i>AshokaHub isn't complex, it is quite easy to use. But there are steps you need to go through to create a need and offer in a way that you don't with an email. (AshokaHub curator, USA)</i>

Table 26: Phase 2 - Community-level findings for curators

Community-level Findings in Phase 3

Generally positive and collaboration-centric framing of AshokaHub

In phase 3, curators had positive but reserved perceptions of AshokaHub. Even curators from developed countries, who were, as discussed above, rather reluctant to fully commit themselves and their Fellows to AshokaHub, appeared to be convinced that AshokaHub was fundamentally the right platform for Ashoka. In particular, the platform changes with the new group and

community functionalities appeared to have impressed curators. This positive attitude was also reflected in some curators' observations about their current and planned regular use of AshokaHub. Of course, given the aforementioned reluctance of curators from developed countries to commit fully to AshokaHub, their views must be taken with a pinch of salt. And indeed it appeared that curators believed that AshokaHub was a good idea but was not quite working yet. For example, they criticised that not all Ashoka Fellows or staff were active on it yet.

Overall, as in Phase 2, curators framed AshokaHub as a connector and a place for sharing information and ideas. One curator even saw it as a place where Fellows' different topic-specific 'chapters' such as health care or education, could create their own communities and start sharing and generating information and ideas. Compared to Phase 2, however, AshokaHub was no longer seen as an anonymous bulletin board.

In terms of constraints, curators perceived the inability to collaborate with external people and organisations as well as the inability to get transparency about Fellows' activities. While the latter had been observed in Phase 2, the former was new for curators. Potentially due to their renewed attitude towards AshokaHub, they were thinking ahead and wanted themselves and their Fellows to be able to collaborate with select external partners.

In terms of interests, as in Phase 2, curators appeared to be driven mainly by their job profiles. In some cases, especially in some developing countries or regions such as East Africa, the curator job profile had become fairly extensive, creating incentives for curators to spend more time on AshokaHub and be more creative in their approach to it.

Extended set of perceived affordances and continuous actualisation of more affordances

These positive framings appeared to have an impact on curators' perceived and actualised affordances. Curators still perceived and actualised the affordance 'discussing and sharing knowledge with other Fellows'. While most curators filtered the content they shared, others tried to engage their Fellows by continuously posting a lot of local opportunities on AshokaHub. In addition, two new affordances emerged from the data analysis for curators: 'actively exploring' and 'using AshokaHub to encourage others to use it too'. Both affordances were very similar to those perceived and actualised by community builder users in Phase 3. Curators now appeared to be exploring AshokaHub more actively and were not just waiting for the digest newsletter to arrive. Moreover, this active exploration appeared to be not only to react to Fellows' actions but also for curators' own orientation on AshokaHub and to learn about their Fellows and Fellows' activities more globally. They actualised this affordance simply by using

AshokaHub's activity stream and search functionality as well as by looking at Fellows' profiles, collaboration objects and comments.

Curators also used AshokaHub to encourage others to use it. Some actively explored AshokaHub to find collaboration objects or comments that were created by or relevant for their Fellows. They then commented on them to help and show that Fellows were listened to or tried to "make connections" (AshokaHub curator, USA) and introductions between Fellows, for instance, via the private messaging functionality. They also used the new group and community functionalities to create separate spaces for their local Fellow communities. Moreover, like community builder users in Phase 3, curators encouraged other non-users to post opportunities they sent around via email as offer collaboration objects on AshokaHub or did it themselves directly. Finally, some curators shared AshokaHub content, such as collaboration objects, via established communication channels such as mailing lists or local office newsletters. Here, they made sure that Fellows had to log on to AshokaHub if they wanted to see the details of the posted content. Other local office curators invited Fellows onto AshokaHub via email.

Perceived inhibitors with limited relevance

As previously noted, not all of these affordances were actualised all the time by all curators. Curators still saw the complexity of use compared to other platforms as a potential inhibitor. However, this inhibitor appeared to be less severe in Phase 3 than in Phase 2. Curators merely found the new group and community features a little confusing and the overall experience not quite intuitive yet. Overall, this perception of complexity, however, did not seem to deter curators from using AshokaHub but rather only curtailed extensive engagement, especially as regards the new feature.

In addition, curators now also saw the lack of time as an additional inhibitor – similar to community builder users. Like the two Fellow groups, curators appeared to realise that properly engaging with AshokaHub could exceed their available time. They even appeared rather disappointed that they were not able to "really experiment with some of the new features, which [they] would really like to do" (AshokaHub curator, USA). Yet, for curators this inhibitor appeared to be influenced by the priority that AshokaHub had for local Ashoka offices. The low prioritisation of AshokaHub meant that little time or capacity was available for AshokaHub. While curators in developed countries appeared to accept this lack of time as a given, those in developing countries appeared to be more creative, making the case for AshokaHub in their local offices and even trying to bring in additional staff to increase the available time and capacity for dealing with AshokaHub properly.

High-level category	Category	Concept	Illustrative quotes
Frames	Generally positive and collaboration-centric framing of AshokaHub	Positive but reserved perceptions of AshokaHub	<i>I'm in love with AshokaHub</i> (AshokaHub curator, Germany) <i>It's a really incredible place</i> (AshokaHub curator, USA) <i>I'm really excited about the potential of Hub</i> (AshokaHub curator, USA) <i>It's still an incomplete community</i> (AshokaHub curator, Mexico)
		Limited perception of constraints	[We need to connect] <i>with external organisations to create an even smarter network</i> (AshokaHub curator, Mexico)
Affordance perception	Extended set of perceived affordances	New action possibility of actively exploring	<i>I use it for my own orientation</i> (AshokaHub curator, Germany)
		New action possibility of using AshokaHub to encourage others to use it too	<i>I create groups around topical areas or fields of work</i> [for my Fellows] (AshokaHub curator, USA) <i>I forward the offers and opportunities in AshokaHub to [the] Fellow mailing list</i> (AshokaHub curator, Indonesia)
Affordance actualization	Continuous actualisation of more affordances		<i>If we have interesting offers, we proactively send knowledge, we share them via the Ashoka Hub or we share them with the Fellows of interest. If we have an offer for Fellows under 30, so we send it via the platform to them. Yup, so we are proactive.</i> (AshokaHub curator, Mexico) <i>We are using the AshokaHub to upload upcoming events, offers, or if you have any needs we upload it as well.</i> (AshokaHub curator, Mexico) <i>I have posted a couple of offers myself that come up in our network and that affect more than the German Fellowship.</i> (AshokaHub curator, Germany) <i>Whenever I come across information that I'm going to put in that bulletin, I try probably about 50% to 75% of the time to put all of that up on the Hub and then link to the Hub, so we drive Fellows there to look for that information.</i> (AshokaHub curator, USA) <i>I often encourage people to [use AshokaHub] when someone sends out an opportunity for Fellows. Like recently there was a legal pro bono thing. I'll often encourage colleagues to put it on the Hub, so that way I can link to it.</i> (AshokaHub curator, USA)
	Perceived inhibitors with limited relevance	Lack of time	[Engaging on AshokaHub] <i>just exceeds my time limits</i> (AshokaHub curator, Mexico)
		Complexity of use compared to other OCs	<i>The new [group and community] features are a little bit confusing</i> (AshokaHub curator, Mexico) <i>AshokaHub does not take one through the Hub experience naturally quite yet</i> (AshokaHub curator, Germany).

Table 27: Phase 3 - Community-level findings for curators

Platform-level Findings in Phase 2

Sceptical perceptions of relevance of traces of activity

Like transactional users and community builder users, curators felt that there were different types of relevant traces of activity on AshokaHub: those related to relevant users being active and those related to relevant activity. Like transactional users and in contrast to community builder users, curators tended to be rather pessimistic about the amount of relevant traces of activity visible on AshokaHub, even though they realised that the AshokaHub digest newsletter might not be giving them a full and accurate picture of activity on AshokaHub because of the tags they had chosen. They saw limited adoption by their Fellows despite their efforts to bring them onto AshokaHub. Moreover, they saw limited or no responses to their own activities and were critical of the relevance of posted content, including content posted by other curators.

Perception of activity with negative effects on curators

Similar to the other user groups, this perception of the traces of activity influenced some curators' behaviour on AshokaHub on three levels. For curators in phase 2, this effect was fairly negative. Firstly, such perceptions appeared to influence some curators' frames. The perception of limited uptake by their Fellows frustrated some curators and made them change their assumptions about AshokaHub on a fundamental level. As a result, they decided to deprioritise AshokaHub and focus on other activities that better helped her adhere to their job profiles. Secondly, such perceptions appeared to influence some curators' affordance perceptions. In one case the lack of responsiveness to curators' activities resulted in the sharing affordance gradually disappearing for this user group. Having tried unsuccessfully to share content and engage in discussions, the curator saw the action possibility of sharing information with her Fellows on AshokaHub become less and less. Finally, the perception of relevant activity also appeared to influence some curators' affordance actualisations. One curator commented that she did see the affordance of 'pushing' content onto AshokaHub, i.e. the sharing affordance, she deliberately had not acted upon it yet because at that point she did not perceive a critical mass of active users on the platform.

High-level category	Category	Concept	Illustrative quotes
Platform influence	Sceptical perceptions of relevance of traces of activity		<i>The other thing is the lack of uptake from Ashoka Fellows and also that's why I've also decided to put my energy in other things personally. (AshokaHub curator, USA)</i> <i>Because I don't see its benefit to me. For example, when I create the need, I posted the needs of a Fellow [...] so I created the need and I didn't get any feedback. (AshokaHub curator, Indonesia)</i>
	Perception of activity with negative effects on curators		<i>The other thing is the lack of uptake from Ashoka Fellows and also that's why I've also decided to put my energy in other things personally. (AshokaHub curator, USA)</i> <i>Because I don't see its benefit to me. For example, when I create the need, I posted the needs of a Fellow [...] so I created the need and I didn't get any feedback. (AshokaHub curator, Indonesia)</i> <i>My take now has been not to try to push up too much until there is a critical mass of Ashoka Fellows in the US actively using the platform. (AshokaHub curator, USA)</i>

Table 28: Phase 2 - Platform-level findings for curators

Platform-level Findings in Phase 3

Mixed perceptions of relevance of traces of activity

In phase 3, curators had mixed perceptions of relevance of traces of activity. Some curators felt that there was indeed an increasing amount of relevant content and active users on AshokaHub. Most saw, however, only a limited number of relevant active users and relevant activity on AshokaHub. In terms of content, curators observed that in fact, the platform's algorithms were contributing to the perception of irrelevant content. They identified the previously mentioned platform error that caused collaboration objects to remain visible after their expiration date as well as the automatic translation functionality as issues. This last functionality, which was supposed to lower the barrier for non-English speakers to use AshokaHub, essentially did not work correctly and sometimes made content incomprehensible. As a result, some curators, like the two Fellow groups, considered AshokaHub to be big and overwhelming because of the amount of irrelevant activity and content on the platform.

Different effects of perception of activity on developed and developing country curators

These perceptions of relevant active users and relevant activity on AshokaHub influenced curators' frames, affordance perceptions and affordance actualisation. Regarding the influence on curators' frames and affordance perceptions, the data indicated that curators from developed and developing countries appeared to interpret these perceptions differently. Curators from

developing countries appeared to interpret the limited activity in a more positive way. Their more positive fundamental framing of AshokaHub then encouraged them to bring more of their Fellows onto AshokaHub by creating communities as well as contributing and engaging more on AshokaHub. The affordances of discussing and sharing knowledge as well as using AshokaHub to encourage others thus came more naturally to these curators.

Conversely, curators from developed countries appeared to interpret the limited activity in a more negative way. Their more negative fundamental framing of AshokaHub then had a detrimental influence on their affordance perceptions and prevented them from pushing AshokaHub until it had proven its value. These curators did not seem to consider AshokaHub and the activity and content thereon good enough for their demanding Fellows, making them *de facto* gatekeepers in their local offices.

Finally, the data suggested that the perception of relevant activity influenced whether and how curators actualised their affordances. Curators appeared to actualise their discussing and sharing affordance in one way or another if they saw that one of their Fellows had reached out to them, followed them or created a collaboration object asking for support but that no Fellow had reacted to. This also happened if a user from a different region created a collaboration object that was relevant for the curator's local Fellows. If Fellows actively commented on each other's collaboration objects, however, curators tended not to get involved to avoid the impression that AshokaHub was curator-driven. In this way, the perception of relevant activity on AshokaHub was certainly important in shaping what curators actually did on the platform.

High-level category	Category	Concept	Illustrative quotes
Platform influence	Mixed perceptions of relevance of traces of activity		<p><i>There are all kinds of offers</i> (AshokaHub curator, Germany)</p> <p><i>I'm typically looking through things that are posted. I'll get to the same spot where I left off the week before, so I'll cover, I think, most of that ground that's showing up in my own feed.</i> (AshokaHub curator, USA)</p> <p><i>Not everyone is on the Hub</i> (AshokaHub curator, Mexico)</p> <p><i>I would prefer to see the activity of my Fellows: Who has done what? Who has commented what? Who has uploaded something?</i> (AshokaHub curator, Mexico)</p> <p><i>We don't see many things posted by them [sc. US Fellows]</i> (AshokaHub curator, USA)</p> <p><i>I do think it's harmful for us to have the quantity in one day that she posts. It is a quarter of the AshokaHub posts and you end up not being able to see anything that others post. [...] That affects how Fellows see Ashoka and the network sees itself.</i> (AshokaHub curator, USA)</p>
	Different effects of perception of activity on developed and developing country curators	Perception of activity with more positive effects on developing country curators	<i>[I'm supporting this because] if all my Fellows had it, it would be a great tool</i> (AshokaHub curator, Mexico)
		Perception of activity with more negative effects on developed country curators	<i>[I'm not pushing AshokaHub] until there is some real proven and demonstrated value</i> (AshokaHub curator, USA)

Table 29: Phase 3 - Platform-level findings for curators

Chapter summary

Curators became the backbone of contribution activity on AshokaHub. Their main interest was adhering to their job profiles, which made their activity fairly robust against low adoption rates by other user groups. Therefore, their trajectory thus kept them firmly within AshokaHub. After the relaunch, curators remained active even though slight differences emerged between the activities of curators from developing and developed countries due to how their respective local offices prioritised AshokaHub. Figure 17 summarises the findings of this chapter.

Summary of Findings Chapters

The previous chapters analysed the evolution of each of the three user groups on AshokaHub (transactional users, community builder users, curators) from before its launch to well after its re-launch. By looking at the data from these three different trajectories over time and by comparing them to each other, these chapters also developed an understanding of what influenced the evolution of these different user groups on AshokaHub.

The evolutionary paths of these three user groups were clearly different. The evolution of transactional users on AshokaHub can be characterised as an example of failed adoption. Transactional users, like the other user groups, started from a position of positive perceptions and framing of AshokaHub. Yet, with their investment-and-return mindset, transactional users eventually came to the conclusion that their limited time was not well spent on AshokaHub. In contrast, the evolution of community builder users can be characterised as an example of growing adoption. Community builder users were late adopters who slowly became more active on AshokaHub. Their predominant trajectory led them into AshokaHub because, compared to transactional users, their interests were more diverse and they did not have the same resources and opportunities as transactional users. Finally, the evolution of curators can be characterised as being the stable backbone of contribution activity on AshokaHub. Curators' main interest was adhering to their job profiles, which made their activity fairly robust against low adoption rates by other user groups.

While the evolutionary paths of these three user groups were clearly different, the analysis also highlighted commonality among them. It showed how elements and processes on different levels of the OC played a role in the adoption of AshokaHub by the different user groups over time. These processes and elements can be categorised into three levels (context, community, and platform) where the context and platform levels have a certain influence on the adoption behaviour on the community level of the OC. In addition, on the community level, the notions of framing, affordance perception and affordance actualisation became helpful in explaining the decision-making processes that contributed to the different trajectories of the different user groups.

The interplay of these concepts in a multi-level model as well as the contribution of the findings to the academic literature are discussed in the following chapters.

PART III

The following three chapters discuss the implications of the findings. Chapter 10 discusses the implications and contributions to theory. Chapter 11 builds on this discussion and outlines implications for managerial practice. Finally, Chapter 12 provides a conclusion to this thesis.

CHAPTER 10: DISCUSSION AND CONTRIBUTIONS TO THEORY

This chapter aims to answer the research question of how nascent online communities evolve and what the influences are on this evolution. The first section develops a multi-level model for theorizing the evolution of nascent OCs and the influence of context and materiality as a contribution to the OC literature. The subsequent section then proposes the concept of collaborative OC affordances which emerges from the case analysis. This concept contributes to the literature on affordances.

Contributions to the Online Communities Literature

Previous OC research has identified success factors for sustainable OCs such as leaders' involvement, perceived usefulness and IT infrastructure quality (cf. Koh et al. 2007) or high-level life-cycle models for OCs (cf. Iriberry and Leroy 2009). This process-focused study develops an understanding of the interdependence of social, community-level activity, the contextual environment and the underlying technology over time for OCs. In so doing, this study touches upon "the activities of members, the inner workings of communities, or the processes and technologies that support them" (Faraj et al. 2016a, p. 669). The AshokaHub case advances our understanding in two areas. Firstly, it sheds light on the process of OC adoption and evolution. Secondly, it sheds light on how the social context and materiality of the underlying OC platform influences this process. A multi-level model is developed from the case to theorize the evolution of nascent OCs and the influence of context and materiality.

Theorizing the Evolution of Nascent OCs

Despite the positive and promising signs before its launch, AshokaHub did not grow as strongly as originally expected. Moreover, there were significant differences in how the three main user groups (transactional users, community builders and curators) adopted and used AshokaHub after its launch. It follows that initial conditions at the beginning of a nascent OC's lifecycle can only be seen as potential contributors to but certainly not determinants of early stage OC

evolution. Instead, it seems more adequate to look at how different user groups adopt the OC over time.

In the course of this study, the groupware adoption theory based on social worlds by Mark and Poltrock (2004) emerged as a helpful lens to address this question. Mark and Poltrock argue that social worlds have fluid boundaries based on work and collaboration practices, and not on geographical location. These social worlds are connected through communication, not geographical location. Moreover, each social world is different due to the diversity of the respective members but also due to the unique cultures, practices, organizational and environmental conditions of each social world, which can lead to diverse barriers to adoption. In addition, people usually belong to multiple social worlds at the same time. They can thus act as conduits of groupware diffusion when they bring technology from one of their social worlds into another. Finally, because social worlds can differ substantially, rates of diffusion and groupware adoption are likely to vary between social worlds. Where members of a social world perceive a better fit to established work and collaboration practices, where the conditions and characteristics of a social world are more favourable to adoption or where members are able to coordinate efficiently on specific ways of use, the groupware technology is likely to be adopted more quickly than in other social worlds.

Using the social worlds model of groupware adoption as a lens, a large, geographically distributed OC can be seen as a constellation of social worlds that are connected through users who are members of multiple, overlapping social worlds. Each of these 'OC social worlds' has fluid boundaries as members move from one to the next. This notion of constantly shifting, dynamic entities is in line with the conceptualization of OCs as "fluid organizational objects" (Faraj et al. 2011, p. 1225). This perspective also highlights the fact that OCs have a social dimension, rather than just a structural 'social network' dimension, and that it is important to study the social dynamics of OCs (cf. Levina and Arriaga 2014). As a result, it can help for an analysis of overall OC adoption to decompose the OC into analysing its constituent OC social worlds and focus on practices and characteristics unique to each social world that affect adoption.

In the case of AshokaHub, the emerging user groups of community builders, transactional users and curators can be seen as separate social worlds with their own characteristics and adoption processes. However, there were other, overlapping social worlds too that cut across these social worlds. For example, users from the community builder and curator social worlds located in East Africa started using the new AshokaHub communities feature in a new way to change the way onboarding and regular interaction between Fellows and Ashoka staff happened. This arguably created a new OC social world that could now be analysed separately.

Due to overlapping membership in social worlds and due to the differences in key characteristics such as environment, tasks, policies and resources across these social worlds, different types of use of the OC can emerge in different OC social worlds. As a later section explores in more depth, such differences can be understood by looking at the affordances perceived and actualised by users of specific social worlds. While some social worlds may focus only on receiving resources and knowledge, other social worlds in the same OC may focus on showcasing their own work to a wider audience. These types of use can then travel across the OC with users who are members of multiple social worlds as conduits. This creates benefits for later adopters as they then have access to a larger variety of interpretations and uses (Mark and Poltrock 2004). As a later section discusses in more detail, such interpretations and uses are captured in digital traces of activity in the OC and fed to other users via the OC platform's visibility algorithms. This 'traveling of uses' also highlights the role that 'heroic' users and curators can play in shaping the course and development of a new technology's use (Mark and Poltrock 2004; Tuomi 2002). In the AshokaHub case, curators were critical in keeping up activity and encouraging different types of use in different social worlds in the OC.

These social worlds are not stable but are subject to continuous change and thus evolution. Such evolution may be driven by users joining and leaving social worlds – or the OC altogether. However, as the detailed analysis of different user groups on AshokaHub showed in the previous chapters, there are other, more granular elements and processes at play. These elements and processes involve, in particular, the external context in which the OC is embedded and its underlying technological platform. The following section explores this in more detail.

Theorizing the Influence of Context and Materiality in OCs

In the case of AshokaHub, the OC's context and the OC platform's materiality influenced the activity of individual users in the OC. The following sections unpack this notion of influence in more detail, focussing first on the OC context and then on the OC platform's materiality. Based on this, an affordance and frames perspective is proposed to theorize this influence.

The influence of the OC context

While researchers still grapple with methodological and theoretical issues, the study of contextual influences in the formation of IS phenomena is a promising field of research (cf. Avgerou 2019). In the field of OCs, however, discussions often neglect, or at least do not foreground, the importance of the online and offline context in which an OC is embedded. The findings that emerged from the AshokaHub study suggest that the embeddedness of an OC in

its online and offline context is critical for understanding user's adoption of and activity on the OC platform. The notion of embeddedness has been used in different strands of organisation and management theory (e.g., Granovetter 1985; Uzzi 1996, 1997; Volkoff et al. 2007). Most commonly it refers to the positioning and personal relations within social networks and their impact on economic behaviour (Granovetter 1985). Here, however, the term *embeddedness* refers to how OCs are situated within and shaped by landscapes of online and offline communities and practices in which its users are already engaged.

The AshokaHub study indicated that the extent to which Fellows were already engaged in a landscape of other OCs such as Facebook and their corresponding practices had a significant impact on how they perceived and engaged with AshokaHub. What emerges from the AshokaHub case in light of this concept is a view of OCs as being embedded in a constantly changing and interconnected landscape of offline and online communities and practices, including other OCs. Users can carry frames and affordances over from one OC to another. For instance, users can carry over perceptions of 'good' ways of using certain basic OC features from Facebook to a new OC, which will shape user's frames and affordances in the new OC. This notion is explored in more detail in the section on technological frames of reference.

Users can leave one OC to join another or can join an additional OC. Such movement within the OC landscape is possible due to the voluntary nature of OCs and is arguably constrained by two factors. Firstly, it is driven by users' overall available attention (cf. Ocasio 2011) that they can allocate to a certain OC. As Markus (1987) notes in the context of her discussion of critical mass and as some interviewees explicitly observed in this study, there appears to be a maximum number of collaborative technologies and OCs that users can meaningfully engage with, and users try to minimise or avoid 'double work'. Secondly, it is driven by the resources, such as time, expertise or social ties, that users have already invested and are used to investing in other OCs. The findings show that for some transactional users, it was almost impossible for them to reduce the time spent on OCs such as Facebook or Twitter because they had already invested so much in them and knew that they worked for them. In a sense, these users had thus become 'locked into' their existing OCs.

The AshokaHub case also indicated that OCs were not independent of local, offline communities and practices either: depending on their specific setups, OCs could be equally embedded in the landscapes of such offline communities and practices. Two notions emerged here. On the one hand, existing offline social ties and communication practices with OC users appeared to influence engagement with the OC for similar reasons as for online communities and practices. Users appeared reluctant to replace working collaboration channels with a new OC. In the case of AshokaHub, even though all Fellows had equal access to the platform, those

Fellows whose local offices made concerted efforts to change local practices and communities were more engaged by Phase 3. For instance, these local offices replaced existing communities and collaboration practices, such as direct contact via email, with AshokaHub, effectively making the platform the only choice if users wanted to keep collaborating with their local partners.

On the other hand, and for similar reasons, the offline ‘topology’ of existing communities appeared to influence engagement with the OC. In the case of AshokaHub, users were reluctant to engage with AshokaHub in Phase 2 because the AshokaHub community structure that was readily visible to them did not resemble the community structure that they knew. Even though all Fellows could be contacted through AshokaHub, there were no groups for local communities, for example. As a result, users did not know where their ‘home community’ was on the platform that they could identify and meaningfully engage with (cf. Wenger 1998). These findings underline the importance of taking into account the influence of the context on individual users’ activity on AshokaHub.

The influence of digital platform materiality and digital traces of activity

In addition to the OC’s context, it is also key to take into account the influence of digital platform materiality and digital traces of activity. OC designers observe the experimentation of users and, over time, develop an appreciation of the constraints to effective collaboration in the OC and the novel needs of users. The designers inscribe or rather code a certain platform structure, including improved rules and algorithms into the materiality of the platform. When affordances are actualised via this platform structure, they leave digital traces on the digital platform. More specifically, algorithms store information in the digital platform’s core database or information repositories.

Over time, new configurations of algorithms and traces of activity become the building blocks that define how users perceive activity and affordances on an OC. However, the full extent of these digital traces of activity is not readily visible to all users. Rather, users are likely to have only incomplete and sometimes even incorrect information regarding these traces of activity. Visibility algorithms, such as email notifications or search algorithms, continuously make certain digital traces of activity visible to users. In the case of AshokaHub, the weekly digest email had a number of deficiencies, which led to fairly biased perceptions of content relevance, especially among transactional users.

In this way, the findings suggest that the concept of visibility plays an important role (cf. Flyverbom et al. 2016; Hansen and Flyverbom 2014; Treem and Leonardi 2012) in understanding the co-evolution of digital platform design and use in the OC. Flyverbom et al.

(2016) argue that it is the ‘visibility affordance’ of digital technology that makes other affordances such as editability possible in the first place. The findings from the AshokaHub case point in a similar direction and shed light on the underlying mechanics: What is visible and what is not influences the affordance perception and actualisation of OC users. Only if a user sees digital traces of activity (such as a relevant post) or new elements of the platform structure (such as a new ‘idea’ feature) can these elements influence her perceptions and actions on the OC.

Platform structure, digital traces of activity and visibility algorithms thus underpin the generativity of the OC’s digital platform and are critical in shaping the emergence of affordances as well as sustained OC activity. The findings thus support recent research arguing that digital platforms are innovation spaces which promote generativity (Yoo et al. 2012; Zittrain 2008).

Towards an integrated frames and affordance perspective

Studies on technological frames of reference have typically identified frame domains and contents in different technological and organisational settings, examined the notion of frame incongruence and its consequences and investigated a ‘snapshot’ of frames at a certain point in time (Davidson 2006). However, they have not been used extensively in longitudinal OC settings as in this study. The situation is similar for the affordance literature. The AshokaHub findings indicate that an integrated perspective can help understand the influence of the OC context and platform materiality on the evolution of OCs. This integrated perspective offers new insights too.

The first set of insights relates to the nature and evolution over time of frames held by OC users. Our understanding of the core frames relating to OCs is very limited. The majority of studies in the frames literature focus on organisational settings where the implementation and use of the technology in question was mandated by management, giving users a natural incentive to use it at least to some extent (e.g., Orlikowski and Gash 1994). The frames revealed in such studies are likely to be very different from those in voluntary settings such as OCs. Moreover, despite calls by scholars such as Davidson (2006), longitudinal studies of how frames evolve over time are rare (Azad and Faraj 2013; Cornelissen and Werner 2014).

This study supports earlier studies in terms of the importance of the initial phase of exposure to a new technology. Previous research found that this initial phase was likely to be formative in the sense that frames are constructed early on that will guide the ongoing perception of the technology and that can only be changed with difficulty later on (Cornelissen and Werner 2014; Davidson 2006; Orlikowski and Gash 1994). In the AshokaHub case, the negative frames of

transactional users emerged early on and remained unchanged, even after significant changes had been made to the platform structure and curation approach. In addition, the study suggests that changes in frames can happen and that this may manifest itself in users perceiving additional frames or ceasing to perceive existing frames. In the case of AshokaHub, community builder users changed frames in the ‘nature of the OC platform’ category from Phase 2 to Phase 3. This change, however, largely involved adding new frames such as ‘AshokaHub as a place for sharing information and ideas’ rather than changing existing frames. The slow pace of change may also be explained by the lack of explicit framing by the AshokaHub team or curators, who did not use language or other symbolic gestures to influence users’ frames (cf. Cornelissen and Werner 2014).

Drawing on the ‘meso-level’ lens of technological frames of reference (Cornelissen and Werner 2014), the analysis allows to identify frames that members of each of the three groups shared. As discussed in the theory section, it is again important to note that these shared frames did not necessarily imply that users actually shared meanings or values (cf. Boland Jr 1996). When abstracting from these frames for individual groups, three core frame domains emerged, each of which fits well with one of the generic frame categories proposed by Davidson (2006).

Firstly, the ‘nature of the OC platform’ domain contains the very core of the abovementioned assumptions about OCs and answers the question of what a user thinks the OC is and what she thinks she can do with it. It contains positive or negative perceptions of the OC and defines the overall ‘picture’ or analogy that users may associate with the OC. For example, Fellows who viewed AshokaHub as an avenue for information sharing had different affordances from Fellows who viewed it only as a connector. This domain also contains assumptions about how the OC should fundamentally work, with a core concept being ‘similarity’, which implies that users are likely to engage only with Fellows who are similar to them. This frame domain is similar to previously identified frame domains such as ‘nature of technology’ and ‘technology strategy’ (Orlikowski and Gash 1994) and serves a similar purpose in structuring the perception of affordances.

Secondly, the ‘interests’ frame domain relates to the question of why users would engage with or contribute to the OC. It is thus similar to previously identified frame domains such as the business value of IT, motivation for use and rationale for the technology (Davidson 2006, 2002). It describes the fundamental principle or logic behind users’ engagement or contributions. At the one end there are social exchange interests related to obtaining resources, learning or building reputation. These are fundamentally dependent on the activity perceived on the OC because they function on an investment-and-return logic. For example, a Fellow would invest time and resources in contributing to AshokaHub but expected something valuable

in return. At the other end there are interests related to altruism, passion for the OC, social identification with a shared ideology or other users, moral support and adhering to a job profile. These do not work on an investment-and-return logic but appear to motivate users to contribute to and engage with the OC without getting something back. To a limited degree, these are also influenced by the activity perceived on the platform. For instance, the more active users are perceived on the OC, the stronger social identification-based interests could become. However, this influence is arguably much weaker than for social exchange-related interests. This is important because it helps us understand why community builder users, who had a mix of different interests, and curators, who were mainly motivated by their job profiles, kept engaging with AshokaHub despite its limited uptake, while transactional users dropped out because of their unmet interest in social exchange. This frame domain is novel and derived from idiosyncratic characteristics of an OC setting where users engage with a platform voluntarily and may have very different reasons for doing so. Previous frames research has focused on settings in which the main reason for engaging with a technology was that it was mandated by management and the only question was how, and not whether, the technology was used.

Finally, the 'constraints' frame domain refers to users' assumptions of what is not possible on the OC platform but would be valuable in light of users' nature of the OC platform frames and interests. On AshokaHub, all Fellows observed that it was not possible to collaborate with external individuals or organisations but that they would have found such collaboration very useful. In Phase 2, however, only community builder users perceived the inability to co-create conversations and discussions because, in contrast to transactional users, they assumed that AshokaHub was an avenue for information sharing and would become a collaborative community for joint social impact in addition to simply being a connector. This domain is similar to previously identified frame domains such as issues around use (Davidson 2006). Again, this is a novel domain that draws on the constraints concept from affordance theory. This is an important frame domain because the AshokaHub case showed how, for transactional users in particular, the perception that something did *not* work quickly became a fundamental assumption that influenced later use.

The second set of insights relates to how these frame domains can be used as a mediating device between users' existing perceptions of similar technologies and work practices in the context of an OC, their perceptions of digital traces of activity on the OC and their affordance perceptions. Despite some indications of how frames influence affordance perceptions (cf. Leonardi 2013b), our understanding of this mechanism is limited. Frames summarise the assumptions, expectations and knowledge of users regarding a piece of technology. The findings of the study suggest, therefore, that affordances can emerge within the limits set by

these assumptions, expectations and knowledge. For example, positive and negative perceptions of AshokaHub as a whole influenced the extent of users' affordance perceptions. Moreover, when transactional users no longer saw AshokaHub as a connector, they no longer perceived affordances of meeting and discussing with other Fellows.

Similarly, the study supports and extends previous work on how frames draw on users' previous experiences, work practices and texts (Azad and Faraj 2013; Davidson 2006). The findings support the notions that frames are grounded in cultural belief systems such as the social entrepreneurship ideology, that they can be shaped by actors who employ language and symbolic gestures such as the AshokaHub team and curators and that they draw on frames from other collaborative practices (cf. Cornelissen and Werner 2014; Davidson 2006; Orlikowski and Gash 1994).

The findings extend our understanding by suggesting that users who already live, work and engage in an 'OC landscape' have existing frames regarding these OCs and technologies. When they enter a new OC, they draw on these frames to make sense of the new OC. If such frames remain uncontested, for instance, because there are no convincing stories by the OC management team or curators, users are likely to apply the same expectations and assumptions from other OCs to the new OC. They can then be frustrated if the new OC functions differently to the OCs they are used to.

Moreover, the findings extend our understanding by suggesting that frames are influenced by the continuous, mid- to long-term perception of certain textual traces of activity or the lack thereof (cf. Azad and Faraj 2013). This was especially observable in the case of transactional users, whose continuous perceptions of missing users, lack of responsive activity by others and irrelevant content eventually led them to develop negative frames and, as a result, drop out of AshokaHub.

In sum, technological frames of reference can thus be used as a partial mediating concept between an OC's context, perceived traces of activity and perceived affordances. Affordance perceptions are influenced by a user's motivation and reasons for engagement. For example, some Fellows would invest time and resources in contributing to AshokaHub but expected something valuable in return. Other Fellows were driven by altruism, passion for the OC, or social identification with a shared ideology for other users. Thus, AshokaHub community builders, who had a mix of different interests, and curators, who were mainly motivated by their job profiles, kept engaging with perceived affordances despite limited uptake. On the contrary, transactional users who did not perceive the same affordances as valuable or actionable.

The final set of insights relates to the fact that, alongside the mediating effect of frames, digital traces of activity can influence affordance perception directly too. The accumulation of traces

of activity on the OC platform over time allows for the potential perception of new affordances. This is because each discussion or message thread does not stand alone but has embedded within its content social relations and a history of interaction. Thus, by adding text to a message or post in a certain way and by concatenating such basic features over time and in collaboration with other users, users can construct more complex and unplanned uses for the platform. One Fellow, for example, used the collaboration objects and commenting features of AshokaHub to advertise and create a following for her indigenous radio show in Central America. This layering of traces over time resonates with Leonardi's (2011) concept of imbrication, which is defined as the process of "interweaving of human and material agencies" (Leonardi 2011, p. 150). Over time, such imbrications produce a knowledge infrastructure that has a multiplicity of affordances. Depending on users' needs, the time of their engagement and the technology aspects used, people construct perceptions of affordances and constraints based on a growing 'stack' of past imbrications and infrastructures. In the same way, traces of activity can accumulate on the OC platform and allow new affordances to emerge over time.

Towards a Multi-Level Model for Theorizing the Evolution of Nascent OCs: The Influence of Context and Materiality

The above discussion highlighted social worlds, frames and affordances as helpful concepts in theorizing the evolution of nascent OCs and the influence of context and materiality. This section now pulls together the results from this discussion to propose a multi-level model that describes this process. Figure 18 illustrates this model. It combines a broader view on OC activity with a granular focus on the underlying mechanisms which involve context-level concepts, platform-level materiality and the community-level concepts of frames and affordances. The model is cyclical in that, on the granular level, it illustrates the continuous decision-making and action-taking process for individual users of an OC and the elements that influence this process. This process then drives the continuous change observed in terms of OC activity on the broader aggregate level.

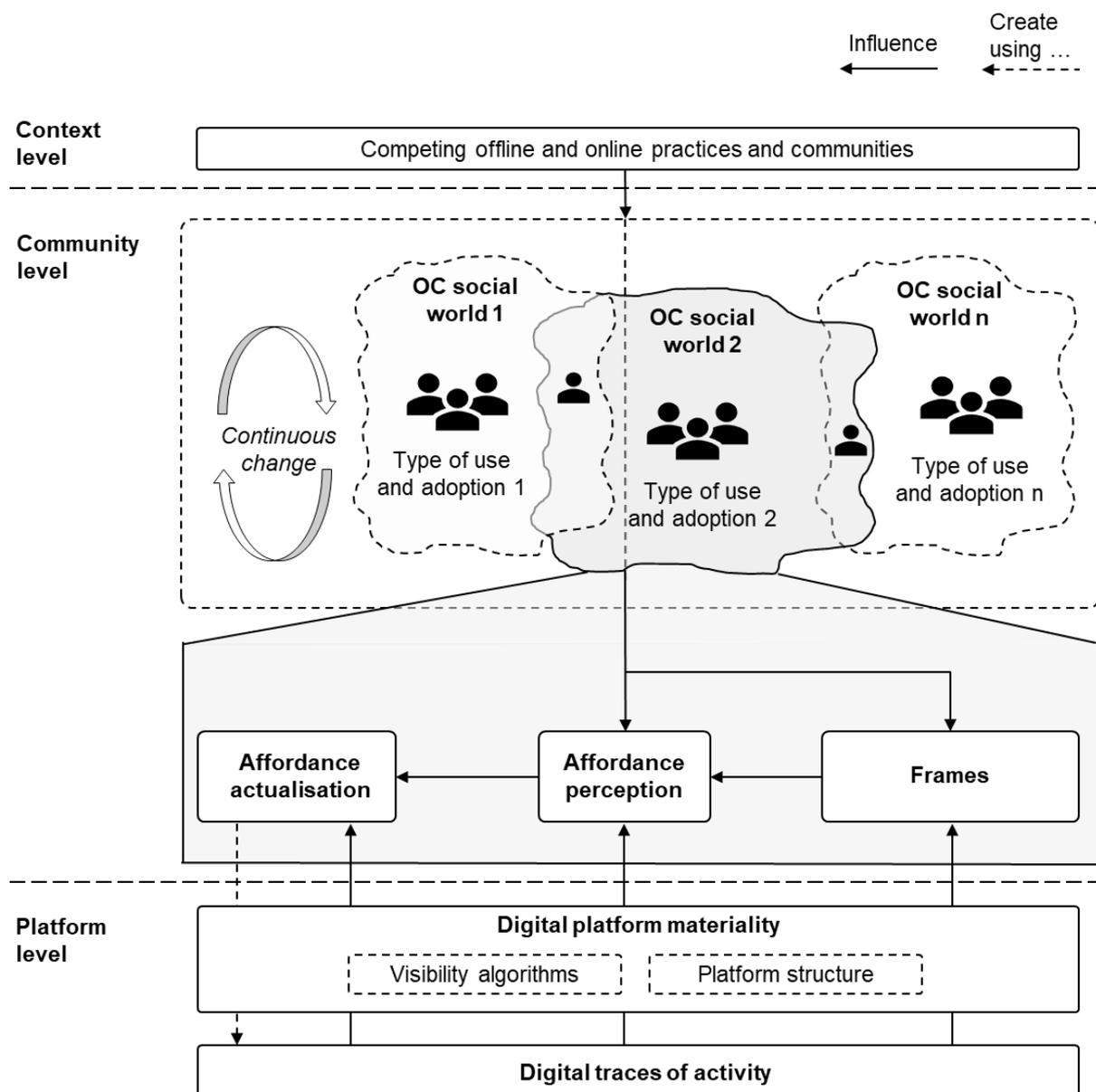


Figure 18. Multi-Level Model for Theorizing the Evolution of Nascent OCs: The Influence of Context and Materiality

OC social worlds as a lens for analysing OC activity

When starting to study an OC on a broader level, the first thing that can be observed is the dynamic ebb and flow of user activity. This includes, in particular, posts, comments, messages and other digital traces of interaction such as likes. At this level, it is often difficult to make sense of the complex back and forth of activity, to find structure and underlying mechanisms. The above multi-level model thus proposes to draw on the social worlds concept from the groupware adoption literature. Using this lens, one can break down a large OC into smaller, interconnected entities, effectively viewing OCs as constellations of social worlds. Such smaller

OC social worlds have unique practices and characteristics such as their unique environments, tasks, policies and resources that affect OC adoption. Furthermore, they have fluid boundaries as users move from one social world to the next and are connected to each other through users who belong to multiple, overlapping social worlds. Due to differences in key characteristics across these social worlds, different types of use and adoption of the OC can emerge in different OC social worlds. However, these types of use are not confined to one social world. Rather, they can ‘travel’ across the OC with users who belong to overlapping social worlds functioning as conduits. These social worlds are not stable but are subject to continuous change and evolution. Such evolution may be driven by changing types of use and adoption as well as users joining and leaving social worlds.

Such an analysis of OC activity over time can provide a broader picture of an OC’s evolution. As the AshokaHub case shows, it is then helpful to explore each such OC social world in more detail and over time to understand what influences such evolution. The unique practices and characteristics such as environments, tasks, policies and resources that affect OC adoption can be studied on the ‘context level’ of the OC social world. The mechanisms underlying the emergence of different types of use and adoption can be studied on the ‘community level’ and the ‘platform level’ of the OC social world. As noted above, however, OC social worlds are not isolated entities. For example, certain environments or policies may be shared and therefore influence several OC social worlds at the same time. Moreover, types of use and adoption may not just travel from one OC social world to the next via users who belong to both social worlds. Such types of use and adoption are likely to leave digital traces of activity on the OC’s platform which may then be made visible to users in other OC social worlds via algorithms rather than users. The following three sections outline these three levels in more detail, explaining the core concepts and how these concepts can help understand the evolution and influences for a particular OC social world.

The context level

The data analyses suggested that the perceptions of individual OC users at the community level are influenced by contextual elements and processes embodied in competing online and offline communities and practices.

Competing offline communities and practices refers to how existing communities and practices can influence users’ perceptions of the OC. In the case of AshokaHub, the maintaining of existing local collaboration communities and technologies, newsletters or direct private contact between Fellows and staff created duplication efforts for anyone who wanted to use AshokaHub but still reach the relevant recipients. Moreover, the different levels of support AshokaHub

received from local offices (in terms of integrating it into local orienting processes, following up with Fellows to make sure they knew how to use the platform, appointing curators and making AshokaHub part of their job profiles) and different strategies for curation made a difference to Fellows' engagement with AshokaHub. This landscape of competing offline communities and practices meant that there was a status quo against which Fellows compared their engagement with AshokaHub. It sent signals to Fellows regarding the buy-in of local offices and, therefore, the likelihood of the platform being adopted. Finally, and very practically, it influenced curators' job profiles and thus their level of activity on AshokaHub.

In contrast, *competing online communities and practices* refers to how users' existing OCs can influence their perceptions of an OC. As for competing offline communities and practices, this existing landscape of OCs created duplication efforts for anyone who wanted to use AshokaHub but still reach relevant recipients in both AshokaHub and other OCs. Moreover, this landscape of competing OCs created a status quo against which Fellows compared their engagement with AshokaHub. Fellows who were already active in other OCs compared AshokaHub with other OCs such as Facebook in terms of not only functionality but also the amount of relevant activity and content.

The community level

The core of the cyclical model lies at the community level. This level contains the main decision-making and action processes that OC users appear to go through. The starting point is the set of *frames* that individuals hold about the OC. These frames contain the core assumptions about and perceptions of the OC as a whole in light of certain contextual characteristics, the materiality of the technological platform underlying it and the activity and content perceived on the platform. Frames appear to change more slowly than other elements of the model and can be seen as an important influence on affordance perceptions. While negatively connoted frames, as in the case of transactional users in Phase 3, can lead to an OC user dropping out, positively connoted frames, as in the case of community builder users, can lead to creative and continuous use of the OC.

The data analysis revealed three core domains of frames that were relevant in the case of AshokaHub: the nature of the OC platform, interests and constraints. *Nature of the OC platform* contains the very core of the abovementioned assumptions about the OC and answers the question of what users think the OC is and what she thinks she can do with it. It contains positive or negative perceptions of the OC and defines the overall 'picture' or analogy that users associate with the platform. This core analogy can be seen as a source of different kinds of affordance perceptions. The domain *interests* then answers the question of why users engage

with or contribute to an OC. It describes the fundamental principle or logic behind their engagement or contribution. Essentially, two types of interests emerged in the study, which can be seen as two ends of a spectrum. At the one end there are social exchange interests related to obtaining resources, learning or building reputation. At the other end there are interests related to altruism, passion for the OC, social identification with a shared ideology or other users, moral support and adhering to a job profile. Finally, the domain *constraints* refers to OC users' assumptions about what is not possible on the OC platform but would be valuable in light of the users' frames regarding the nature of the OC platform and interests.

The frames regarding the nature of the OC platform, constraints and interests influence whether and how users engage with an OC. This process of engagement is divided into two steps: affordance perception and affordance actualisation. *Affordance perception* refers to the perception of action possibilities on the OC platform to achieve the goal defined by users' interests. As outlined in the analysis chapter, there were eight affordances that at one point or another were perceived by one or more groups of users. They referred to activities such as meeting other Fellows and discussing and sharing knowledge with them and obtaining resources and knowledge from them, actively exploring AshokaHub, showcasing own work and using AshokaHub to encourage others to use it too. Based on what interests and framing users had, these users either perceived no affordances because they had already dropped out of the OC or they perceived one or more of these affordances. This was specific to each individual user.

Affordance actualisation refers to putting such perceived affordances into action using the basic features of the OC's underlying technological platform. In the case of AshokaHub, such basic features included creating collaboration objects, comments or private messages, updating one's profile, using the search and activity streams and following tags, collaboration objects and other users. It is this affordance actualisation that represents actual engagement with the OC. Merely perceiving an affordance, as many Fellows did with AshokaHub, is not enough: an affordance must be actualised. This distinction is important because it helps account for the observed phenomenon that users sometimes engage while sometimes they do not. If perception and actualisation were one and the same, then such users would, for some reason, not perceive an affordance in one instance and then perceive it again in another instance possibly shortly after. In this thesis, the view is taken that a perceived affordance is a concept that the individual user derives from her more general and long-term framing and is more stable in the short- to mid-term, even if it is not actualised all the time.

This distinction also helps account for the inhibitors to actualisation that emerged from the data. Such inhibitors refer to more permanent or temporary circumstances that can prevent a user

from actualising a perceived affordance. AshokaHub users observed inhibitors such as lack of time, complexity of use compared to other platforms, uncertainty about how best to use the platform's functionality, lack of resources or infrastructure and political issues in Fellows' respective countries. These Fellows perceived certain affordances but were not continuously able to actualise them because, for instance, they were temporarily under extensive time pressure or when trying to actualise an affordance encountered errors or poor usability on the platform that made them abandon their attempt.

Finally, this distinction also helps make the concept of affordances more manageable, given the wide variety of strategies that different users can employ to actualise any given affordance. Such an actualisation strategy can be seen as the sequenced use of basic features including the crafting of text over time. In the AshokaHub case, for example, Fellows had very different strategies for actualising the affordance of obtaining resources and knowledge. While some simply created a need collaboration object and waited, others proactively created offer and need collaboration objects as well as comments and private messages to encourage others to help them out. As a result, even individual users were likely to have several different actualisation strategies for each of their perceived affordances over time. Without the distinction of affordance perception and actualisation, one would have to define each of these enacted strategies – of which there is theoretically an unlimited number as basic features can be combined over time and text can be used to give certain features different forms and functions – as individual affordances. This would reduce the analytical clarity and practicality of the affordance concept.

The platform level

In the case of AshokaHub, some of these affordance actualisations, such as those including creating collaboration objects, comments, messages or following relationships, created traces that other users could see on AshokaHub. *Digital traces of activity* are thus defined as the results of certain types of affordance actualisations that other users can perceive on the OC platform and that reveal users as being active as well as different types of activity and content. This is a critical step in the recursive process that underlies this model. As such, traces of activity do not only relate to content being posted but can instead take any of three forms. First, just the fact that certain users were active was already a relevant trace for users of AshokaHub. Second, the types of activity that users carried out were, again, relevant traces for other users; they could reveal the general behaviour and ethos of users on the platform, i.e. whether or not users were polite and supportive, or different actualisation strategies for certain affordances that other users

could copy. Finally, the content that users created was a relevant trace because it might contain the knowledge that a user was looking for.

However, the full extent of these traces of activity was not readily visible to all users. Rather, users were likely to have only incomplete and sometimes even incorrect information regarding these traces of activity due to the OC platform's visibility algorithms. *Visibility algorithms* thus refer to the subset of the OC platform's algorithms that made traces of activity visible to users. The study revealed three types of such algorithms. First, email notifications such as weekly email newsletters or instant notifications for incoming messages or replies to own contributions were often users' main, if not only, 'window' or 'door' into OCs. Which content is shown in these email notifications and in what detail and format is thus important in creating a certain perception of the OC in users' minds. In the case of AshokaHub, the weekly digest email had a number of deficiencies and required users to choose appropriate tags, which led to fairly biased perceptions of content relevance, especially among transactional users. Second, feeds, filtering and search were important if users did indeed log on to the OC. Feeds showed recent activity in chronological order and often allowed filtering so users could find the right content. The search functionality had a similar purpose. Depending on the quality and usability of these features, however, users were again likely to receive skewed information about traces of activity. In the case of AshokaHub, the feeds and filtering algorithms did not hide expired collaboration objects, creating the perception that AshokaHub was a big and overwhelming space. Finally, other algorithms might also impact the perception of traces of activity. In the case of AshokaHub, an automatic translation algorithm created erroneous and nonsensical translations, contributing to the perception held by non-English speaking Fellows and curators in particular that content on AshokaHub was less relevant.

These perceptions of more or fewer relevant users being active and relevant activity and content can thus influence users' core decision-making processes in three ways. First, continuous, mid- to long-term perceptions of certain traces of activity or the lack thereof can change users' frames. As in the case of ASN members and transactional users, the continuous perception of missing users, a lack of responsive activity by others and irrelevant content could even lead them to drop out of the OC. Second, continuous, short- to mid-term perceptions of certain traces of activity or the lack thereof can influence the affordances users perceive. Users may perceive new affordances, such as 'showcasing own work', while they may cease to perceive others, such as 'driving open source innovation for social issues', depending on whether users see relevant active users, activity or content on the OC. Finally, immediate or short-term perceptions of certain traces of activity or the lack thereof can influence users' affordance actualisations. As in the case of AshokaHub, users can draw on other users' activities and

content to craft and create their own contributions on the OC. Moreover, affordance actualisations often only spring into action after the user has perceived a trigger, such as a reply to her contributions.

The final concept at the platform level is *platform structure*, which is defined as the structural, material characteristics of the technological platform that underlies the OC. The data analysis revealed four main material characteristics that were relevant for the observed contribution dynamics on AshokaHub because they influenced the core decision-making and action processes at the community level.

Firstly, the *community topology* defined the structure of the OC in terms of groups and sub-communities. In the case of AshokaHub, the topology changed from ‘one community’ where there were no groups or sub-communities to ‘nested communities’ after the re-launch that allowed for many communities within AshokaHub and even groups within these communities. The community topology in particular can influence users’ frames in that one ‘mega community’ may be considered too big and overwhelming whereas nested communities may allow users to find spaces within the OC where they are surrounded by similar users. For instance, as the case analysis showed, the East African group of Fellows and curators created a sub-community for themselves to have a space for very region-specific conversations. A UK Fellow also emphasised the need to “*take my canoe into a nice, small lake than into the Atlantic Ocean. And the AshokaHub is the Atlantic Ocean*” (Ashoka Fellow, UK).

Secondly, the *functionality architecture* defined all basic features, such as collaboration objects, comments, following and so forth, that users could draw on. The nature of an OC’s functionality architecture is thus likely to influence users’ frames and affordance perceptions and actualisations.

Thirdly, the platform structure defines *boundaries* which determine who can access the OC and with what rights and which interactions are possible with outside OCs. AshokaHub had impermeable boundaries across all phases that prevented access by non-Ashoka individuals and organisations and information exchange with OCs such as Facebook or Twitter. This was viewed as a constraint by Fellows and thus contributed to limiting engagement and contribution. For instance, numerous Fellows used Facebook and Twitter as their main channel to communicate news and updates to and discuss with key stakeholders and other audiences. Given their time constraints, they could not duplicate this activity on AshokaHub. According to Fellows, had AshokaHub been able to pull such posts in readily without duplication effort, it could have generated a significant amount of relevant contributions and activity.

Finally, the platform structure could offer users access to *help content* and provide practical advice on how to use certain features of the platform. The easy availability of such help content

can thus largely influence the actualisation of affordances and reduce the inhibitor related to uncertainty regarding OC use. In the case of AshokaHub, the very limited help content certainly contributed to the significant number of users feeling uncertain about how to best use the platform.

Summary

It was observed earlier that the OC literature has shortcomings when it comes to explaining how nascent OCs evolve and what influences this evolution. These shortcomings include the at least implicit assumption of a mature, ‘steady state’ OC where user contributions merely need to be sustained (cf. Faraj et al. 2011); the lack of knowledge about how OCs evolve and what influences such evolution, and in particular about “the activities of members, the inner workings of communities, or the processes and technologies that support them” (Faraj et al. 2016a, p. 669); and the limited attention given to the role the material characteristics of the technology platform underlying the OC play for the dynamics unfolding on it (Faraj et al. 2011; Majchrzak, Faraj, et al. 2013).

While the model presented here is certainly only a first step towards theorizing the evolution of nascent OCs and the influence of context and materiality, it starts addressing the observed shortcomings of the OC literature. It does so by combining OC literature concepts with insights from the literature on groupware adoption, focusing on the adoption and use of technologies that enable large scale collaboration (Baecker 1993), and with the literatures on affordances and technological frames of reference, focusing on how OC users perceive and conceptualise the OC’s context and its underlying technological platform. In developing this model, the analysis also highlighted potential contributions to affordance theory. This is discussed in the next section.

Contributions to Affordance Theory

As noted in the theory chapter, the literature on affordances in the IS field is still relatively young. While core concepts from this literature were helpful for this study of AshokaHub, novel insights emerged from the study that help extend affordance theory in the IS and OC fields. Existing research into affordances in OCs has often tried to develop catalogues or lists of affordances that may emerge in OCs such as social media and Wiki-based intranets (cf. Majchrzak, Faraj, et al. 2013; Majchrzak, Wagner, et al. 2013; Treem and Leonardi 2012). However, our understanding of the fundamental nature of OC affordances on a more general level and of how they emerge and evolve over time is still limited.

The case findings allow to define a category of affordances that seems specific to OCs and key to their sustained activity. They are referred to here as *OC affordances*. The development of OC affordances can aid our understanding of the nature and dynamics of affordances in collaborative and generative digital platforms like OCs where membership is open, participation is voluntary, and interactions are mediated by emerging configurations of algorithms. Thus, OCs offer the opportunity to investigate technology use outside the commonly studied traditional organisational context, where there is some authority such as management who pushes for their adoption and for making the technology work (cf. Leonardi 2011; Leonardi 2013b; Strong et al. 2014).

The findings show that there are three types of OC affordances. Firstly, there are *individual OC affordances* that can be perceived and actualised without the interaction with any other users on the OC platform. An example is the affordance of finding the addresses of users on an OC. Here, the OC functions merely as a static database from which information can be retrieved. Secondly, there are *shared OC affordances* that can only be perceived and actualised if other users interact with the focal user in a certain way. This concept is practically identical to Leonardi's concept of a shared affordance – just applied to an OC platform. Such shared OC affordances may almost be fully shared because the underlying assumptions and goals for use are almost, if not completely, equal (cf. Leonardi 2013b). Private messaging between users on an OC platform is a simple example. Much like the telephone, private messaging only works if other users can receive messages and also react by replying. However, similar to a phone conversation, this affordance is easily understood as private messaging functionality exists across all commonly used social platforms today and thus users are likely to have very similar assumptions and goals and thus readily perceive very similar affordances.

The third type of OC affordances is slightly different and novel. Affordances of this type are labelled *collaborative OC affordances*. As noted above, little is known about the nature and

dynamics of shared affordances in collaborative and generative technologies such as those underlying OCs. In the original study that highlighted the concept of shared affordances, users of a crash simulation software package were able to communicate about their work with this software because they used it in similar ways and thus shared an affordance (cf. Leonardi 2013b). The concept of collaborative OC affordances draws on and further extends the concept of shared affordances but applies it to the collaborative and generative context of an OC (cf. Leonardi 2011; Leonardi 2013b; Strong et al. 2014).

Collaborative and generative technologies are different in that some of their use, or more precisely the perception and actualisation of some affordances related to those technologies, depends on other users' affordance perceptions and actualisations. For instance, only if enough users perceive and actualize the affordance of driving open source innovation for social issues in an OC at the same time – and so that other users can see it – will this shared affordance have an impact on collaboration behaviour in the OC. This requires that each individual user perceives sufficient other users or sufficient relevant activity on the OC in order to perceive and actualise the affordance himself or herself. This is similar to the notion of 'perceived critical mass' in the context of groupware and OC adoption (Lou et al. 2000; Shen et al. 2013). What is sufficient and relevant is likely to be different for each individual user. Hence, the same state of the OC may evoke different affordance perceptions and actions from different users, depending on their individual interpretation of the sufficiency and relevance of what they currently see happening on the OC. This also highlights the role of visibility algorithms, including notification, display, and search algorithms, in the context of collaborative OC affordances. These can show or hide certain digital traces of activity to the individual users and thus influence the perception of relevant user activity.

Collaborative OC affordances are thus proposed as an extension of the shared affordance concept. In an OC or similar setting with generative and collaborative technologies, a collaborative OC affordance thus emerges if enough users perceive and actualise the same or similar affordances related to some type of collaboration in temporal and 'visual' proximity (i.e. so that they are visible to other users). Two aspects should be clarified at this point. Firstly, the notion that a collaborative affordance 'emerges' is not meant to assign agency to the affordance concept or an existence 'out there' without anyone perceiving it. Rather, it simply aims to illustrate that enough users perceive and actualise this affordance and that enough digital traces of this activity are visible to other users that these other users could perceive this affordance (or a variation of it) too. Secondly, 'enough users' does not necessarily refer to a large number of users. It could be just two. Two such users could start perceiving a similar collaborative OC affordance and actualise it on the OC platform for more users to see. Figure

19 provides an example of how such collaborative OC affordances could emerge and evolve over time.

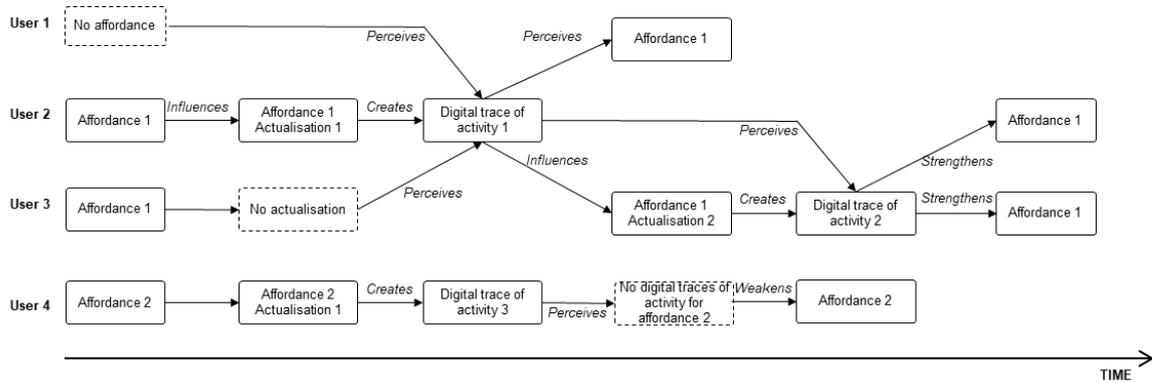


Figure 19. Example for the Evolution of Collaborative OC Affordances

In this hypothetical example, user 2 perceives an affordance 1, such as discussing the beauty and elegance of cats and actualises it by using basic features that are part of the platform’s functional architecture. For instance, this can involve posting some photos of cats in addition to some text. Such a post represents a digital trace of this activity on the OC platform. User 1 did not perceive this affordance before but is served this new digital trace via the platform’s visibility algorithms. She now perceives an affordance 1 too but it may be slightly different. Given her background in animal care issues, she feels that this OC affords her the possibility to share her photos of mistreated cats to raise awareness for them. Yet another user 3 had already perceived a cat-related affordance but had not herself actualised it. Seeing user 2’s digital trace, she feels encouraged to actualise her affordance by posting a photo of her pet cat. For both user 2 and 3, the affordance perception is strengthened as they see other users’ digital traces of an affordance they perceive. User 4 perceives and actualises a completely different affordance regarding discussing dogs, which falls on deaf ears in the OC, which weakens her affordance perception.

This small, constructed example shows how collaborative OC affordances never exist as things out there. They are never reified. The existence of a collaborative OC affordance can always only be inferred via the existence of sufficiently similar actualisation activities on the digital platform that leave digital traces. This also means that collaborative OC affordances are never fully shared (cf. Boland Jr 1996).

This leads to an inherent instability and uncertainty of the evolution of collaborative OC affordances. Temporary stabilisation could happen top-down with OC leadership enforcing and supporting certain actualisations or generating or deleting certain digital traces. Temporary stabilisation could, however, also happen bottom-up through the emergence of dominant

collaborative OC affordances with a *critical mass* of users with very similar perceptions of the affordance, leading to stabilising actualisations. Critical mass is often defined as “a small segment of the population that chooses to make big contributions to the collective action while the majority do little or nothing” (Oliver et al. 1985, p. 524). The idea is that “once a certain number or proportion of users (critical mass) have been attracted, use should spread rapidly throughout the community” (Markus 1987, p. 500). The idea of collaborative OC affordances refines this understanding of critical mass in that it asks the researcher to break down the concepts of ‘contributions’ and ‘use’ and uncover the underlying collaborative OC affordances. Let us take the above hypothetical cat-focused OC as an example. Let us further assume that a theoretically sufficient critical mass of cat photo sharing users has been reached in the OC but subsequently contributions stagnate and stop completely. Here, the lens of collaborative OC affordances could be helpful. It could be used to uncover that, even though from further away activity appears homogeneously focused on photos of cats, different collaborative OC affordances are at play. Some users may focus more on the beauty and elegance of cats, while others may want to discuss animal rights, sharing disturbing images of mistreated cats. If the beauty-focused users and animal rights-focused users interact and uncover in their interaction that they have very different goals after all, they may stop posting photos of cats altogether.

This lens thus encourages the researcher to dig deeper than high-level contribution metrics of an OC and understand the ebb and flow (cf. Faraj et al. 2011) of such collaborative OC affordances, which shape the OC’s very nature and purpose at any given point in time. An OC can become anything from a low-interaction address database or directory to a hyper-active social network, depending on how these ebbs and flows evolve over time.

CHAPTER 11: IMPLICATIONS FOR MANAGERIAL PRACTICE

This chapter outlines the implications of this study for managerial practice. These implications have been derived from the findings presented in Part II and from the insights discussed in the previous chapter. A contribution to managerial practice is important as management research has been criticised for being “arcane” and “ceremonial” and for “utterly [failing] to resonate with management practice” (Bansal et al. 2012, p. 73). Bansal et al. further argue that although this gap between research and practice has been widely recognised and discussed, it still exists. This thesis thus aims to provide actionable recommendations for practitioners.

OCs are becoming ever more important for companies and non-profit organisations around the world. They are used for knowledge collaboration and innovation within and beyond organisational boundaries. Some companies and organisations already have their own internal and external OCs, but the potential of social collaboration via OCs still remains largely untapped (McKinsey 2012). Hence, many companies and organisations are facing or will face the challenge of generating user contributions in their own nascent OCs. For these organisations, this study provides insight into the processes and pitfalls in starting an OC. Such insights are critical and currently in short supply as most OCs fail in their ‘infancy’. As Hagel and Seely Brown (2012) argue: “[When] it comes to building a space online that people want to visit regularly and contribute to, well, most of us never get there, and for good reason. It’s really hard.” Resnick et al. (2011, p. 231) concur when arguing that “most online communities never really get off the ground.”

As in many other instances of technological innovation, the motto ‘build it and they will come’ falls short of the actual complexity involved in building a sustainable and active OC. It surely is not a simple task, and neither is it purely a technology project or a short-term effort. Quite the opposite is true: building an OC must be considered in a holistic fashion with a longer term perspective. The following sections thus aim to provide guidance on how to start an OC and how to be situationally aware of its unpredictable evolution.

Basic Good Practice for Starting an OC

Resnick et al. (2011) provide a very good starting point with their list of good practice ‘design claims’ for starting an OC.

Figure 20 summarises these design claims. Resnick et al. argue that by adhering to these good practices an OC is more likely to carve out a useful niche for itself, defend that niche in the crowded landscape of competing OCs and finally reach critical mass, thus becoming sustainable.

Highlighting Content and Adjusting Community Structure

The first and second categories of practices relates to adjusting the OC platform itself in a way that it encourages users to contribute. On the one hand, Resnick et al. (2011) identify push notifications for the users triggered by certain activities on the OC, personalised collections of ‘most related content’ and a schedule of ‘expected active times’. These can be seen as specific examples of visibility algorithms as defined in a previous section. Indeed, adhering to these practices could have made a significant difference for AshokaHub. On AshokaHub, digest email newsletters, feeds, search and filter functionalities were the main channels for users into the OC. Most users did not deeply explore the OC but rather relied on these channels to see whether there was any relevant activity or information on the OC that they should engage with or follow up on. The digest newsletter was limited in terms of the content it displayed and relied on users defining their own tags intelligently, which few did. As a consequence, users perceived limited relevant users being active and relevant activity and content and thus had less of an incentive to engage with AshokaHub. The complicated search, feeds and filter functionalities had a similar effect on users.

On the other hand, Resnick et al. (2011) propose smaller communities because large communities can become overwhelming. This includes starting with a limited scope and expanding later, reducing ‘mixed topic scope’ to clear topics for specific ‘interaction spaces’ within the OC, subdividing spaces within the OC once they become active, navigation aids that highlight more active spaces and recommender systems that help people navigate to spaces that best suit them. These can be seen as examples of adjusting and optimizing the community topology of an OC, giving users “safe enclaves” (Hayes and Walsham 2003, p. 71) with similar people that they can immediately identify and work with. In the AshokaHub example, while the re-launch with communities and groups features addressed these practices to some extent,

the notions of overwhelming size and uncertainty of where users belonged persisted and could potentially have been mitigated with the above practices.

Type	Design alternative	Design claim
<i>Selection, sorting, highlighting</i>	Push notification	1
	Mixed-topic scope for an interaction space	2
	Personalized collections of “most related content”	6
	Subdividing spaces after they become active	7
	Navigation aids that highlight more active spaces	8
	A schedule of “expected active times”	9
	Recommender systems that help people navigate to spaces that best suit them	10
<i>Community structure</i>	Larger community	12
	Starting with a limited scope and expanding later	29
<i>Content, tasks, and activities</i>	Activities that bridge interests in different topics	4
	Differentiated user interface elements	13
	User-generated primary content versus user-generated metadata	19
	Productivity, entertainment, or commerce tools	25
	Access to professionally generated content	26
	Access to syndicated data	27
	Participation by professional staff	28, 30
	Bots that simulate other participants	31
<i>External communication</i>	Nonshared user IDs and profiles between competing communities	14
	Content sharing between competing communities	15
	Displays of membership that are visible to nonmembers	20
	Members’ actions in the community visible to their acquaintances outside the community	21
	Allow members to forward content from the community to their acquaintances outside the community	22
	Allow members to invite acquaintances outside the community to join	23
<i>Feedback and rewards</i>	Incentives for early members to generate content	18
	Pay-for-referral and revenue sharing from referrals	24
	Promising permanent discounts to early adopters	32
	Promoting the status or readiness benefits of being early	33
	Creating scarce, claimable resources	35, 36
<i>Presentation and framing</i>	Ambiguous scope for an interaction space	3
	Transcendent or bridging topical identity	5
	Ambiguity of scope for the community	11
	Conveying a succinct unique selling proposition	16
	Advertising and celebrity endorsements	17
	Promoting a site as cool but undiscovered	34
	Professional site design	37
	Visible expenditures	38
	Images of members	39
	Prominent display of user-contributed content	40
	Indicators of participation levels	41
	Indicators of membership and content growth	42, 43, 44, 45
	Conditional participation commitments	46
Drawing analogies to successful communities	47	
Drawing attention to external publicity and endorsements	48	

Figure 20. Design choices relevant for OC startup (Resnick et al. 2011, pp. 275–276)

Driving Content Generation

The third category of practices relates to driving content generation on the OC. Resnick et al. (2011) point out the importance of user-generated primary content (such as posting answers to questions or other valuable contributions), professionally generated content (such as articles by experts) and syndicated data (such as information summarised from other sources or websites). Such relevant content on the OC helps attract users and their continued contributions. Such content is ideally generated by users themselves. According to Resnick et al. this can be aided by giving users another reason to be active on the platform such as productivity or entertainment features and by making the OC platform's user interface and features similar to those of other dominant OC platforms such as Facebook. This is similar to the concept of functionality architecture defined in a previous section and echoes the inhibitor 'complexity of use' compared to other platforms which a number of users faced on AshokaHub.

According to Resnick et al. content generation can, however, also be done and supported by other actors – both AI-powered bots and professional human contributors and moderators, or 'curators'. These curators do not just add relevant content but also interact with users, moderate discussions and help users navigate the OC, for instance by bridging and bringing together users from different parts of the OC who may have something in common.

Indeed, curators have become an important participant group in OCs. Especially in OC launched inside or between organisations, it is now common practice to assign professional staff to curator roles with the explicit understanding that they will jump-start the community (Hansen et al. 1999). Sometimes curation activities are not carried out by paid staff but by normal OC users who voluntarily, and often only temporarily, take up a curation role 'in the moment' (Faraj et al. 2011). The OC literature has suggested different roles that curators may play. These include mediator, organiser and supporter (Faraj et al. 2011) or shapers of diverse discussion threads (Yates et al. 2010). Overall, curators try to provide resources in the form of seed material, answer questions and provide pointers to resources.

This is also what 'curators' aimed to do on AshokaHub. They thus addressed a user need for designated people in the OC who would drive engagement with AshokaHub by creating collaboration objects, replying to messages, commenting on collaboration objects and connecting users. While curators certainly contributed to AshokaHub, the case also suggests that, under certain conditions, curation work can be detrimental to contribution behaviour in OCs. In the case of AshokaHub, some curators, and in particular those from developed countries, frequently created collaboration objects to the extent that they were almost crowding out the collaboration objects of other users. By eagerly participating, these curators may thus

have negatively affected the early evolution of the OC. Fellows may have felt less of a need to engage fully and spend time and effort contributing when a curator could be counted on to provide similar information or resources. At the same time, some community builder users felt left out when they observed that the majority of traces of activity were created by curators from developed countries for the benefit of transactional users. It is thus important to monitor the effect of curation work and, where necessary, put appropriate governance strategies (cf. Markus 2007) in place to steer curation work in the right direction.

Embedding in the OC Landscape

Resnick et al. (2011) call the fourth category of practices ‘external communication’ but these practices really relate to embedding the OC into the wider landscape of other, often competing communities. Resnick et al. emphasise the need to share user IDs and profile information between existing communities and a new community to reduce start-up effort for users, to share content between competing communities and to people outside these communities, to share activity and membership information with people outside the community and to allow users to invite non-users to join the community.

These recommended practices resonate well with the learnings from the AshokaHub case. AshokaHub was first built as a rather isolated platform and community with impermeable boundaries. Only gradually did the AshokaHub team realise that AshokaHub was just one OC in an online landscape of practices and communities that existing and prospective AshokaHub users were already engaged with. Such practices and communities relate not only to OCs such as Facebook, LinkedIn or Wikipedia that are independent of the overarching organisation but also to practices and communities such as local Yahoo and Google groups and email distribution lists already run by local offices within the organisation. This ‘isolation’ of AshokaHub was arguably problematic for a number of reasons. Firstly, users had often already learned certain practices and behaviours from other OCs, which they could not employ fully on AshokaHub because of its different material characteristics and limited activity. Secondly, users already had social ties with others in OCs such as Facebook, local Yahoo groups or mailing lists, and since these contacts were not available on AshokaHub, users faced frustrating double work. Finally, AshokaHub did not allow users to integrate the platform into their existing information sharing practices. Users often share content between places in their online landscape by either pulling or pushing information between OCs. Again, this created frustrating double work for users.

In line with the findings of Resnick et al. (2011), this suggests that designers of a nascent OC must understand what practices and behaviours are common in the other OCs that most prospective users are already engaged in. They can then decide whether they will build the platform in a similar way or whether they will intentionally build it differently and make sure users know why this was done and how they should behave. Secondly, designers must understand the social ties that prospective users already have and attempt to bring as many of these into the OC as well. The tools of social network analysis (cf. Kilduff and Brass 2010) could be particularly helpful here. In an ideal case, this step brings entire communities, whose members communicate frequently with each other but only infrequently with external individuals (cf. Markus 1987), into the OC. Finally, and especially if it is not possible to bring these social ties into the OC, designers should allow users to reach out to their social ties outside of the OC by providing facilities for sharing information and pulling information into the OC from external communities.

In addition to embedding the OC in the landscape of competing OCs, the AshokaHub case also points to the need to understand and embed the OC in existing offline communities and practices. Before AshokaHub was launched, Ashoka had already developed global and local ‘offline’ practices and communities over decades. Such practices included, for example, the direct support of Fellows by local Ashoka staff members. These existing offline practices were not systematically supported on AshokaHub. For instance, support of Fellows via phone or email was maintained. Fellows thus always had direct, personal access to support via local offices and therefore had less reason to seek support from the community on AshokaHub.

Incentivising Contributions

Resnick et al. (2011) focus in their fifth category of good practices on feedback and rewards to incentivise user contributions. In detail, they propose incentives for early members to generate content, pay-for-referral and revenue sharing from referrals, promising permanent discounts to early adopters, promoting the status or readiness benefits of being early, and finally creating scarce, claimable resources such as unique usernames.

Again, these practices could surely have helped in the early stages of AshokaHub’s evolution. And indeed, the AshokaHub case supports the notion that motivations related to direct (monetary) rewards, or social exchange as it is called in this study, appear to be critical in the early phases of OC development. In the case of AshokaHub, such motivations related to the potential to gain a better reputation within AshokaHub (cf. von Hippel and von Krogh 2003;

Markus et al. 2000; Wasko and Faraj 2005) and the opportunity for expertise enhancement in a subject area through learning (cf. Nambisan and Baron 2010).

Even though social exchange type motivations are thus clearly important, Resnick et al. (2011) seem to focus too narrowly on such motivations. In fact, there is a growing consensus in the OC literature that users can have a range of different motivations for contributing to the OC (Faraj et al. 2011). These may interact in complex ways (Roberts et al. 2006) and, in particular, partially moderate each other's influence on contribution behaviour (Nambisan and Baron 2010). The findings from the AshokaHub case support this view. It thus seems fair to assume that users interested in monetary rewards should be incentivised differently to users interested in identifying with and belonging to a group of users (cf. Hayes and Walsham 2003; Orlikowski 1993).

AshokaHub users demonstrated a number of motivations beyond social exchange that have been thoroughly covered in the OC literature. Some users showed passion for the idea of AshokaHub and Ashoka (cf. Faraj et al. 2011; Markus et al. 2000; Stewart and Gosain 2006) and altruism towards other Fellows (cf. Markus et al. 2000; Wasko and Faraj 2005). Some users were also motivated by factors related to social ties or capital (cf. Wasko and Faraj 2005; Lin 2002), implying a sense of responsibility towards other users, or factors related to social identification (cf. Dholakia et al. 2004; Nambisan and Baron 2010; Ashforth and Mael 1989), implying a sense of identification with other Fellows. In addition, users could also hold more than one motivation for contributing to an OC, as has been found in previous research (e.g., Wasko and Faraj 2005).

Acknowledging these additional motivations is important because they can complement and thus strengthen the practices proposed by Resnick et al. (2011). This is because the AshokaHub case suggests that social exchange related motivations are either dependent on actual monetary investment to pay for rewards or on the perception of activity such as a reply to a question or a helpful piece of content on the platform. By contrast, altruism or passion may not require the perception of activity to drive a user to contribute. Such motivations are arguably independent of the perception of activity and can therefore be considered more robust against limited contribution activity which is usually observed in the early stages of nascent OCs. Having enough users in the early phases whose motivations are independent of the amount of activity on the OC may thus be critical for helping the OC take off.

This insight helps explain some of the early dynamics on AshokaHub. After the launch, transactional users only appeared to have motivations related to social exchange. As the number of contributions increased very slowly in Phase 2, these motivations were disappointed. As such, transactional users made fewer contributions and a downward spiral was set in motion

that led transactional users out of AshokaHub. By contrast, community builder users and curators had different sets of motivations that were more diverse and included motivations that did not depend so heavily on the perception of activity on AshokaHub, such as altruism, passion and curators' job profiles. These motivations made these users less susceptible to the perception of limited activity and arguably resulted in them making more contributions, setting in motion a small upward spiral. These users' motivations were thus more robust against low levels of activity.

Communicating and Framing

Resnick et al. (2011) focus in their final category of good practices on presentation and framing of the OC. One group of such practices relates to how the OC is advertised and marketed to existing and prospective users. This includes conveying a succinct unique selling proposition, promoting the OC as cool and undiscovered, paid advertisement and celebrity endorsements and drawing attention to such external publicity and endorsements. A second group relates to the more practical aspects of OC platform design, including professional website design, visible expenditures, images of real members, the prominent display of user-generated content, as well as widely visible indicators of participation levels, membership and content growth.

The final and probably most important group of practices within this category relates to the way that OC designers communicate about and frame the OC towards existing and prospective users. They propose making the scope of the whole OC but also of each 'interaction space' in the OC as clear as possible, building a transcendent or bridging topical identity for the OC, and drawing analogies to successful communities.

Especially this last group of practices resonates well with findings from the AshokaHub case. The AshokaHub team had a minimalist approach to communicating and talking about AshokaHub. A very short definition of AshokaHub and its goals was given on the login page, but users were not sent regular communication with rich stories about AshokaHub's team, nature, value and vision, of success stories of user engagement on AshokaHub or other overall activity information. In addition, changes in the platform or curation approach were not communicated pervasively and continuously, even surrounding the re-launch. As a result, the team did not positively influence user behaviour on the OC and arguably failed to build legitimacy (cf. Garud et al. 2014) and a strong collective identity for AshokaHub (cf. Wry et al. 2011). This is particularly surprising because the team could have drawn on the rich belief system around social entrepreneurship and Ashoka itself and used this to change users' perceptions of AshokaHub (cf. Cornelissen and Werner 2014).

The model presented in the previous chapter can serve as a practical tool for practitioners to understand how their communication efforts can influence user behaviour on the OC. The analysis suggests that curators and the OC's management team can influence contribution behaviour through the text they produce and distribute on and 'around' the OC, such as direct email communications to users, official posts on the OC or simply help content. This is because frames can be carried by discourse in any form of communicated text (Azad and Faraj 2013). These frames then influence individual users' affordance perceptions and actualisations on the OC platform. These texts thus become another 'source' that users draw on to create their frames regarding an OC, in addition to their previous experiences with similar technologies, work practices and traces of activity. In one example on AshokaHub, Fellows complained about the lack of or inconsistent communication about the nature, value and vision of AshokaHub. They observed that this lack of or inconsistent communication left them uncertain about what AshokaHub and its value was, and what they were supposed to do on it.

Apart from this fairly immediate effect, continuous communication activities can play a significant role in building and legitimising the nascent collective identity (Wry et al. 2011). Collective identities are defined as "groups of actors that can be strategically constructed and fluid, organized around a shared purpose and similar outputs" (Wry et al. 2011, p. 449). Such collective identities help distinguish between groups and allow potential members to identify with them. In the particular case of an OC, building a collective identity may help distinguish the OC from existing communities and 'put it on the map' of the OC landscape. This collective identity defines both the core attributes of the group ('who we are') and its core practices ('what we do'). It therefore addresses uncertainties that users may have regarding the vision, nature and value of the OC as well as the identities of its core members.

A collective identity is legitimised by the group's developing and continuously communicating identity-defining stories and growth stories. When group members agree upon, communicate and repeat stories that consistently and coherently define the group's core purpose and practices (identity-defining stories) and when these stories situate the group within an established field and theorise its distinctiveness and value relative to other collective identities in the same context, the collective identity is likely to be perceived as legitimate by potential members of the group. Growth stories aim to contribute to the coordinated expansion of the collective identity and its perceived legitimacy. They are more likely to be successful if they target established actors, invite them to pursue the group's purpose and link their existing activities to the group's core practices (inviting stories). If they target wider audiences, success may be achieved by describing how core practices can be appropriately extended to include practice variants that potential members are used to. In the long-term, therefore, the legitimacy and

expansion of this nascent identity and group is dependent on the growing number of members and, more particularly, its leaders telling consistent and coherent stories about the group.

These two types of stories fit with findings from team boundary research where boundary reinforcement and boundary spanning are found to be critical activities for establishing a new working team and its boundaries (Faraj and Yan 2009). Boundary reinforcement refers to generating “a sufficient and sustained centripetal or attracting force that stabilizes the perimeter of the team’s space. The team must build a distinct identity and image to create a positive sense of belonging for members and demarcate its activity space from that of other organizational units” (Faraj and Yan 2009, p. 607). Boundary spanning refers to reaching out to detect external and internal demands, securing resources and support to respond to these demands, inviting new members, promoting the OC’s work and building goodwill among stakeholders (cf. Faraj and Yan 2009, p. 606).

This suggests that continuous communication activities with identity-defining stories and growth stories are likely to play an important role in forming a nascent OC and its identity within the broader OC landscape. In the case of AshokaHub, the lack of or inconsistent communication of these stories created a ‘void of meaning’ that users then filled with their own interpretations of AshokaHub’s nature, value and vision. The inconsistency of these interpretations across user groups arguably contributed to the differences in frames and perceived affordances across user groups. Moreover, the lack of a strong, positive vision with a clear pathway to achieving it arguably allowed the negative frames and perceptions of transactional users to take hold and remain uncontested.

Going beyond Basic Good Practice: Being Situationally Aware of Unpredictable

Evolution

Mastering the basic good practice described in the previous sections is certainly a good start. Indeed, AshokaHub would have benefitted significantly from adhering to these practices. However, the longitudinal study of AshokaHub also highlights that this might not be enough to successfully manage the OC's unpredictable evolution over time. Because of the complexity of OC evolution, success cannot be designed (Wenger 1998) or steered in a linear fashion (Sterman 2001; Sterman and Wittenberg 1999). Rather, by acknowledging and being situationally aware of the complex, non-linear nature of this phenomenon, OC managers can continuously nurture activities that are more likely to produce a sustainable, vibrant OC.

At the heart of the management challenge lies the realisation that – to modify the phrase ‘build it and they will come’ – ‘even if they come, they might not behave as you thought they would.’ In this context, it is helpful to view the challenge from the viewpoint of organizational and IS scholars in the field of digital platforms. For them, digital platforms are part of an evolution away from traditional forms of organizing to embrace networked ways of innovation because of the reduction in costs of information sharing, knowledge integration, and organizational coordination (Lyytinen et al. 2016; Zammuto et al. 2007). As a digital artefact, a digital platform is highly malleable and offers easy recombination, allowing more opportunities for distributed innovation and participation. Thus, digital platforms are generative in the sense of inviting others to remake their properties or use them in novel and unpredicted ways (Yoo et al. 2012; Zittrain 2008). The key insights here are that, firstly, OCs do not just produce content, such as Wikipedia entries or open source software – they also produce novel and unpredicted ways of using the OC; and secondly, such production is not necessarily driven, managed or planned by the OC developers or managers but often entirely by continuously changing groups of users. The goal of the new management challenge thus becomes to continuously identify and nurture the collaborative OC affordances that are likely to support the goal of the OC. This also means that the OC developers and managers should not focus on building new features for the OC platform. While certain features might help in certain circumstances, the focus rather needs to be on the affordances that users perceive and actualise.

The AshokaHub case can serve as an illustration. Users perceived a wide range of affordances over time and actualised them in different ways. OCs provide basic building blocks of functionality such as messaging, commenting, creating collaboration objects or following that users can apply either on their own or combine over time to achieve certain goals and generate content. For instance, a user could simply perceive the affordance of communicating with other

Fellows and actualise it via the messaging functionality. However, a user could also perceive the affordance of building a reputation among like-minded Fellows and actualise it by creating relevant collaboration objects, commenting on other's collaboration objects and advertising her collaboration objects via messaging. Moreover, by carefully crafting the textual content they add to collaboration objects, comments and messages, users can achieve completely different goals with the same set of basic features. For instance, AshokaHub's offer collaboration object could be used for a straightforward request for resources or as an invitation and forum for developing a joint innovation. It just depends on how the user frames and phrases the text contained in the collaboration object.

On AshokaHub, however, users were left alone with their individual affordance perceptions and actualisation patterns and were expected to find their own way to use the platform in a trial-and-error fashion, drawing, for instance, on their past experience with other platforms. This was problematic for two reasons. Firstly, this meant that innovative and highly beneficial uses of the platform sometimes did not catch on because users who perceived them then did not get sufficient responses and subsequently stopped. One example is the open source innovation that some users wanted to have on AshokaHub, which, however, did not emerge as a common type of use. Secondly, this meant that some uses that were intended by the designers were actually not used at all, preventing potentially beneficial collaboration from happening. One example is the idea functionality, which did not receive much attention, especially from transactional users. This suggests that users' affordance perceptions and actualisation patterns should be continuously understood and supported by the OC's management team if they contribute to shaping collaborative OC affordances that support the OC's goal. Regular reviews, ideally through interviews with users, could also identify new affordances perceived on the platform and their respective actualisation patterns. Identified collaborative OC affordances and actualisation patterns could be promoted in OC communications and officially supported through help content. Such reviews could also identify gaps between the affordance perceptions and actualisation patterns that were intended by the platform's designers and those that actually emerged on the OC. Designers will never be able to design a perfect platform but will depend on users to invent and share good uses (Tilson et al. 2010). Such a gap review can, however, highlight crucial mismatches between intended and perceived affordances and actualisation patterns and lead to the promotion of affordances and actualisation patterns that are deemed important by designers. Such a concerted and continuous feedback-based effort could have helped AshokaHub and is likely to help manage the unpredictable evolution of other OCs too.

CHAPTER 12: CONCLUSION

This thesis aims to answer the research question of how nascent OCs evolve and what the influences are on this evolution. The results of a 34-month case study of AshokaHub help answer this question. Drawing on the OC and social entrepreneurship literatures as well as the theories of affordances, technological frames of reference and groupware adoption, this thesis develops a multi-level model to address the research question.

This model theorizes the evolution of nascent OCs and the influence of context and materiality on this evolution. It highlights that OC evolution happens as users across different social worlds within the OC continuously adopt and change their ways of using it. It also highlights that, on an individual user level, this OC evolution happens in a recursive process of framing, affordance perception and affordance actualisation that influences and is influenced by the material characteristics of the OC's technological platform and is shaped by the OC's context. This thesis thus contributes to the OC literature by providing insight into how nascent OCs evolve and what influences this evolution. In addition, it contributes to affordance theory by introducing the concept of a collaborative OC affordances. This concept aims to explain how collaborative affordances emerge and evolve on OCs given the generative nature of their underlying technological platforms.

These findings have managerial implications as well. Good practices are identified that can support the successful start of an OC. This is complemented with a discussion on how to be situationally aware of the unpredictable evolution of an OC after its start.

Together, the multi-level model and the managerial implications may thus help researchers and practitioners address the unsolved complexities regarding building and sustaining OCs. AshokaHub provides a rich case study in this regard. Despite favourable conditions at AshokaHub's launch and despite a re-launch with new functionality and curation strategies, user contributions remained limited. The thesis explored this conundrum in depth. Nevertheless, while potentially being a helpful starting point in building a deeper understanding of the evolution of nascent OCs, this thesis does have its limitations, which should be kept in mind. Future work could address these limitations as well as test and explore certain parts of the multi-level model. These two aspects are discussed in the following sections.

Limitations

This thesis studied a relatively little-known phenomenon. To this end, it accessed a wide range of rich data, developed a novel method and drew on previously seldom-connected literature streams. While certainly rewarding and insightful, the novelty and particular characteristics of this study mean that some limitations exist.

The first limitation relates to the fact that the results and insights presented above are derived from a single case study. Although this was done on purpose, it may limit the generalisability of the findings. Hence, the findings are likely to be particularly applicable to OCs that are similar to AshokaHub; i.e. that there is an overarching organisation or company with which prospective OC users are affiliated and/or identify to some extent. Moreover, the OC has global reach, diverse sub-communities and the goal of being a social space and community for knowledge sharing. Finally, its users are strongly time-constrained and participate voluntarily. The equivalent of transactional users in AshokaHub could be OC users with high expectations, an investment-and-return mindset and significant resources to offer, such as domain experts. The equivalent of community builder users could be OC users with lower expectations, a more identification- and altruism-based mindset and limited access to resources, such as new entrants to a community of practice (cf. Wenger 1998; Lave and Wenger 1991). The equivalent of curators could be the OC's curators and staff members from the overarching organisation. As such, this model could be very suitable, without limitation, for internal OCs of major corporations or non-profit organisations where users are not contractually obliged to participate as well as for inter-organisational OCs.

The second limitation relates to the fact that not all interviewees could be interviewed in each of the three phases. While some interviewees were part of two or even three phases, some interviewees were only part of one phase. This could be considered an issue for the validity of cross-phase findings such as the changes in frames or affordances. Due to the practical realities of the empirical AshokaHub phenomenon, keeping the same interviewees for all three phases was not always possible, although much effort was put into achieving this. Ashoka Fellows are very busy executives of their own organisations and thus had very little time to spare. Moreover, in Phase 2 and particularly in Phase 3, transactional users felt frustrated by AshokaHub and did not see the value in the platform or had discontinued their use of it; as such, they also saw little value in taking part in an interview related to the platform. Nevertheless, two measures were taken to mitigate the risk of reduced validity. Firstly, new interviewees in Phases 2 and 3 were selected carefully to ensure that they represented one of the three user groups that had emerged from the analyses in Phases 1 and 2. Secondly, the data analysis aimed to abstract more general

shared frames and affordances from individual perceptions. The consistency of core themes, such as certain frames and affordances, across phases suggests that this approach to interviewee selection and analysis produced valid findings.

Future Work

This study is only a first step towards understanding how nascent online communities evolve and what the influences on this evolution are. The OC phenomenon and particularly its crucial early stages of development are fields that deserve more scholarly attention. The potential for collaboration in OCs remains largely untapped (McKinsey 2012). While we are moving towards a future in which knowledge collaboration and innovation within and beyond organisational boundaries will increasingly take place online, we still know very little about this phenomenon.

Future work is therefore needed in two broad areas. Firstly, further research is needed in other nascent OCs to support or challenge the findings of this study. This will help refine and push forward our understanding of this highly relevant phenomenon and help build generalisable theory on the evolution of nascent OCs. Secondly, further research is needed to refine the contributions to the OC literature as well as affordance and technological frames of reference theory developed in Part III. In addition, there are a number of avenues that were not explicitly discussed in the contributions sections but may prove fruitful in terms of deepening our understanding of this phenomenon, for instance, by bringing in new perspectives.

Regarding the literature on social entrepreneurship, one key avenue emerges. The findings of the study suggest that social entrepreneurs do not necessarily or naturally collaborate with each other. This is an unexpected finding because previous research suggested that social entrepreneurs espouse a distinct cooperative mindset. It is argued in the literature that this mindset leads them to “use resources in cooperative fashion, and often actually share these with other organizations” (Dacin et al. 2010, p. 49). Social entrepreneurs arguably do this because they need to secure critical expertise and resources from a range of different stakeholders (Dacin et al. 2010; Di Domenico et al. 2010) but also because they seem to identify with the “social enterprise movement” (Tracey et al. 2011) that aims to solve the world’s most pressing social problems. As the findings from AshokaHub suggest, however, collaboration between social entrepreneurs is fairly selective. While this was more salient for transactional users from developed countries than for community builder users from developing countries, the general theme was that Fellows did not want to collaborate with everyone but only with Fellows who were similar to them or could offer them something of value. This selectiveness seems plausible for two reasons. Firstly, social enterprises are not altruistic organisations; they are mostly ‘hybrid’ organisations that draw on different logics from the business and NGO worlds (Battilana and Dorado 2010; Tracey et al. 2011). It is thus only natural that their ‘business’ logic drives them to collaborate only if such collaboration promises a significant return.

Secondly, social enterprises are usually small in size and focus on solving a niche problem. This makes social enterprises unique, as some Fellows noted in the interviews, and makes finding suitable collaboration partners more difficult. Given the importance of social enterprises as drivers for positive change in our global society, future research could focus on building OCs and collaboration mechanisms to ensure that these organisations can fulfil their collective potential.

Regarding contributions to affordance theory, OCs offer the opportunity to investigate technology use outside the commonly studied traditional organisational context, where there is some authority such as management who pushes for the adoption of these technologies and thus offers an incentive to make the technology work (cf. Leonardi 2011; Leonardi 2013b; Strong et al. 2014). Research could then develop similarities and differences between these settings and analyse the importance of the context of affordance perception. With social media and OC use proliferating outside of and even within organisations, this could be a promising avenue.

Regarding contributions to technological frames of reference theory, a similar point can be made to that above. Frames research is likely to benefit from OCs as an empirical phenomenon to study because it can help researchers analyse the role of the organisational context in which the technology is used. Moreover, since OCs are likely to have many concurrent groups of users, studying the frames that emerge for these different groups can contribute to frames theory, which has so far often focused solely on differences between IT experts and regular users (e.g., Orlikowski and Gash 1994). Finally, by further investigating the link between frames and affordance perception in OCs, future work may be able to add to the current debate regarding the importance of congruent frames for technology use (cf. Cornelissen and Werner 2014; Davidson 2006; Mazmanian 2013). In particular, further research could study the relationship between shared frames and shared affordances (cf. Leonardi 2013b).

Finally, regarding contributions to the literature on the materiality of (online) technologies, OCs present a promising domain for advancing our understanding of material agency in the form of algorithms and their impact on work practices (cf. Orlikowski and Scott 2014). In particular, the notion of the transparency that OC algorithms can create would be a fruitful avenue. In addition, studying OCs from an information infrastructure or digital infrastructure perspective (Hanseth and Lyytinen 2010; Tilson et al. 2010) could help further develop the information and digital infrastructure concept and help deepen our understanding of the material characteristics of OCs and their impact on collaboration dynamics. In particular, it could be promising to look at these dynamics using the notions of developers embedding certain rules of behaviour into the software of the OC platform ‘top-down’ (cf. Volkoff et al. 2007) or certain types of user behaviour being ‘ossified’ (cf. Tilson et al. 2010) as traces of activity on the OC platform

'bottom-up' and such processes creating layers of new infrastructure that users then draw on in future iterations.

OCs are likely to significantly shape our global society and economy in the decades to come. Understanding how and why they work thus becomes ever more important. Future work in the OC field, potentially along the lines described above, is likely to uncover in more and more detail how such OCs evolve and what the influences are on this evolution.

It is my humble hope that this thesis will become one building block on this path to a deeper understanding of the OC phenomenon.

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